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# When Action Feels Meaningless:
# How Spirituality and Eco-Anxiety Correspond

A mixed-methods research among youth living in the Netherlands

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university of groningen

Happy new year

De wereld staat in de fik

En ik zou het willen blussen

Maar het vuur is groter dan ik

En ik stik in

De time, time ticking

De tijd tijd tikt maar door en je sluit je ogen ervoor


Froukje

*Groter dan ik*

2020

# Abstract

**Background**

Eco-anxiety is an increasingly relevant phenomenon describing anxiety induced by the ecological crisis. That crisis confronts us with our most existential concerns, which makes eco-anxiety more than adaptive or paralyzing. When existential concerns are at stake, spirituality is often turned to. With connectedness to our surroundings as a basis of spirituality, it is assumed that spirituality can both trigger eco-anxiety and help to cope with it. However, so far only little is known about the relationship between spirituality and eco-anxiety.

**Methodology**

For this study, 110 young people between 15 and 30 years, living in the Netherlands, participated in an online survey examining eco-anxiety (HEAS-13), existential anxiety (ECQ) and spirituality (SAIL). Hierarchical regression analyses were conducted to examine predictors of eco-anxiety. Additionally, five semi-structured interviews were conducted to gain more insight into the experience of eco-anxiety.

**Results**

The results of the survey indicate a positive correlation between existential anxiety and eco-anxiety. Trust, partially mediated by existential concerns, was tentatively associated with less affective symptoms, while Connectedness with Nature was found to be related to more Anxiety about the Personal Impact. The analysis of the interviews supports that youth experience different aspects of eco-anxiety and adds that feeling powerless can lead to ecoparalysis, whereas feeling connected with others is helping to stay resilient.

**Discussion**

This study provides support for regarding eco-anxiety as existential anxiety and shows that, instead of focusing on a reduction of symptoms, different dimensions of spirituality should be considered when struggling with eco-anxiety. However, further research is recommended to learn more about the interactions between the different factors.

*Keywords:* eco-anxiety, spirituality, existential anxiety

*Paper type***:** Master thesis

# Samenvatting (Abstract in Dutch)

**Aanleiding**

Klimaatangst is een steeds relevanter fenomeen dat de angst beschrijft die wordt veroorzaakt door de ecologische crisis. Die crisis confronteert ons met onze meest existentiële zorgen, wat maakt dat klimaatangst meer is dan functioneel of verlammend. Als er existentiële zorgen op het spel staan, wordt er vaak naar spiritualiteit verwezen. Met verbondenheid met onze omgeving als basis van spiritualiteit wordt aangenomen dat spiritualiteit zowel klimaatangst kan opwekken als kan helpen ermee om te gaan. Tot nu toe is er echter nog maar weinig bekend over de relatie tussen spiritualiteit en klimaatangst.

**Methode**

Voor dit onderzoek namen 110 jongvolwassenen tussen 15 en 30 jaar, woonachtig in Nederland, deel aan een online onderzoek naar klimaatangst (HEAS-13), existentiële angst (ECQ) en spiritualiteit (SAIL). Hiërarchische regressieanalyses werden uitgevoerd om voorspellers van klimaatangst te onderzoeken. Daarnaast zijn er vijf semigestructureerde interviews afgenomen om meer inzicht te krijgen in de beleving van klimaatangst.

**Resultaten**

De resultaten van het onderzoek wijzen op een positieve correlatie tussen existentiële angst en klimaatangst. Vertrouwen, gedeeltelijk gemedieerd door existentiële zorgen, werden voorzichtig geassocieerd met minder affectieve symptomen, terwijl Verbondenheid met de Natuur verband bleek te houden met meer angst over de persoonlijke impact. De analyse van de interviews ondersteunt dat jongeren verschillende aspecten van klimaatangst ervaren en voegt eraan toe dat machteloosheid kan leiden tot gevoelens van verlamming, terwijl verbondenheid met anderen kan helpen om veerkrachtig te blijven.

**Discussie**

Verder onderzoek wordt aanbevolen om meer te weten te komen over de interacties tussen de verschillende factoren. Concluderend, moedigt deze studie aan om klimaatangst als existentiële angst te beschouwen en laat ze zien dat, in plaats van te focussen op het verminderen van symptomen, verschillende dimensies van spiritualiteit moeten worden overwogen bij het worstelen met klimaatangst.

*Sleutelwoorden:* klimaatangst, spiritualiteit, levensbeschouwing, existentiële angst

# Prologue

Dear reader of this thesis,

It was last year in autumn when I was sitting on the train to Groningen, looking out of the window and suddenly wondering if climate change and its effects on mental health are also connected to spirituality. I had to think about two of my role models, Greta Thunberg and Luisa Neubauer, who both have shared how engaging in climate activism helped them overcome anxiety or grief and how fighting for our earth gives them purpose, meaning and resilience.

I'm not an activist and I wouldn't describe myself as anxious, but the climate crisis and everything that is entangled with it does trouble me and many others around me. As spiritual caregivers, we are taught to address and to bear with existential themes in people's lives, but somehow, we seem to be careful to engage in topics that appear to be political or to concern society as a whole. This thesis does not focus on the role or responsibility of spiritual care to address these issues (which, yes, would have been very interesting too), but first explores if the assumed relation between spirituality and eco-anxiety is experienced by youth in the Netherlands.

Before I spoil more, I want to acknowledge the time, enthusiasm and trust of all the participants (and testers) of the study, and especially of the five interviewees who shared their personal experiences and ideas with me.

I want to thank my supervisor Anja Visser with all my heart. She is a role model and her patience, flexibility, knowledge and passion were indispensable for this thesis and often provided me with new guidance and motivation. I also want to thank my second supervisor Erin Wilson for her valuable feedback and inspiration.

For all the support and encouragement along the way, and for the shared study hours, I want to thank my classmates and friends. Especially grateful I am for my mum taking the time to read through and correct my drafts and for my partner reminding me to set priorities and mainly for him being by my side, cheering me up (with ice cream) when needed.

I'm looking forward to sharing this thesis with you and hope to offer new insights.

Sincerely yours,

Mara Feick

# Content

# Introduction

## Problem Analysis

Our climate is changing and all over the world, extreme weather conditions are witnessed more frequently. This does not only have a vast impact on nature but also on all aspects of human life. Even people who have not witnessed extreme weather conditions so far can feel the influence on their lives and mental health by increasingly worrying about climate change and its effects on our future (Clayton, 2020; Clayton & Manning, 2018). This phenomenon is known as *eco-anxiety* and is a growing worldwide problem (Clayton & Karazsia, 2020; Doherty, 2018). A recently published study by Hickman et al. (2021) shows that around 60% of youth are feeling worried or very worried about climate change, and for some of them, these worries harm their daily lives.

Eco-anxiety is often divided into two aspects: a functional part and a paralyzing part (Clayton, 2020; Pihkala, 2022). There is a broad consensus that it is legitimate, functional and even healthy to be scared of the effects of a changing climate, as it helps to recognize danger and to take it seriously (Clayton, 2020; O'Brian, 2021; Pihkala, 2020). This often leads to people taking some kind of action, such as making sustainable choices or joining demonstrations, in order to contribute to altering the situation (Ogunbode et al., 2022). For others, anxiety can gain the upper hand and disturb their daily life (Clayton & Karazsia, 2020; Hickman, 2020).

During the past years, the effects of climate change on mental health have become a 'hot topic' and different scientific and non-scientific papers have tried to give recommendations to people who are experiencing eco-anxiety (see e.g. Binford, 2020; Budziszewska & Jonsson, 2021; Friends of the Earth, 2020; Raypole, 2020). Apart from the call to 'get active' and 'share your feelings with others', a recurring piece of advice given by the American Psychological Association (APA) and other organisations is to 'find a source of personal meaning' (Clayton et al., 2017, p. 43). It is broadly known that a sense of meaning is beneficial for well-being and that a missing sense of meaning can make us more prone to anxiety (Granquist & Kirkpatrick, 2013; Pihkala, 2019; Rosmarin & Leidl, 2020). But what does looking for or having a sense of meaning concretely mean in the context of eco-anxiety?

Panu Pihkala is one of the scholars acknowledging eco-anxiety as more than functional or pathological: as existential fear (Pihkala, 2018). According to Pihkala, the climate crisis confronts us with finiteness, destruction and change, and this confrontation can cause life questions or feelings of hopelessness. He and other scholars (Ojala, 2017; Vandenplas & van

Poeck, 2021) see a resemblance between experiencing eco-anxiety and three aspects of the existential dimension defined by Tillich: fate & death, emptiness & meaninglessness and guilt & condemnation (Pihkala, 2018; Tillich, 1952). When confronted with the existential dimension of life, the importance of experiencing meaningfulness and purpose becomes clear (Pihkala, 2019). Traditionally, religion and spirituality are the disciplines that seek to find answers to existential questions (Webster, 2004). These answers can affect how we look at the world, what connection we feel with our surroundings, what we see as our responsibility, or how we experience climate change. Although religion and spirituality are closely related to each other, they show different characteristics and backgrounds (Koenig, 2007; Visser, 2015). According to Berghuijs et al. (2013) people can both identify as either religious, spiritual, both or neither. Whereas religiosity is often associated with a theistic worldview, traditions, and institutions (Berghuijs et al., 2013) , spirituality is often referring to an "individuals' search for meaning in life" through participating in different domains of life (Puchalski & Ferrell, 2010, p. 24). As this notion exceeds a theistic worldview and is universally relevant, the term spirituality will be used hereafter. This will be done in its broadest meaning, using the definition of Puchalski and colleagues that describes spirituality as an "aspect of humanity that refers to the way individuals seek and express *meaning and purpose* and the way they experience *connectedness* to the moment, to the self, to others, to nature, and to the significant or sacred" (Puchalski & Ferrell, 2010, p. 25). For the further discussion of eco-anxiety, the explicit mentioning of connectedness to nature adds to the pertinence of this definition.

In a nutshell, eco-anxiety is an increasingly experienced and relevant phenomenon. Besides having a functional aspect, it touches on many core aspects of humanity, which can be experienced as existential anxiety. It is known that spirituality can trigger eco-anxiety, e.g., when witnessing that something meaningful changes or disappears. On the other hand, spirituality is useful to find answers to existential questions and to cope with eco-anxiety.

However, so far only little is known about how spirituality influences becoming eco-anxious, if eco-anxiety is indeed experienced as existential anxiety, which spiritual sources give hope and resilience, and how these concepts influence each other.

## Research Questions

This problem analysis leads to the following research question:

*What is the relationship between spirituality and eco-anxiety among youth in the Netherlands?*

## Sub-Questions

As the data situation concerning eco-anxiety, existential concerns, and spirituality among youth is still fairly limited, additional questions need to be asked, before being able to answer the main question:

> What thoughts, emotions, inclinations, or values do youth experience in relation to the climate crisis and how do they interact with experiences of eco-anxiety?

> How do youth report existential anxiety and what is the relationship between the experienced existential anxiety and eco-anxiety?

> How do youth experience different dimensions of spirituality in their daily life?

> What gives youth consolation, strength, or a sense of meaning when dealing with eco-anxiety, and what part does their spirituality and attitude towards the climate crisis play in this?

## Objectives

By finding answers to the research questions, this research aims to gain more insights into the experience of eco-anxiety and to find out how spirituality affects eco-anxiety and vice versa. As youth, due to multiple reasons, is the population most mentioned in relation to eco-anxiety, this research will focus on their experience. In the upcoming years, eco-anxiety will most likely become an even more relevant and pressing topic. Learning more about the link between eco-anxiety and spirituality can help not only the people affected but also (spiritual) caregivers to see eco-anxiety as an existential matter and to find ways to prevent and deal with the experienced eco-anxiety.

Different domains are increasingly getting interested in eco-anxiety and similar phenomena. This research will move in between the domains of psychology, existentialism and spirituality. Psychology is known for mainly focusing on the internal processes of individuals, whereas (eco-) theology or philosophy try to find common narratives and concentrate on the meaning of our existence. However, shifts are visible in both directions, as psychologists actively engage

with the environment and consider existential aspects and scholars of humanities get increasingly involved in psychological aspects, such as coping or emotions.

## Research Strategy

To find an answer to the research question, first, a deductive conceptual framework was needed to provide focus, clarity and reflection on the relationships between concepts and underlying assumptions of this research (Hennink et al., 2015, p.40-42). For the empirical part, data were collected in two ways, with a convergent mixed methods approach. First, a survey was conducted with questions about experienced eco-anxiety (HEAS-13, Hogg et al., 2021), existential concerns in life (ECQ, van Bruggen et al., 2018) and their own spirituality (SAIL, de Jager Meezenbroek et al., 2012). The survey was spread online among young people aged between 15 and 30 who were living in the Netherlands and probably had an affiliation with climate involvement. The data were analysed using SPSS. After an initial analysis of the quantitative data, five semi-structured interviews were conducted. The interviews were held with participants who voluntarily signed up after having completed the survey, to gain more in-depth insights into the interaction between eco-anxiety and spirituality. All quantitative and qualitative findings were synthesized in the end so that they complemented each other.

## Structure

This study builds up by first examining existing literature on eco-anxiety, existential concerns and spirituality. That framework forms the basis for regarding eco-anxiety as existential anxiety and for further studying how dimensions of spirituality interact with aspects of eco-anxiety. The next section will describe which instruments were used for data collection, explain how the survey and interviews were conducted and specify the characteristics of the participants. In the following section, the significant quantitative and qualitative results will be presented. Those will be merged in the discussion section to then answer the research questions and conclude that eco-anxiety can be regarded as existential and that trust and connectedness with nature and with others are crucial dimensions for understanding eco-anxiety better. At last, the limitations of this study will be discussed and recommendations will be made for further study and for approaching eco-anxiety.

# Conceptual Framework

## A Word Beforehand

The IPCC has been crystal clear: "Climate change is a threat to human wellbeing and the health of the planet." (IPCC, 2022). A growing group of activists, scientists and other citizen is pleading to take this threat seriously, also in the choice of words. To "call it what it is: a crisis" (Redlener et al., 2019). The surveys used in this research use the word climate change. In this article, ´crisis´ and ´change´ will be used interchangeably, without taking away that the climate and environmental crisis is urgent, complex and unique due to its uncertain, worldwide, unjust and human-made character.

The impression may arise, that studying the personal and psychological aspects of the effects of climate change does not contribute to fighting the climate crisis. That in the end we should find actual solutions and save the planet instead of trying to find ways or therapies to feel better with and about ourselves. A possible danger of studies like this indeed is to mainly focus on internal processes of the individual and on how unpleasant feelings like anxiety or guilt can be avoided. Yet we have to acknowledge that even though one individual will not fix the crisis, together we can. To do that effectively, it is important to learn more about how we react to climate change, how we can deal with unpleasant emotions and how we can use them as motivators (Ogunbode, 2021). Moreover, it is good to consider all aspects that could in the long run help us to become active, also in a spiritual sense - as without meaning and connection life will be an even harder one.

## Climate Change in the Netherlands

The environmental crisis is unjust. Depending on various factors like geography, gender, resources, history, socio-economic status or (mental) health issues, already vulnerable groups are most affected and will suffer most from the changing climate (Nakate, 2021; Oxfam, n.d.; Parks & Roberts, 2006). Even though eco-anxiety can be felt independent of any of these factors, the personal experience is naturally impacted by direct confrontation with climate change, as negative impacts will be more severe and often accompanied by destroyed surroundings and trauma, for example (Clayton & Manning, 2020). This is why it is important to keep in mind the geo-political context when studying eco-anxiety. Due to its location, history and resources, the Netherlands is privileged in so far that most inhabitants are not directly confronted with the effects of a changing climate. However, the climate crisis is intertwined with many discourses, such as the ongoing nitrogen crisis, and is often part of daily news,

discussions or controversies. In 2019, the Ministry of Economic Affairs and Climate Policy (EZK) presented the National Climate Agreement (EZK, 2019) with targets per sector that should be reached by 2050. During local and national elections in 2021 and 2022 climate change was a relevant topic, although other subjects like the housing crisis, youth care and security were essential for voters, too (nu.nl, 2022; NVDE, 2021; Trouw, 2021; van Heerwaarden, 2022). Even though political ambitions are formulated, many (young) people do not agree with the policies of the government and demand sooner and more effective actions. The national climate marches in 2019, 2021 and 2022 attracted ten thousands of people who supported that claim (Kager, 2019; Klimaatmars, 2022; NOS, 2021). A study by the Dutch Interdisciplinary Demographic Institute (van Dalen & Henkens, 2019) backs that awareness concerning climate change grew and that between 2008 and 2018 worry about climate increased by 23%, while scepsis about climate change decreased by 13%.

Although the Netherlands is still largely unaffected by disastrous climate impacts, in recent years an increase in extreme weather events was observed (KNMI, 2021), with the most recent ones the flooding in Limburg in July 2021, storm Eunice in February 2022, and the heatwaves causing extreme droughts in summer 2022. The prognosis by the Royal Dutch Institute for Meteorology (KNMI) states that until 2100, extreme weather events will increase drastically and that the climate will become more like in Southern Europe. Additionally, the sea level is forecasted to rise by 2 meters (KNMI, 2021).

## Eco-Anxiety

### History of the Term

To gain a better understanding of eco-anxiety, we will first take a brief look at the history of eco-anxiety. The first signs of a changing climate were already discovered in the 19th century (Weart, 2008). Since then, an increasing amount of attention and research has been dedicated to understanding and fighting the climate crisis and its effects. By 2022 the Intergovernmental Panel on Climate Change (IPCC) has released their 6th Assessment Report, with the press release being titled "Climate change: a threat to human wellbeing and health of the planet" (IPCC, 2022). This title has two major differences compared to the first report from 1990. Firstly, climate change is now clearly labelled as an existing and serious threat. Secondly, climate change is no longer looked at as a purely scientific matter, but it is recognized that the changing climate also influences the well-being of humans.

The idea that the environment, ecology and thus also climate change are connected with our well-being rose in the 90s, with Roszak´s book 'The voice of the earth' (1992) becoming the touchstone for ecopsychology. After that, more and more psychologists became interested in how climate change impacts emotions. In the early 2000s also the term anxiety started to get mentioned. In the broad media, the phenomenon of eco-anxiety was acknowledged for the first time around 2007 (wordspy.com), describing eco-anxiety as "Worry or agitation caused by concerns about the present or future state of the environment". It took ten years until more academic and psychological interest was sparked and until the American Psychological Association (APA) and EcoAmerica published a report called 'Mental Health and our Changing Climate' (Clayton et al., 2017). This report offered the first working definition of eco-anxiety ("chronic fear of environmental doom", p. 29) and focused on the impacts of climate change on the mental health of individuals and communities.

During the same period not only psychologists moved towards ecology, but also philosophers and theologians became concerned about ecology and climate/related topics. The Australian environmental philosopher Glenn Albrecht was very influential with his concept of solastalgia and the new diagnostic categories of 'psychoterratic' and 'somaterratic'. These two establish the connections between the earth and mental health (psychoterratic) and between the earth and bodily health (somaterratic) (Albrecht, 2019). Psychoterratic does not only include feelings of anxiety but a whole spectrum of emotions. Feelings of (eco-) depression, (ecological) grief, guilt, frustration or anger are increasingly described and seen in relation to climate change (Albrecht, 2019; Clayton, 2019; Ojala et al., 2021; Pihkala, 2022). These feelings are not rigid, as people often tend to describe a rollercoaster of emotions with emotions developing and changing over time (Hickman, 2020).

Although the climate crisis is not a recent happening and has probably caused worry already long ago, awareness of climate change and the recognition of climate-related emotions only slowly entered general society. One possible explanation could be the information deficit model, however also people who have enough information about the effects of climate change and ways to get involved show reactions of denial, disavowal or disbelief (Doherty & Clayton, 2011; Norgaard, 2006; Pihkala, 2020). Besides the application of cognitive dissonance (Norgaard, 2009), or wishful thinking (Markowitz & Shariff, 2012), another explanation is offered by Norgaard (2006) who studied climate change denial in 2000 in the rural area of Norway and regards nonresponse as a social process. She analysed that feeling helpless and afraid did not match with the emotion norms to be optimistic and under control. As a strategy

to conform to the norms and to avoid these unpleasant feelings, people avoided thinking about climate change and to only pay selective attention, lived in a 'double reality' (Norgaard, 2011, p. 404) and thus constructed a social silence.

One person to break this silence was Greta Thunberg, who in 2018 started the movement that is now known as Fridays For Future. Due to her honesty and openness about her depression and eco-anxiety, a discussion and movement started, where a lot of mainly young people identified with her and also wanted to join the action. In her famous speech 'I want you to panic' (World Economic Forum, 2019), Greta changed the frame of eco-anxiety from an outlawed, unpleasant emotion to something necessary to feel in order to be able to bring change. Now, scholars agree that feelings like eco-anxiety are not only negative but also know productive characteristics, as initially unpleasant emotions can motivate people to change the situation by e.g., engaging in climate action (Ojala, 2007; Pihkala, 2020).

Since the first mention of eco-anxiety and the rise of groups like Fridays For Future, the number of studies concerning climate-related emotions and eco-anxiety has rapidly increased. So far, mainly youth and climate scientists have been the preferred target group for studying climate change-related emotions (Coffey et al., 2021). Youth have a unique place in the debate as they did not have any influence on past policies, often are not all allowed to vote yet or take part in crucial debates, and especially as they are the generation that will probably feel most of the (catastrophic) effects of climate change. So far there are, at least to my knowledge, no figures stating how many young people in the Netherlands experience eco-anxiety. In a Dutch survey conducted by Ipsos (2021) 59% of the participants stated to feel worried about the effects of climate change on the Netherlands. However, these participants were from a broad age range and the questions were not aimed at studying eco-anxiety. The first large-scale study concerning climate-related emotions and eco-anxiety was conducted by Hickman et al. (2021) who surveyed how ten thousand young people (aged 16-25 years old) from ten different countries think and feel about climate change as well as the responses of governments to the climate crisis. They found out that 84% of all participants were at least moderately worried about climate change, with 59% being very or extremely worried. Also, other emotions were investigated, with, among others, sadness (67%), anger (57%) and guilt (50%) scoring high as well. Even though a variety of emotions and concepts are at stake, eco-anxiety is still the most researched and discussed phenomenon. Currently, numerous blogs, self-help books, videos, podcasts and articles on how to deal with eco-anxiety can be found (see e.g. Binford, 2020;

Friends of the Earth, 2020; Johansen, 2021; Raypole, 2020). It is a hot topic with still a lot to be discovered and researched.

## Definition

After placing the concept of eco-anxiety into its historical context, the term will be specified somewhat further in the following. Various words are being used, often having similar meanings but with small differences in their connotation. Some of these terms are for example eco-fear, climate change distress, eco-anxiety, environmental anxiety, climate anxiety or climate change anxiety. Even though climate anxiety and eco-anxiety often get used interchangeably, they have different meanings. Whereas 'climate' stands for anthropogenic climate change, 'eco' is broader and covers all phenomena linked to the environment and ecology. This means that 'climate' is included in 'eco' which makes it logical to use the term 'eco-' for this research. Furthermore, there is an ongoing discussion about whether anxiety is the appropriate term or whether fear, distress or worry would be better descriptions (Pihkala, 2020). Fear usually refers to more tangible danger, whereas anxiety is mostly linked to future-related and uncertain situations (Cossman, 2013; Pihkala, 2020). Furthermore, anxiety is understood differently in psychology than in theology or philosophy, where it is less regarded as an emotion (Pihkala, 2022). Worry is in general a milder form of fear and anxiety. For now, it seems that the combination of eco- and anxiety has become prevalent in the public and academic discourse, which is why I chose to continue using the term eco-anxiety.

As hard as it seems to reach a consensus for a term, finding a general agreement on a definition seems to be even more complicated. Depending on the discipline, the emphasis can lie on the nature of eco-anxiety, the symptoms or the cause. An interpretation from 2008 that can be found in the urban dictionary is: "the anxiety associated with fear of harming the environment", whereas the APA defined eco-anxiety as "chronic fear of environmental doom" (Clayton et al., 2017, p.29), and Hickman (2020) specified it as "the description of an emotional response to the threat posed by the climate and biodiversity crisis, which can be seen even where there is no immediate physical evidence of impact of climate change on one's own life." (p. 414). The insufficient data situation does not help to lessen controversy, and neither does the struggle between wanting to acknowledge everyone's feelings concerning the climate crisis and needing to be as precise as possible in order to study eco-anxiety as a construct or to diagnose people who need professional help.

The main definition that will be used for this study finds its origin in Albrecht and places eco-anxiety in an existential framework. It describes eco-anxiety as a "generalized sense that the

ecological foundations of existence are in the process of collapse" (Pihkala, 2020, p. 4). This definition allows a broad view on eco-anxiety, recognises that ecology is a crucial foundation for our existence and indicates that doom could be near if the process will not be stopped. Additionally, it leaves room to not only see eco-anxiety as a problem of the individual but as a generalized sense that concerns all of us.

## A Multifaceted Perspective on Eco-Anxiety

As mentioned earlier eco-anxiety is not one set emotion but can be experienced in multiple ways and intensities. Even though there is no consensus on the fear-anxiety-worry discussion, scholars agree that eco-anxiety needs to be looked at broadly to prevent pathologizing. To support people appropriately without needing to diagnose them, Caroline Hickman (2020) has developed four categories of eco-anxiety which do not need to be applied rigidly but could be helpful as a guideline. According to Hickman, eco-anxiety can be experienced in a mild form, in a medium way, significantly or severely. In the mild form, people only sometimes feel upset or hopeless and can still be distracted from unpleasant emotions. People still have a strong trust in (technical) solutions of others to stop the climate crisis. In the medium variant, people feel upset and distressed more often and start doubting the capability of others to bring solutions. However, there still is a strong basic trust and the crisis is not preoccupying people. If eco-anxiety is experienced significantly, the awareness of the scope is increasing as are feelings of guilt and shame. People trust less in others, they are more willing to change their lifestyle and get active. In the most severe form, people's daily life is affected by their anxiety, making it hard to control emotional reactions or to sleep. Moreover, daily life tasks such as paying rent or working can be seen as irrelevant in the face of the crisis. In severe cases, it is possible that co-morbidity with mental disorders occurs, although it is often hard to say what the original cause is (Hickman, 2020, p. 417-418). The more severely people experience eco-anxiety, the more existential concerns are at stake, like trust, guilt or meaninglessness. Behavioural adjustments towards pro-environmental behaviour or towards more climate activism are increasing the more people experience eco-anxiety, except in the most severe state which seems closer to paralysis than to activism.

This framework resonates with other scholars like Ogunbode et al. (2022) or Pihkala (2019; 2020) who agree that eco-anxiety can exist in several intensities. However, it seems that most measurement instruments have not been developed with the same mindset. The climate change distress scale by Clayton & Karazsia (2020) as well as the Hogg-eco-anxiety scale (2021) mainly use questions that seem most fitting for people experiencing significant to severe

symptoms. What does become clear in, for example, the questionnaire by Clayton & Karazsia (2020) is the link to behavioural engagement.

There is a consensus that climate change is a real threat, which makes it not only rational to experience a form of eco-anxiety but also functional (Clayton, 2020; Pihkala, 2020). This manifestation of eco-anxiety is often called adaptive (Clayton & Karazsia, 2020), practical (Pihkala, 2020) or motivating. Feeling the threat and anxiety can make us precautious and lead to appropriate preparations. As with climate change it is impossible to remove the source of anxiety or to remove oneself away from it, the option left is to get active and try to change the situation, for example by adopting pro-environmental behaviour (Ogunbode et al., 2022). Engaging with other people, getting active in the climate movement, making sustainable life choices, or not eating meat can then also be seen and encouraged as solution-focused coping (Clayton et al., 2017). Pro-environmental behaviour mainly plays a role in the mild to significant forms. In its more extreme form, however, eco-anxiety can cause great distress and lead to dysregulation of emotions. Encouraged coping strategies are then more emotion-focused, like focusing on the own locus of control, reducing media consumption and focusing on the here and now. Furthermore, there seems to be a relationship between severe eco-anxiety and other (diagnosed) mental health issues, like e.g., general anxiety disorder.

As indicated by Hickman (2021), severe eco-anxiety can often have paralysing effects, making people unable to still participate in society. Albrecht (2019) regards ecoparalysis as part of the psychoterratic responses. People are aware of the problems caused by climate change but feel so powerless in the light of the global crisis that they end up believing that their contribution does not help and start acting according to that belief. And as long as the lack of action stays, the state of ecoparalysis remains (Albrecht, 2019, p. 83-84). For some people, ecoparalysis is a conscious state which follows a period of pro-environmental involvement (Heeren et al., 2022; Pihkala, 2022), while for others (mild) ecoparalysis is unconsciously having an impact on nonparticipation.

## Existential Concerns and Existential Anxiety

Apart from eco-anxiety being practical or paralyzing, Pihkala (2018; 2022) calls attention to eco-anxiety as existential anxiety. This does not only stand beside the other two manifestations but can also be seen as intertwined and existing in gradations. In the following sections, a more thorough look will be taken into existential aspects of eco-anxiety and the connection to spirituality.

Our existence as humans is a given. We exist as individuals and as a species within a complex world and that existence comes with certain givens and with boundaries. Our lives are not endless, health is not always guaranteed, and social constructs can conflict with our needs and wishes. At the same time, we can experience freedom and have a free will to make our own choices. Existential philosophers recognize the imperfections and shortcomings of life and at the same time try to find ways to make the best of it. Questions like 'Why do we exist?', 'What is the meaning of life?' and 'How can we find meaning?' are often central when talking about existence in a philosophical or psychological context.

Among psychiatrists and psychologists, the interest in existentialism developed in the second half of the 20th century, when they started wondering about links between mental illnesses and existential concerns. Anxiety was no longer just an emotion but was seen as a symptom of being hindered to strive for self-realisation, or of threatening a downfall of existence (van Bruggen, 2018). Different clinicians have tried to specify the link between anxiety and ´the ultimate concerns of our existence´ (Pihkala, 2020, p.6) further and have developed therapies to help people cope with existential anxieties by finding acceptance for being-in-the-world ('Daseinsanalyse' inspired by Heidegger), or by focusing on finding meaning (Frankl's logotherapy). Yalom stated that the givens of existence are the "driving forces behind the dynamics of our mind" which can provoke anxiety (Yalom, 1980, as cited in van Bruggen, 2018, p.19). According to him, the main givens of existence are death, freedom, isolation and meaninglessness, which in order to reach liberation and growth need to be faced. This assumption is also the basis for the Terror Management Theory (TMT) inspired by Becker (Greenberg et al., 1986), which states that the deep fear of living a meaningless life which ends in inevitable death, provokes a variety of defence mechanisms. Paul Tillich, a theologian and philosopher, connected existential anxiety to three apprehensions. These are death & fate, meaninglessness & emptiness and condemnation & guilt. (Tillich, 1952; Weems et al., 2004). For the development of the Existential Concern Questionnaire (ECQ), van Bruggen et al. (2017) have combined the existential concerns of Tillich, Yalom, and TMT, among others, and ended up with the following existential concerns that are underlying existential anxiety: Death (as the ultimate concern), Meaninglessness, Guilt, Isolation and Identity.

Similar to eco-anxiety, there is an ongoing discussion on whether it is possible to differentiate between 'normal' i.e., healthy existential anxiety on the one hand and pathological anxiety on the other hand. Often it is said that pathological anxiety is emerging when there are clear limitations in daily life, when the subjective suffering is high, or when the threat is not real.

Others argue that it is nearly impossible to determine these factors and that existential anxiety is a universal expression of relatedness to the world as well as to oneself (van Bruggen, 2018, p. 23). Nonetheless, it can be agreed that every form of anxiety has existential aspects in it, although some types and experiences are more explicitly linked to existential concerns than others (van Bruggen, 2018, p. 38).

According to Pihkala and other scholars, the climate crisis provokes existential concerns and existential questions as "people are confronted with major problems, and in this case even the possibility of the end of [large parts of civilized life]" (Pihkala, 2018, p.3). Recently Passmore, Lutz and Howell (2022) have described how eco-anxiety propagates existential anxieties and how the climate crisis is closely linked to the different existential concerns referred to by Yalom among others. The decreasing biodiversity and changing landscapes influence our *identity* and our relationship with the non-human world around us. They also mention the three apprehensions by Tillich and how our identity as virtuous humans is damaged by guilt when we reflect on our actions and choices (p.4). Eco-anxiety also has a great impact on *happiness,* as we have fewer opportunities to spend time in vital ecosystems, and our sense of coherence, and thus of *meaning in life,* diminishes as landscapes around us become degraded. For ages, *freedom* has been associated with wilderness and nature, but now it can lead to friction with autonomy. The climate crisis conjures *fears of death*, not only one's own death but also the mortality of humans and the lifeworld as we know it. As the experience of eco-anxiety still seems to be hard to share and talk about, the feeling of *isolation* increases (Passmore et al., 2022). Although this is only a compact summary, it is evident that when the climate and landscapes change and when biodiversity diminishes, there is a lot at stake and our ultimate concerns of existence are deeply affected.

These existential anxieties cannot only be triggered when (first-hand) experiencing the effects of the ecological crisis. Even if no actual climate-related harm occurs, people's sense of self and security can be shattered by the fear of being at risk (Budziszewska & Jonsson, 2021; Tschakert et al., 2019). As it is impossible to fully comprehend the ecological and climate crisis and to predict the exact impacts on places or our lives, this can cause a general feeling of uncertainty, which Clayton (2020) sees as "one of the central aspects of climate change" (p. 2). Norgaard (2006) describes how climate change or merely thinking about it, can lead to feelings of helplessness and guilt and can be perceived as a threat to 'individual and collective senses of identity'. Moreover, a loss of ontological security can be experienced, which Giddens describes as "people's sense of the continuity of life." (in Norgaard, 2006, p.380). The encompassed

feelings of trust in a known and predictable world with reliance on basic systems of understanding are jeopardized by (thinking about) climate change (Clayton, 2020; Norgaard, 2006). The 'shattered-assumptions theory' by Janoff-Bulman joins the notion of losing ontological security and states that it can lead to anxiety and trauma if the three main basic assumptions about the world (i.e. the world is benevolent, the world is meaningful, and I am worthy) are shattered (Janoff-Bulman, 1992; Van Bruggen, 2018). So far only few studies have researched existential anxiety in relation to eco-anxiety. However, applying these theories of existential anxiety, may offer a possible explanation for the existential anxiety felt when thinking about or being affected by the environmental crisis.

## Spirituality

*"The central importance of experiencing meaningfulness emerges against the background of the existential aspects of climate anxiety" (Pihkala, 2019, p.12).*

In the history of humankind, spirituality and religion were often turned to when existential concerns were at stake. Although more and more people describe not having a religion, spirituality and religion are still the core domains where people connect with existential concerns, seek answers and help, and find meaning - both as collective and individuals (Pihkala, 2018). Different to religion, which often is experienced within a collective set of beliefs, spirituality can embody both religious and non-religious views, and according to Webster (2004) spirituality is as such best placed in an existential framework. While existentialism can help to acknowledge the vulnerability of life, engaging with spirituality can help to ask questions and to better understand the "meaning and purpose of [our] existence" (Webster, 2004, p. 9). A prominent definition which has its origin in health care was developed through a consensus process by Puchalski and colleagues: "Spirituality is the aspect of humanity that refers to the way individuals seek and express meaning and purpose, and the way they experience their connectedness to the moment, to self, to others, to nature and to the significant or sacred." (Puchalski & Ferrell, 2010, p. 25). De Jager Meezenbroek et al. (2012) summarize this as "one's striving for and experience of connection with the essence of life," (p. 142). Our ability to make relations with our surroundings is perceived as vital for attributing meaning and experiencing spirituality, but also eco-anxiety would not be an issue if we did not feel connected to nature, to people in different places or to our feelings.

For the development of a questionnaire which measures spirituality from a universal, humanistic and existential viewpoint, de Jager Meezenbroek et al. (2012) divided the different

aspects of connectedness into seven dimensions of spirituality, i.e., meaningfulness, acceptance, trust, care for others, connectedness with nature, transcendent experiences, and spiritual activities. These dimensions will be applied for the further study of the relationship between spirituality and eco-anxiety. The first three dimensions are mostly components of 'connection with oneself', while the last two are dedicated to connectedness with the scared. All the dimensions have their intrinsic value and can partly explain spiritual experiences. The general assumption is that, if the connection is experienced as positive, scoring higher on any dimension is associated with a higher level of (mental) well-being. However, climate change and the environmental crisis are likely to challenge all aspects of connectedness. This puts spirituality in an interesting position as on the one hand meaningful connections are threatened, and on the other hand, spirituality is known as a strong coping strategy. Up to now, there is little data verifying that spirituality functions as a coping mechanism in the encounter of the climate crisis but based on the apparent association with existential concerns and previous literature, it is to be expected that spirituality plays a role in the origin of and the coping with eco-anxiety. To keep this paper concise, the dimensions that turn out to be significant, will be further elaborated on later in the discussion section.

Traditionally, spiritual coping is divided into positive (e.g., trust in a benevolent God) and negative patterns (e.g., fear of a punishing God, guilt), and can consist of observable behaviours, like church attendance or meditation, and cognitive or emotional states, like a feeling of gratitude (Pargament et al., 1998; Rosmarin & Leidl, 2020). Different studies show how positive spiritual coping, and especially engaging in (shared) spiritual activities such as prayer or meditation, is often associated with lower levels of anxiety, while negative spiritual coping is related to a higher level of anxiety (Boscaglia et al., 2005; Gaudette & Jankowski, 2013; Glas, 2007; Stratta et al., 2012). Even though most studies seem to regard spiritual coping as similar to religious coping and rely on a theistic worldview, scholars increasingly use a universal definition of spirituality to study the effects of spirituality on levels of anxiety. By doing that, Ginting et al. (2015) confirm that a higher level of spirituality, especially Trust, Caring for Others and Spiritual Activities, is associated with less anxiety and Visser (2015) suggests that Acceptance and Spiritual Activities lower the distress of patients suffering from cancer, while high scores on Care for Others can increase distress.

Due to its focus on meaning and its constructive approach, 'meaning-focused coping' can be regarded as a form of spiritual coping, too. That coping style finds its origin in Susan Folkman's studies about coping in wicked situations when involvement is necessary but final solutions are

not in our power (Folkman & Moskowitz, 2007). Maria Ojala (2019) applied this theory to climate change as a societal problem and found that meaning-focused coping is most often used as a coping strategy to maintain hope as well as a sense of meaningfulness. Whereas emotion- or problem-focused coping strategies seem to promote either engagement or well-being, meaning-focused strategies are supposed to be most pertinent for helping people regulate their eco-anxiety. They do so by promoting constructive hope which has a positive influence on well-being while still making people feel motivated or ready for taking action. Ojala found two main meaning-focused strategies in her studies: Positive re-appraisal and trust (Ojala, 2019 p. 13). Re-appraisal of situations demands the skill to switch perspectives and focus on the positive aspects, however small they may seem, while trust is aimed at factors and players outside of oneself, such as activists or scientists. It's a belief that we are not acting alone but are being supported by people or organisations with more power and influence than we would have on our own (Ojala, 2019).

An example of re-appraising the situation is Hickman (2020) who takes as a starting point the assumption that the more we feel connected to people, places or nature, the more we are hurt when either the one or the other changes or diminishes. She then uses this thought to suggest a reframe of eco-anxiety to eco-compassion. Although Hickman does not propose this with spirituality in mind but more within the framework of attachment, her explanation that "people would not feel the anxiety or distress if they did not connect with and care about the planet, people and other species" (p. 416) conforms to spirituality. This example shows how spirituality and feeling connected to our surroundings can trigger eco-anxiety, but at the same time, her suggestion of reframing eco-anxiety to eco-compassion shows that opportunities arise when applying a spiritual perspective. If eco-anxiety is regarded as the disturbed 'shadow-side' of eco-compassion, a positive reappraisal of eco-anxiety takes place and people experiencing eco-anxiety can appreciate their feelings differently and might even be thankful for feeling that way (Hickman, 2020).

What can spirituality and more knowledge about the connection between spirituality and eco-anxiety offer us? Understanding the relationship between spirituality and eco-anxiety better can help scholars and (spiritual) caregivers to offer better support. Support that appeals to the existential level of eco-anxiety by discovering someone's spirituality and learning more about how that can help a person cope with eco-anxiety and find meaning and motivation to engage in pro-environmental behaviour.

## Hypotheses

*What is the relationship between spirituality and eco-anxiety among youth in the Netherlands?*

Based on the theoretical framework above, it is expected that people experiencing more existential anxiety, will also be more exposed to eco-anxiety and the other way round. The causality, however, so far remains unclear. One possible explanation might be that people who are more sensitive to existential concerns are also more likely to become eco-anxious. On the other hand, it is likely that people who see the multidimensional effects of the climate crisis and experience eco-anxiety strongly, also feel disturbed on an existential level.

Dimensions of spirituality (measured as subscales of the SAIL) that are expected to be associated with lower levels of eco-anxiety are meaningfulness in life (Clayton et al., 2017), having trust in life (Ojala, 2019), as well as acceptance of the boundaries of their own power (Newell Santiago & Lynn Gall, 2016). On the contrary, feeling connected to nature is most likely connected to more eco-anxiety (Hickman, 2020).

Caring for others makes people more vulnerable, as e.g., more people could be harmed by the climate crisis or because also catastrophes in other parts of the world are felt stronger due to sensitivity to universal values. On the other hand, it is known that sharing emotions and struggles with others helps to cope with experiences like eco-anxiety. As the questions forming the subscale 'caring for others' are mostly focused on meaningful connection with others instead of communication or openness, it is most likely that more caring is connected with a higher level of eco-anxiety. It is difficult to make a hypothesis about the subscales 'transcendent experiences' and 'spiritual activities' as so far most research is focused on the link between religion and anxiety. It depends on the existing image of the world and God, whether coping has a positive or a negative impact. As the question of the subscale 'transcendent experiences' is rather aimed at the connection with the world as a whole, there is a careful hypothesis that also these experiences could make people vulnerable to feelings of eco-anxiety. On the other hand, engaging in spiritual activities (and through that e.g. receiving social support) is likely to either counteract eco-anxiety or help cope with eco-anxiety (Clayton et al., 2017; Gaudette & Jankowski, 2013; Visser, 2015). As, like this study, most studies conducted about eco-anxiety have a cross-sectional design, it, unfortunately, will not be possible to state if influences are a prerequisite or rather a consequence.

# Methodology

## Research Design

This study is cross-sectional mixed-methods research. As eco-anxiety as a concept and phenomenon is only a recent subject to study, there is only little empirical data about the occurrence and manifestation of eco-anxiety, and to my knowledge none about eco-anxiety among young people in the Netherlands. This research aims to study the relationship between eco-anxiety and spirituality. To find possible answers to this question, it is necessary to first gain a broader picture of eco-anxiety among young people. Besides learning about the occurrence of eco-anxiety, it is important to find out more about personal experiences, triggers, emotions, thoughts, possible ways of coping, etc., especially since questionnaires measuring eco-anxiety are still new and so far haven´t been used often. Only when there is enough information about experienced eco-anxiety can the relation with spirituality be examined further.

Recently, mixed-methods research has been increasingly applied when fields are still fairly new or abstract (Doyle et al., 2019). For this study a mixed-methods design has been chosen, because using quantitative as well as qualitative data will support completeness or offset weaknesses (Doyle et al., 2019). Using only quantitative data would enhance the danger of missing important aspects and nuances of eco-anxiety not captured in the survey. They would get lost if only a few respondents report eco-anxiety or missed due to a variety of terminology not familiar to everyone. If choosing only qualitative data, one risk would be to mainly reach respondents aware of their feelings of eco-anxiety, which would be interesting for further study, but not to gain a first general picture of eco-anxiety among youth in the Netherlands. Combining the two methods, therefore, is pragmatic and can, according to Bishop (2015), give freedom to answer the research question as thoroughly as possible.

For this study, a convergent design is applied. Not only was it more feasible for the timeframe of this research project, but it also ensures that the interviews can independently provide information and complement the picture. First, a broad quantitative survey was shared among a random selection of people. Some of those respondents to the survey who also gave their contact details were then invited for an interview, in order to gain more insight into the phenomena found. Although the design is convergent, there was an emphasis on quantitative data, and participants needed to first fill in the survey before volunteering for interviews.

However, the data of the survey was not analysed before the interviews were conducted, and the findings have been merged in the interpretation phase.

The survey consisted of three existing questionnaires along with demographic questions, a question about emotions concerning the climate crisis, and an open question about hope. The survey was developed in Dutch and English. Two questionnaires were already existing in both languages, and the HEAS-13 was translated into Dutch. Before spreading the survey, five people tested the English-language survey and three the Dutch version. The feedback received on missing words, typos, or confusing questions was adjusted and a question about involvement was added. Testers reported a time investment of ten to fifteen minutes and stated that participating was interesting and worth the time. The survey was spread online at the beginning of May 2022 and closed halfway through June. The interviews were conducted during the first weeks of June.

## Instruments

The key concepts of this study were eco- anxiety and spirituality. There are only a few questionnaires measuring these concepts. To further study the experienced spirituality, the Spiritual Attitude and Involvement List (SAIL) by de Jager Meezenbroek et al. (2012) has been used. Their definition of spirituality is very close to the definition by Puchalski and colleagues (2010). The SAIL consists of 26 items divided into seven subscales: Meaningfulness, Trust, Acceptance, Caring for Others, Connectedness with Nature, Transcendent Experiences, and Spiritual Activities. Meaningfulness examines participants' feelings of purpose in life and meaning gained through activities, whereas Trust is considering inner peace and a basic trust to be able to handle life as it comes. Acceptance is about acknowledging that not everything in life is in one's power. These domains are mostly linked to Connectedness with Oneself. The dimensions of Caring for Others and Connectedness with Nature measure in how far participants find serving others important and how united they feel with society and nature. Surveying connectedness with the significant or sacred, the domain of Transcendent Experiences asks about feeling part of something greater or understanding the essence of life. The subscale Spiritual Activities is linked to belief and to including spiritual activities, like prayer or meditation in daily life (de Jager Meezenbroek et al., 2012). Every item can be scored on a Six-Point Likert scale, with options ranging from 'not at all' to 'in a very high degree' for items 1-18, and from 'never' to 'always' for items 19-26. The scores were calculated by taking the average of every subscale. The SAIL has adequate internal consistency and test-retest reliability. Also, the seven subscales withstood most of the discriminant and convergent validity

tests (de Jager Meezenbroek et al., 2012). A benefit of using the SAIL for this research is the fact that one subscale is explicitly measuring connectedness to nature. Another advantage is that the questionnaire has been developed by Dutch researchers, which makes it likely to also show a high validity among the participants of this research. The specific items per subscale can be found in Appendix 1.

The questionnaire selected for measuring eco-anxiety was the Hogg-Eco-Anxiety-Scale (HEAS-13). This four-dimensional scale was developed in 2021 by Hogg and colleagues from universities in Australia and New Zealand and is based on the climate change anxiety scale by Clayton & Karazsia (2020). Hogg et al. (2021) define eco-anxiety as "a term that captures experiences of anxiety relating to environmental crises" (p. 1). The HEAS-13 consists of 13 items which can be divided into four subscales: Affective Symptoms, Rumination, Behavioural Symptoms and Anxiety about Personal Impact. The subscale for Affective Symptoms measures feelings of worry and fear, Rumination is concerned with the inability to stop thinking about past or future environmental problems and Behavioural Symptoms is linked to difficulties with daily activities. Anxiety about Personal Impact inquires about the feeling of not contributing effectively to solutions (Hogg et al., 2021). Other than the questionnaire by Clayton & Karazsia (2020), the HEAS-13 neither includes questions about the personal experience of climate change nor about behavioural engagement. Participants could score on a Four-Point Likert scale ranging from 'not at all' to 'nearly every day'. The HEAS-13 was developed and improved during two studies, in which each dimension of eco-anxiety showed good internal reliability and strong discriminant validity (Hogg et al., 2021). This questionnaire was chosen as the questions were experienced as broader than the ones by Clayton & Karazsia, with the idea of them being more applicable for a wide range of participants.

In this research eco-anxiety is viewed as existential anxiety, meaning that it touches on all existential aspects of our lives. To find out whether young people indeed experience existential anxiety and to study if there is a relation with eco-anxiety, the Existential Concern Questionnaire (ECQ) was used. The ECQ was developed by van Bruggen and colleagues (2017) and is based on the existential concerns of meaninglessness, death, guilt, isolation and identity which were among others inspired by Yalom and Tillich. The questionnaire consists of 22 items which can be scored on a Five-Point Likert scale ranging from 'never' to 'always'. The questionnaire measures existential concerns as a unidimensional construct, with all aspects influencing one another. The internal consistency and validity were strong. Just like the SAIL,

the ECQ was developed in the Netherlands and tested with students, which makes it likely to be valid and applicable for participants of this study.

The complete survey offered to participants can be found in Appendix 1.

## Participants

A total number of 151 participants took part in this study by filling in the online survey. The respondents were aged between 15 and 30 years. A prerequisite was living in the Netherlands, so that as little as possible other cultural influences could play a role. Despite that, the choice was made to offer the survey in Dutch as well as in English, in order to not exclude non-Dutch speaking young adults living in the Netherlands. The survey was accessible via an anonymous hyperlink, which was spread mainly by using the messenger service WhatsApp, as well as the social media platforms Facebook, Twitter and LinkedIn. As a consequence of this way of recruiting, it was not possible to trace back via which medium respondents received the link or which groups were mainly reached. The starting contacts were members of DWARS Overijssel, a trainer of 'milieudefensie', people who travelled together to the Climate Demonstration in Amsterdam in November 2021, students from the student rowing association Boreas, Facebook- and LinkedIn connections of the researcher and some other of her contacts. The link was accompanied by a short explanation of the research and a description of the target group, also mentioning the preference for 'people possibly involved with climate'. With this recruitment method it was not possible to control who is participating, but that way the idea was to attract a diverse group of participants who were likely to have experienced emotions towards climate change. Further, the text included the request to share the message with the link within the participants' network.

Finally, the survey was filled in 136 times in Dutch and 15 times in English. After having excluded participants who didn't give their consent, were not living in the Netherlands, or didn't fill in at least the questionnaire about eco-anxiety, 110 participants were left. Of these 110 participants, 60 were female, 45 male and 5 identified as fluid, genderless or non-binary. Table 1 shows more background information about the participants of the study.

**TABEL 1 DEMOGRAPHIC CHARACTERISTICS OF PARTICIPANTS (%, N=110)**

| AGE | 15-20 | 25% |
|-----|-------|-----|
|     | 21-25 | 44% |
|     | 26-30 | 30% |

| | | | |
|---|---|---|---|
| **GENDER** | Female | 55% | |
| | Male | 41% | |
| | Other | 5% | |
| **EDUCATION** | Primary or secondary | 1% | |
| | Post-secondary vocational | 12% | |
| | University (of applied science) | 87% | |
| **BELIEF** | Atheist | 52% | |
| | Christian | 22% | |
| | Spiritual | 9% | |
| | Other | 16% | |
| | - Agnostic* | 8% | |
| | - Germanic Heiden | | |
| | - Not active | | |
| | - Not specific | | |
| | - Nothing | | |
| | - Searching | | |
| **CLIMATE CHANGE ATTITUDE**** | Not keeping busy | 4% | ➔ Little involvement (33%) |
| | Trying to live sustainably without big adjustments | 36% | |
| | Living sustainably with adjustments | 43% | ➔ Involved (57%) |
| | Very involved in daily life | 46% | |
| | Climate activist | 10% | ➔ Activist (10%) |
| | Other | 3% | |
| | - Cynic over own influence | | |
| | - Responsibility for bigger players | | |

*As a relevant group identified as agnostic, it was chosen to view them as a separate group for further analysis.

**Multiple answers were possible. For the final categories, the highest answer was seen as leading.

## Semi-Structured Interviews

The interviews took place while the survey was still conducted, and only the demographic data of the participants were looked at beforehand in order to approach a diverse group of interviewees. Of the 27 participants being prepared to participate in an interview, eight

respondents were chosen and contacted. The aim was to get a diverse group, varying in age, gender, attitude toward climate change action[1], and belief. In the end, five interviews were conducted, lasting around half an hour each (range 24 to 45 minutes). Only the interview with R was conducted live, the others were carried out online due to long travelling distances. There is little variation in the age of interviewees as a result of different reasons, for instance, due to a larger number of older participants volunteering for interviews and the priority on variety in belief and attitude instead of age.

| | | | | |
|---|---|---|---|---|
| Interview with R: | female, | 26-30, | Christian, | little involvement |
| Interview with J: | male, | 26-30, | atheist, | little involvement |
| Interview with S: | non-binary, | 20-25, | atheist/ agnostic, | involved |
| Interview with T: | male, | 26-30, | atheist/ agnostic, | activist |
| Interview with P: | female, | 26-30, | spiritual, | activist |

The interviews were focused on the interviewees' personal experiences concerning eco-anxiety. Opening questions were related to their participation in the survey, their involvement in pro-environmental behaviour, and their belief. The involvement and belief of the interviewees were known to the researcher beforehand based on the demographic data of the survey. Key questions were aimed at learning more about interviewees' experience with eco-anxiety and about what triggers or protects them. Also, interviewees were asked for their thoughts on how their belief or spirituality influenced their experience with the climate crisis. Towards the end interviewees were invited to zoom out on their personal experiences and share their ideas on how young people who (will) feel eco-anxious could be supported. The interview guide can be found in Appendix 2.

The native language of all participants was Dutch and all interviews, except the interview with P which was held in English, were conducted in Dutch. The keywords of the interview were translated as follows: eco-anxiety -> klimaatangst, spirituality -> levensbeschouwing, environment -> milieu. It was intended to mainly use words which also were utilized in the survey.

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[1] Attitude toward climate change will further be used interchangeably with involvement in pro-environmental engagement or behaviour

## Data Analysis

The survey was developed with Qualtrics and after being closed, the data was exported into SPSS, version 26, and all contact details were removed to ensure privacy. To begin with, one-way-ANOVA-tests were executed to learn more about the relation between the demographic aspects and the dimensions of eco-anxiety, existential concerns and spirituality. Further, the internal consistency was tested with Cronbach's alpha and the skewness of all scales was examined through plot diagrams. The Pearson correlation between different variables and subscales was tested and a hierarchical regression analysis was performed to control the impact of variables and to predict aspects of eco-anxiety. For this, the demographic factors of gender, education, belief and attitude were entered as control variables. The seven dimensions of spirituality were entered as independent variables in the second step and the existential concerns in the third step. Initially, spirituality was entered last, but that did not lead to a significant $\Delta R2$.

All semi-structured interviews were recorded and transcribed as intelligent verbatim transcription, focused on the spoken words. Afterwards, the transcripts were coded with atlasti.com, using both deductive and inductive codes. The subscales of the HEAS-13 and the SAIL were applied as deductive codes, and other codes, mostly concerning behavioural aspects, were added during the process. The transcripts were not translated, only the quotes used to support the analysis were translated into English.

## Ethics Declaration

All respondents of the research participated voluntarily and signed an informed consent before continuing the survey. Also, all interviewees participated voluntarily and consented verbally to the interview being recorded and to the data being used anonymously. Traceable and personal information was anonymized, and data was kept confidential and was saved safely on the server of the RUG. The researcher was transparent about her role and reacted as neutral as possible during interviews to not give the participants any feeling of being pushed to answer in a certain direction. Participants of both the survey and the interview could choose between English and Dutch, depending on what they felt most comfortable with. To ensure that youth from as many different backgrounds as possible could participate, some questions were adjusted to easier language. To somehow "pay back" the participants, 25ct per participant was donated to milieudefensie (in total 30€), which is a non-governmental organisation fighting climate change. There were no conflicts in interest and milieudefensie is broadly known as a neutral organisation embracing the interests of different groups.

# Results

This chapter analyses the results of the survey based on the research question. First, the results of the survey are presented, followed by the results of the semi-structured interviews. The aim was to find significant results and key phenomena that indicate how eco-anxiety is experienced among young people and what kind of relationship there is between eco-anxiety and spirituality.

In the following part, the emotions related to the climate crisis are shown, and subsequently the outcomes of the HEAS-13, the ECQ, and the SAIL. After the results were analysed, the most significant outcomes describe how spirituality, existential concerns, and eco-anxiety are related to each other and what factors are crucial for understanding eco-anxiety and the relationship between spirituality and eco-anxiety.

## Emotions and Feelings towards the Climate Crisis
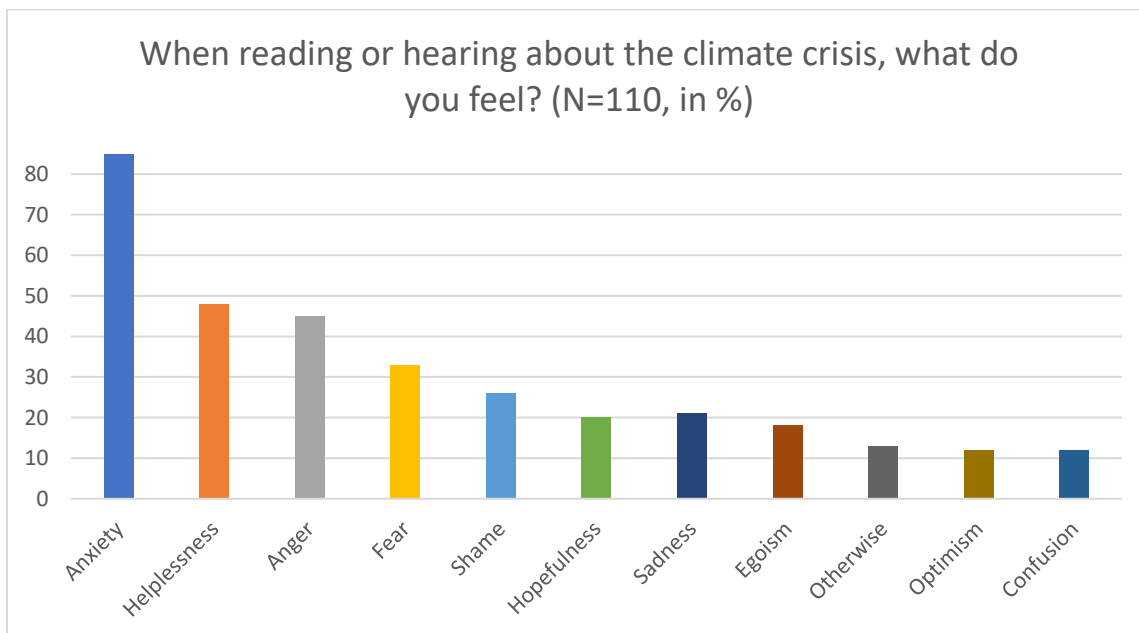


**Figure 1** Important emotions and feelings towards climate crisis

Figure 1 shows that the emotion that by far was felt most when reading or hearing about climate change, was anxiety (in Dutch: bezorgdheid). 85% of all participants have felt climate change-related anxiety at least at one point in their life. Nearly half of all participants (48%) stated feeling helpless. The stronger and more outgoing feeling of anger is experienced by 45% of all participants, followed by fear by 33%. Emotions with a negative connotation are noticeably scored more often than positively connotated emotions such as hopefulness (20%) and optimism (11%).

## HEAS-13

When looking at the results of the HEAS-13 (table 2) it becomes evident that in general participants score relatively low on all subscales. Participants score the lowest on Behavioural Symptoms (M = 1.33, SD = .66 and the highest on Anxiety about Personal Impact (M = 1.99, SD = .80). On the subscales Rumination and Behavioural Symptoms more than 80% of all 110 participants scored 2 or lower (out of 4). Despite the internal consistency of all the subscales being strong, the subscales Rumination and Behavioural Symptoms had a strong positive skewness and too little variation in the data. Even after log and square root transformations, the strong right-skewed distribution remained, which led to excluding these two subscales from further analysis of the data.

**TABEL 2 RESULTS HEAS-13 (N=110)**

|  | Mean | Std. Deviation | α ≈ |
|---|---|---|---|
| **AFFECTIVE SYMPTOMS** | 1.61 | .55 | .78 |
| RUMINATION | 1.51 | .67 | .82 |
| BEHAVIOURAL SYMPTOMS | 1.44 | .66 | .82 |
| **ANXIETY ABOUT PERSONAL IMPACT** | 1.99 | .80 | .84 |

## ECQ

The Existential Concerns Questionnaire (ECQ, van Bruggen et al., 2017) is intended as a unidimensional concept with all aspects complementing each other and forming the concept of existential concerns. However, some scholars using the ECQ decided to use the subscales death anxiety, meaninglessness, guilt, isolation and identity. Even though it was tempting to further study the different existential concerns, three of these dimensions (meaninglessness, guilt, identity) showed a low internal consistency. This is why existential concerns are further studied as a unidimensional concept, with a reported average of 2.30 and strong internal reliability (see table 3). The ECQ is distributed normally.

**TABEL 3 RESULTS ECQ (N=109)**

|  | Mean | Std. Deviation | α ≈ |
|---|---|---|---|
| **ECQ (TOTAL)** | 2.30 | .62 | .91 |

## SAIL

The Spiritual Attitude and Involvement List (SAIL, de Jager Meezenbroek et al., 2012) is distributed normally and except for the domain of acceptance, the subscales have a good internal reliability. Due to a low internal consistency, the data of the subscale Acceptance is used for the analysis but interpreted with reservations.

As shown in Table 4, participants score the lowest on Transcendent Experiences and Spiritual Activities, and the highest on Connectedness with Nature and Care for Others.

**TABEL 4 RESULTS SAIL (N=103)**

|  | Mean | Std. Deviation | α ≈ |
|---|---|---|---|
| MEANINGFULNESS | 3.70 | 1.06 | .80 |
| TRUST | 3.99 | .79 | .74 |
| ACCEPTANCE | 4.15 | .75 | .60 |
| CARE FOR OTHERS | 4.77 | .76 | .80 |
| CONNECTEDNESS WITH NATURE | 4.45 | 1.11 | .80 |
| TRANSCENDENT EXPERIENCES | 2.33 | .89 | .78 |
| SPIRITUAL ACTIVITIES | 2.47 | 1.16 | .81 |

## Analyses of Variance

Demographic aspects, like gender, belief or age, can have a great influence on experienced eco-anxiety, existential concerns or spiritual involvement. Also, the attitude towards climate change can have an impact. To determine significant differences between various groups and to determine the control variables for the hierarchical regression analysis, one-way-ANOVA tests were executed. The largest differences seemed to exist within different genders and in the attitudes towards climate change. Age only appeared to influence meaningfulness and was not included as a further control variable for the hierarchical regression. Also, the level of education and different beliefs only showed significant differences concerning dimensions of spirituality but were included as variables to control any mediating effects via spirituality on eco-anxiety. Table 5 shows the statistically significant differences in mean scores of the two dimensions of eco-anxiety between different attitudes and genders based on the results of the one-way ANOVAs and Tukey's HSD Test for multiple comparisons. The gender and attitude additionally also showed significant differences in mean scores of different dimensions of spirituality.

| | ATTITUDE | | | | | GENDER | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | M little involved (N=36) | M Involved (N=61) | M Activist (N=11) | F (df) | Contrasts | M Female (N=60) | M Male (N=44) | M Diverse (N=5) | F (df) | Contrasts |
| **ECO-ANXIETY** | | | | | | | | | | |
| AFFECTIVE SYMPTOMS | 1.33 | 1.67 | 2.18 | F(2)= 13.28 | M activist > M involved**> M little**; M activist > M little*** | | | | | |
| ANXIETY ABOUT PERSONAL IMPACT | 1.62 | 2.11 | 2.58 | F(2)= 8.85 | M activist > M little***; M involved > M little** | 2.15 | 1.71 | 2.67 | F(2)= 6.41 | M diverse > M male*; M female > M male** |

*p≤.05, **p≤.01, ***p≤.001

## Correlations

After having tested the interaction of demographic factors with the aspects of eco-anxiety, the correlations between relevant aspects were tested. Due to an abnormal distribution, the subscales Rumination and Behavioural Symptoms of the HEAS-13 were not included, and the factor age was left out due to limited statistical differences.

Positive significant correlations (see table 6) were found between the attitude towards climate change and both aspects of eco-anxiety as well as between the attitude and level of education, Meaningfulness, Care for Others and Connectedness with Nature. Both aspects of eco-anxiety are significantly positively correlated with Existential Concerns and Care for Others, with Anxiety about Personal Impact additionally being correlated with Connectedness to Nature. A significant negative correlation is obtained between Trust and both aspects of eco-anxiety. Meaningfulness and Trust have a significant negative correlation with Existential Concerns.

### TABEL 6 CORRELATION FACTORS

| | Attitude towards climate change | Affective symptoms | Anxiety about personal impact | ECQ |
|---|---|---|---|---|
| **GENDER** | -.11 | -.09 | -.08 | -.14 |
| **EDUCATION** | .27** | .03 | .10 | .03 |
| **BELIEF** | .06 | -.02 | .02 | .03 |
| **ATTITUDE** | | .47*** | .37*** | .10 |
| **ECQ** | .10 | .46*** | .49*** | |

| | | | | |
|---|---|---|---|---|
| MEANINGFULNESS | .24* | -.19 | -.13 | -.48*** |
| TRUST | .03 | -.39*** | -.31*** | -.62*** |
| ACCEPTANCE | -.10 | -.14 | -.03 | -.17 |
| CARE FOR OTHERS | .54*** | .29** | .35*** | .17 |
| CONNECTEDNESS WITH NATURE | .30** | .11 | .35*** | .12 |
| TRANSCENDENT EXPERIENCES | .15 | .18 | .14 | .09 |
| SPIRITUAL ACTIVITIES | -.01 | .07 | .13 | .12 |

* $p \leq .05$ ** $p \leq .01$ ***$p \leq .001$ (2-tailed)

## Hierarchical Multiple Regression

The hierarchical multiple regression is executed with 102 participants who filled in all questions of the survey. In the first test (see table 7) the dependent variable is the Affective Symptoms-subscale of the HEAS-13 and in the second test (see table 11) the Anxiety about Personal Impact forms the dependent variable.

## Affective Symptoms

The results in table 7 show that all variables taken together accounted for a 38.5% variance in affective symptoms of eco-anxiety. More specifically attitude, Trust and Existential Concerns did significantly predict Affective Symptoms of eco-anxiety. Attitude and Existential Concerns indicated a positive relationship, while Trust showed a negative relationship. However, the confidence intervals for both Trust and Existential Concerns, include zero, which makes it necessary to regard the significance of the results with reservation. The attitude toward climate change remained the strongest predictor, even when other variables entered. The standardized beta ($\beta$) of Trust, indicating the strength of the relationship with Affective Symptoms, decreased from -.351 (p=.002) to -.241 (p= .049) when Existential Concerns entered, which possibly was due to a relatively high correlation (r=  -.615). The order of possible mediation was further examined by switching steps two and three. This did not lead to a significant $\Delta R2$ (p= .167). To further test the role of Existential Concerns as a partial mediator, the Sobel-test was performed. With a significance of .002, it confirmed that Existential Concerns are partly mediating between Trust and Affective Symptoms. This leads to the presumable relations which are presented in Figure 2.
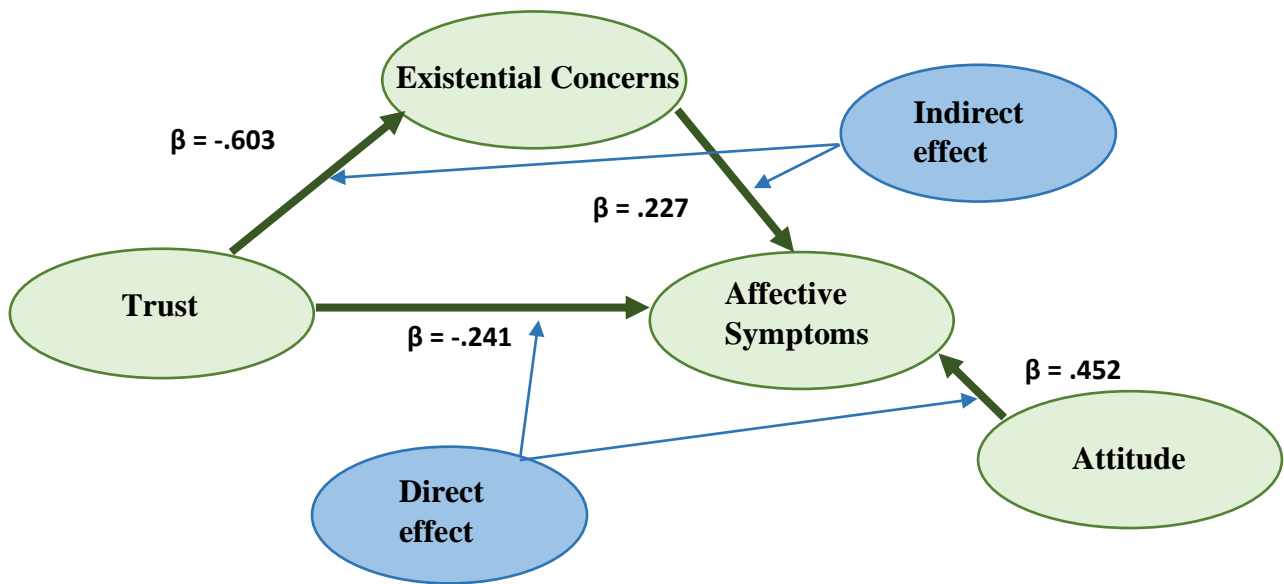
**Figure 2**: Model of effects on Affective Symptoms

## Anxiety about Personal Impact

The results in table 8 show that all variables taken together accounted for 33.3% variance in Anxiety about Personal Impact. More specifically the connection with nature and existential concerns did significantly predict the Anxiety about Personal Impact. The variance of the attitude became non-significant as soon as spiritual dimensions entered. The strength of the relationship with Trust and Caring for Others diminished when existential concerns were added. The existential concerns appeared to have the strongest positive connection to Anxiety about Personal Impact. After having executed the hierarchical regression, the relation between Existential Concerns and the Connection to Nature remained unclear. With a significance of .224, the Sobel-test did not confirm that Existential Concerns are partly mediating between Trust and Anxiety about personal Impact. The interactions are considered as shown in figure 3.
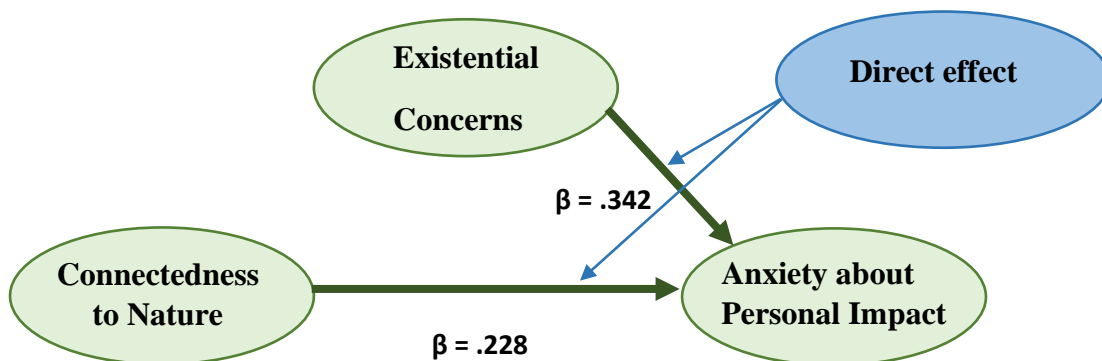


**Figure 3:** Model of effects on Anxiety about Personal Impact

TABEL 7  Summary of hierarchical regression analyses (affective symptoms)

| | Model 1 | | | | Model 2 | | | | Model 3 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | B | β | P | 95% CI around B | B | β | P | 95% CI around B | B | β | P | 95% CI around B |
| Gender | -.029 | -.030 | .747 | -.204, .147 | -.017 | -.018 | .840 | -.180, .147 | .012 | .013 | .880 | -.151, .176 |
| Education | -.154 | -.100 | .284 | -.438, .130 | .087 | .057 | .547 | -.200, .375 | .028 | .018 | .848 | -.261, .317 |
| Belief | -.022 | -.052 | .573 | -.100, .055 | -.025 | -.060 | .519 | -.102, .052 | -.031 | -.075 | .417 | -.108, .045 |
| Attitude | .440 | **.490** | **<.001** | .274, .606 | .394 | **.439** | **<.001** | .204, .584 | .406 | **.452** | **<.001** | .218. .594 |
| Meaningfulness | | | | | -.087 | -.166 | .155 | -.207, .034 | -.047 | -.089 | .462 | -.172, .079 |
| Trust | | | | | -.246 | **-.351** | **.002** | -.398, -.095 | -.169 | **-.241** | **.049** | -.338, .000 |
| Acceptance | | | | | -.006 | -.008 | .930 | -.133, .122 | .002 | .002 | .979 | -,124, .127 |
| Caring for others | | | | | .068 | .093 | .391 | -.088, .223 | .027 | .038 | .733 | -.131, .186 |
| Connectedness to nature | | | | | -.042 | -.084 | .371 | -.134, .051 | -.049 | -.097 | .294 | -.140, .043 |
| Transcendent experiences | | | | | .151 | **.244** | **.035** | .011, .292 | .122 | .196 | .092 | -.020, .264 |
| Spiritual activities | | | | | -.046 | -.096 | .443 | -.165, .073 | -.037 | -.077 | .535 | -.155, .081 |
| Existential concerns | | | | | | | | | .202 | **.227** | **.053** | -.003, .408 |
| Adjusted $R^2$ | **.197** | | | | **.365** | | | | **.385** | | | |
| $\Delta R^2$ | **.229** | | | | **.205** | | | | **.023** | | | |
| | F(4,97)=7.20 | | | | F(7.90)=4.67 | | | | F(1.89)=3.84 | | | |
| Sig. F Change | **<.001** | | | | **<.001** | | | | **.053** | | | |

TABEL 8 Summary of hierarchical regression analyses (anxiety about personal influence)

| | Model 1 | | | | Model 2 | | | | Model 3 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | B | β | P | 95% CI around B | B | β | P | 95% CI around B | B | β | P | 95% CI around B |
| Gender | -.039 | -.030 | .765 | -.297, .219 | -.013 | -.010 | .914 | -.255, .229 | .048 | .037 | .689 | -.189, .285 |
| Education | .012 | .006 | .955 | -.406, .430 | .047 | .022 | .827 | -.379, .473 | -.078 | -.037 | .713 | -.497, .341 |
| Belief | .003 | .006 | .955 | -.111, .117 | .022 | .037 | .705 | -.093, .136 | .009 | .015 | .872 | -.102, .120 |
| Attitude | .452 | **.362** | **<.001** | .207, .696 | .218 | .175 | .127 | -.064, .500 | .243 | .194 | .080 | -.029, .514 |
| Meaningfulness | | | | | -.070 | -.096 | .438 | -.249, .108 | .015 | .020 | .874 | -.167, .196 |
| Trust | | | | | -.315 | **-.323** | **.007** | -.540, -.090 | -.153 | -.157 | .217 | -.397, .091 |
| Acceptance | | | | | .043 | .041 | .654 | -.146, .231 | .058 | .056 | .528 | -.124, .240 |
| Caring for others | | | | | .268 | **.265** | **.023** | .037, .499 | .183 | .181 | .117 | -.047, .413 |
| Connectedness to nature | | | | | .173 | **.248** | **.014** | .036, .310 | .159 | **.228** | **.019** | .027, .291 |
| Transcendent experiences | | | | | .013 | .015 | .901 | -.196, .222 | -.050 | -.058 | .632 | -.255, .156 |
| Spiritual activities | | | | | -.017 | -.026 | .847 | -.194, .159 | .002 | .004 | .977 | -.168, .173 |
| Existential concerns | | | | | | | | | .425 | **.342** | **.006** | .128, .723 |
| Adjusted $R^2$ | **.100** | | | | **.280** | | | | **.333** | | | |
| $\Delta R^2$ | **.136** | | | | **.223** | | | | **.053** | | | |
| | $F_{(4.97)}=3.81$ | | | | $F_{(7.90)}=4.47$ | | | | $F_{(1.89)}=8.07$ | | | |
| Sig. F Change | **.006** | | | | **<.001** | | | | **.006** | | | |

## Hope

The last question posed in the survey was an open question about what gives participants hope. A total of 79 participants answered back, with the largest group (N=26) responding that witnessing the dedication of others and especially role models and the young generation contributed to a feeling of hopefulness.

> *"That there are so many people out there fighting for the same cause: limiting climate change to 1.5 degrees."* (female, 21-25, atheist, activist)

Some participants (N=7) mentioned that seeing the increase of awareness in society was encouraging*: "That the problem is getting recognized more and more often"* (female, 15-20, atheist, involved). Other participants stated that acknowledging the changes that are happening, even if they are small, gives them reasons for hope. Some participants stressed personal relationships and their connection with nature, while two participants added that *"doing the best [they] can"* (female, 26-30, spiritual, activist) was helping them, too.

A part of the participants (N=4) explicitly stressed their belief in humanity and the good of people. Others were naming the power of nature and "*that nature is hopefully stronger than humans*" (female, 26-30, spiritual, activist) and will outlive humanity. A different group found hope in their belief in a higher power which will let justice reign again. Also, the prospect of this world ending and "*a more beautiful world coming in place*" (female, 21-25, Christian) gave hope and motivation as according to one participant "*it is our job to take care of the earth until the day that God will descend to earth*" (male, 21-25, Christian, involved). Another group (N=12) replied that they trust in science and hope that science will be listened to. Also, solutions coming along with technical innovations were reasons for hope.

> "*That engineers can fix shit*" (male, 21-25, atheist, involved)

Six participants, however, did not see any hope at all.

> "*Nothing, I'm fed up that my children will probably experience climate disasters*" (female, 26-30, not specified, little involved)

Further reasons for hope were an increase in urgency and that people are capable of a lot as soon as they get the feeling of a serious crisis. One participant found hope in the finiteness of everything, while another one hoped for unlikely positive twists.

# Results qualitative part

The semi-structured interviews were focusing on participants' involvement, their beliefs, and on how their belief influenced their experience of the climate crisis. The main codes deriving from the interviews were including statements about different aspects of eco-anxiety, motivation and triggers, behavioural adjustments, coping strategies, and explanations for an increase in eco-anxiety and belief-related subjects.

## Experienced Eco-Anxiety

*"Eco-anxiety… I can relate to that. But really as anxiety? But it is a theme, and also a theme that is heavy on everyone's stomach."* (interview with R)

All of the interviewees recognized eco-anxiety as a relevant and current issue. In general, interviewees who were more involved with fighting climate change also reported more experience with eco-anxiety, but most interviewees described some kind of personal experience of eco-anxiety. The dimensions of eco-anxiety that were mentioned most often, were rumination, affective symptoms and anxiety about the personal impact. When interviewees talked about behaviour, they most often mentioned behavioural adjustments they made in their daily lives instead of examples of behavioural difficulties. Only one interviewee described that going to work felt useless, but he did not further elaborate on concrete behavioural problems concerning working or other daily activities.

*"When I know, I cannot not know it anymore"* (J)

An aspect that all interviewees reported was having thoughts about climate change which were influencing their moods and feelings. Often, they were induced by climate-related news articles or recent climate catastrophes. For some interviewees, the thoughts were easy to let go again, while for others, rumination did seem to constitute a part of significant eco-anxiety:

*"Or yeah, like first I start overthinking and making it worse in my mind and worse and worse and worse."* (P)

Thoughts about the climate crisis appeared to interact with different feelings and reinforce affective symptoms of eco-anxiety. However, none of the participants seemed to feel severely eco-anxious at the moment of the interview, as most of them were talking about experiences during certain periods in their past, and descriptions were more similar to worry than to fear. Other feelings that were experienced by different respondents were general unrest, being overwhelmed by all the information and news, guilt of not doing enough or making the 'wrong'

choices, sadness when seeing the beauty of nature or its destruction of it, shame of being anxious and unable to contribute, fear for the future, the feeling of not being understood by others, and general despair. Another experience which some described was a feeling of numbness in different forms.

"*Yes, for me it was very bad… it translated into a kind of apathy. Lethargic at times. Why am I even doing anything? It doesn't matter anyway... Luckily, I'm a bit out of that now. But yes, something like that is lurking. Because it's very easy to just really give up, in my opinion.*" (T)

Most interviewees described some kind of feeling powerless, which some experienced as numbness or apathy. Interviewees described the feeling of numbness as being unable to still get motivated for pro-environmental behaviour or activism. This feeling often seemed to be related to the anxiety about the personal impact and was mentioned together with a feeling of meaninglessness. The feeling of isolation, feeling ashamed of being affected by numbness and of feeling down instead of being in action, and the propensity to give up were also expressed in relation to numbness. Several of the participants could easily imagine why people feel the urge or temptation to look away from the climate crisis and felt that hankering themselves from time to time, too.

"*Trying to do so much for nothing, when yes… maybe it's not going to be enough or ends up having no impact in the greater picture so to speak*" (S)

Most descriptions of eco-anxiety by interviewees were linked to anxiety about the personal impact. Every respondent was familiar with a feeling of not doing enough or of having too little impact. Interviewees who experienced this strongly were aware of the fact that a lot of action needed to be taken but did not know where to start or how to contribute effectively. Some also reported the initial feeling of having to fight the crisis all alone, which made them experience more anxiety. One participant also mentioned that in the time of eco-anxiety she felt anxious about being anxious:

"*Like, I can do more for the climate, I can do more for the environment. And now I'm just gonna sit here and feel sulky about it, while I can also do more. I can talk about it and feels like maybe complaining about it.*" (P)

## Influencing Factors

"*I mean it's going to be shit anyway, but at least we can try to make it as little shit as possible. Every 0.01 degree that we can avoid is a gain for everyone.*" (T)

Different topics came up when interviewees were asked about what makes them anxious. Studying was mentioned by the majority as a relevant period in their life. Interviewees whose study or internship was focused on sustainability reported that they got a lot of insight into climate-related issues and that their awareness of the wickedness of the problem grew. Most of the time, the examination of climate change was regarded by interviewees as great motivation to engage in pro-environmental behaviour, while at some moments feelings of anxiety, numbness or powerlessness were triggered. What interviewees described as encouraging was when new, possibly devastating information, was shared together with tools on how to (partly) tackle the problem, when study projects had a visible and positive contribution, or when there was a strong social coherence with students stimulating each other to live more sustainably.

*"That you then (during the study) go deeper into it (sustainability) and that you learn so much. And that you then think 'ooh, I can do so much more', also in terms of setting up a project but also in personal life."(*S)

On other occasions studying came along with feelings of eco-anxiety, instead of empowerment. The feeling mainly seemed to be reinforced, when no space was provided to talk about the impact the study material had on students.

*"When I started my master, we got very deep into the subject, like on a more detailed level, and... I don't know, it just felt so big and so like not comprehendible or something, that I felt like 'ooh I really am just one person, trying to do something and I don't know how and ...' I just didn't feel like it was something I could do anything about anymore."* (P)

Also, another interviewee described that the lack of openness to talk about feelings of eco-anxiety increased his feelings of isolation and anxiety. Opposite to feeling isolated, connection with other dedicated people, mutual appreciation, and feeling part of a bigger group were described as very helpful to keep going and to stay hopeful.

*"But the things I do, make it feel like you're part of something bigger than just yourself."* (T)

In the same line, for one interviewee the global social dimension of climate change was the main drive to get involved in climate change and to fight for equality and fairness and especially for people in the most affected areas. She also saw the next generation as a reason to get active now.

Most interviewees agreed that it is necessary to face the gravity of the situation, even though it may lead to more feelings of anxiety. Another aspect that was frequently mentioned as a trigger,

was the awareness that big players and people with influence, like companies or politicians, do not take responsibility and play down climate change. Feeling the responsibility themselves to do as much as possible and feeling the pressure to constantly make 'good' choices, was also named by some interviewees.

"*We got a new cabinet in the Netherlands, we had to vote again. And I feel our climate policies are just very not great. And then I also feel very helpless and very triggering for like climate anxiety.*" (P)

## Behaviour and Coping

Besides feeling part of a bigger group and focusing on small steps of change, different strategies or ways to cope with climate change and with eco-anxiety were described by participants. Ten fragments with constructive coping strategies and ten fragments with avoidance and distraction as coping were found in the interviews.

"*I don't delve into it enough to assess what the doomsday scenarios are, so to speak. So, I don't have any doomsday scenarios in my head either, because I don't know what they would be at all.*" (R)

Some of the descriptions concerning strategies of avoidance, were of a preventive nature, like not delving into all the information. Other strategies seemed to only be activated after having read negative news or feeling eco-anxious. Some interviewees who described aspects of ecoparalysis also talked about avoiding reading news or looking for a distraction.

"*So, like at the moment, if I have all these thoughts and I feel the pressure, it's very easy to just go to social media and look for fun stuff and fun videos.*" (P)

However, all the interviewees also expressed and described different constructive coping mechanisms which help them preventing or dealing with eco-anxiety.

"*Yes, sometimes I just chat with a friend to actually rant a bit that it's just irritating that people are like that (not taking responsibility or behaving in an environment friendly way).*" (S)

Several stated that talking to friends and colleagues about their climate-related thoughts and feelings was crucial for them, although one interviewee added that he appreciates not needing to discuss climate change as he knows people in his activist group know and feel the same anyway, which leaves space to talk about constructive subjects. The search for positive aspects

and small changes is also seen as important, together with finding balance in how much to be involved and focused on climate change.

"*But I am also very much in the here and now.*" (R)

Behavioural Adjustments:

All interviewees described the behavioural adjustments they were making in their daily lives as a personal contribution to fighting climate change, which can be regarded as a constructive form of coping. Eating less or no meat was an often occurring adjustment together with an awareness of plastic usage, reduced car usage, consciousness about recycling and separating waste as well as the purchasing of new clothes. Besides the adjustments on a personal level of consumerism, some interviewees gave examples of adjustments on a different scale, like starting a 'green hub' on the campus, joining protests, or becoming part of an activist group and working in a 'volkskeuken' (allotment kitchen).

"*It has to express itself very practically, because otherwise, if I am mainly occupied with it in my head, then I go much faster, much faster towards apathy.*" (T)

Even though all the interviewees, independent from their initial involvement, were convinced about the necessity of personal adjustments and were willing to contribute, different struggles were mentioned. For some, these were of a more practical nature, such as adjustments costing too much time, financial resources, or energy which was also needed for other aspects of life. The earlier mentioned feeling of not having enough tools how to tackle climate change was also experienced as a struggle. One participant pointed out the multidimensionality and that Covid19 among other things also played a big part in her feeling down and unmotivated.

" A*nd I used to go to protests and stuff, but I don't really do that anymore. Cause I ...yeah, it's not really giving me any energy.*" (P)

Often these struggles could cause more anxiety about the personal impact and it seemed like they were often related to conflicting values. Values that were mentioned by interviewees, were honesty, freedom to make choices, the responsibility to not hurt anyone or anything, happiness, physical and mental health, and being social – for friends and family, but also people in affected parts of the world.

"*That there are different values, good for the climate but also healthy for my own body, because after all I am also part of this ecosystem. But I also want to be good to friends, social. These are all values that can occasionally conflict with each other, yes.*" (R)

## Spirituality, Belief, and Existential Concerns

Of the five interviewed participants, three said to be atheists, of which two explained in the course of the interview that agnostic is more applicable. While the atheist participant stated to trust in science, that everything *"is what it is"* (J) and that we as humans have to solve the problems we created, the agnostic participants stressed that they would not rule out a higher power. The spiritual participant said she believed in energies, also between people, and in some kind of afterlife. Nature has, in her view, the highest power, as "*everything is in nature*" (P). Spirituality helped her to understand the need for self-care to take care of her surrounding. For the Christian interviewee, Christianity with its stories and teachings is where she is rooted and where she finds inspiration. Other than during her upbringing, she does not have a fixed god-image and sees it as most important to be genuine and to seek to do good. She recognizes that her Christian upbringing still has left traces of guilt and occasionally the irrational fear of being judged, but has by being sincere and honest to herself found a way to do justice to herself, her surroundings, nature and god.

"*And then as long as I do the right thing, he (God) must also understand that I do it sincerely and that the path I now walk is an upright path in which I am doing good.*" (R)

Interviewees were not explicitly asked about their personally lived spirituality. However, various dimensions of spirituality passed by during the interviews. As also mentioned earlier in the analysis, the most occurring dimension was the connection with others. No connection with others and no space to share emotions with others seemed to lead to more feelings of isolation and more feelings of guilt, shame and anxiety. Feeling part of a bigger group was empowering interviewees to get active and part of their identity. Even though only some interviewees mentioned personal connectedness to nature or the need to spend time in nature, some mentioned their wish or conception that nature and humans are equals, part of the same environment and interwoven on a deep level. Another dimension of spirituality which got mentioned by some was trust; mainly in connection with humanity having survived other catastrophes before.

"*I think I have a positive nature, which makes me think 'we can still turn the tide'.* (J)

Concerning meaningfulness, all interviewees were aware of what was meaningful to them and this influenced their drive to engage in pro-environmental behaviour. One interviewee described for example that he does not care about animals and that eating less meat is mostly for the sake of the climate, while for another her interest and passion were sparked when she

started caring for her dog. Like that she discovered purpose in caring for other animals and eventually for the whole environment. One interviewee realized that connectedness with others and supporting others made his life meaningful and that he, therefore, finds his purpose in activities like cooking for activists during protest weeks. Another aspect that was identified as meaningful was contributing to more global social justice through, for example, joining projects. Also more intrinsically motivated meaning was voiced by an interviewee who wanted to act sincerely and in line with her values.

*"... sustainability was also already important for me, but it were more the human, the social aspects, that were motivating me (to enrol in a study focusing on sustainability)."* (S)

All interviewees were aware that there were existential concerns at stake, which exceed daily matters. One participant struggled with the question if she wants to have children, knowing it's likely that they will experience climate catastrophes. Questions that several interviewees were concerned about, were pertaining to the meaninglessness of pro-environmental behaviour and involvement, especially when big players do not take responsibility and stopping climate change seems like an impossible task at times. Also, isolation, identity and purpose were concerns that implicitly and explicitly were mentioned by nearly all interviewees and which overlap with different dimensions of eco-anxiety. One interviewee with a strong experience of eco-anxiety recognized and identified that climate change is a greatly existential matter and described how he found ways to stay positive and involved while being aware of his existential concerns: "*I mean it's going to be shit anyway, but at least we can try to make it as little shit as possible. Every 0.01 degree that we can avoid is a gain for everyone.*" (T)

Most of the interviewees had thoughts on why people in general experience more and more eco-anxiety. The explanations they offered were often linked to aspects of existential concerns and spirituality.

"*… or (we) simply have taken so much (from nature) that giving back is no longer an option. And that's why the eco-anxiety sometimes comes to the fore, of course.*" (S)

Several interviewees saw tendencies in how we treat ourselves, each other and nature in our society. One theory of an interviewee was that our modern society is much more focused on feelings than back in time, which also increases the attention for and the prevalence of general anxiety. At the same time, there are also many more options, and everyone is held accountable for their own choices which will be judged as 'good' in various aspects. The feeling of being responsible and the need to make the most out of everything is also recognized by another

respondent who adds that the appeal which governments make on personal responsibility is possibly also increasing eco-anxiety. Another reason for climate change and eco-anxiety that was offered is the loss of connection between humans themselves and between humans and nature.

## Support

Based on their personal experiences, their observations and their view of the world, interviewees thought about how eco-anxiety could best be prevented and how they or other young people experiencing eco-anxiety could be best supported. Various pieces of advice were given, some focused on the individual and others on society. To begin with, a broadly shared demand was a full recognition, that climate change is an existential matter, and that eco-anxiety is an experience and a far-reaching issue which needs to be taken seriously.

"*… also say that yes, it is very logical that you are anxious about this and that it is not strange that they feel that way.*" (S)

The biggest appeal was directed at companies and governments to take responsibility, get into action and by doing so take care of the environment and the citizen. In order to share responsibility, clear communication about targets, options and reached milestones is expected by governments. Some interviewees suggested that schools and universities teach more about climate change and all of its effects and one thought it might add resilience to learn how other global crises were dealt with in the past.

"*I think if schools and organisations and businesses and the government would do or take more action and would also show them more, that would also relieve a bit from it.*" (P)

To stay hopeful, several interviewees implied that climate change and pro-environmental behaviour should be approached positively and optimistically, instead of from a doomed perspective. Regarding positivity, one interviewee mentioned she would be more motivated for climate action if she felt less pressure to do something, and more of a common, fun, relaxed and positive feeling of being active together with others. Enhancing connectedness between people and using (and respecting) everyone's abilities was another reoccurring suggestion, along with the advice that schools, parents and other places should actively provide safe spaces to talk about the impact of climate change on young people's mental wellbeing. In the broader context, talking with friends, family and other people about the experienced eco-anxiety was frequently suggested, as well as consulting a therapist if needed. According to some interviewees, therapists should be aware of the psychological effects of climate change, offer

recognition and support and understand what one is experiencing. Besides the connection with others, a balanced lifestyle in connection with nature was also named as an ultimate aim which would (hopefully) bring life without eco-anxiety.

## Discussion

The central question of this research is '*What is the relationship between spirituality and eco-anxiety among youth in the Netherlands?*'. In the following chapter, this question will be debated, as the different results will be merged and discussed in relation to the literature. The strengths and weaknesses of the study will be considered and recommendations for further studies as well as practical recommendations for professionals and young people dealing with eco-anxiety will be made.

To begin with, this study indicates a definite relationship between spirituality and eco-anxiety, although not all dimensions of spirituality were found to be equally relevant. Having trust in life and being able to access inner peace in difficult times, connectedness with nature, and feeling part of a bigger group were the main dimensions found to be connected to experiences of eco-anxiety. The hypotheses that trust in life can prevent or help against feelings of eco-anxiety, while connectedness with nature is triggering eco-anxiety, were supported. Feeling part of a bigger group mainly came up during the interviews as an important aspect of staying resilient, which partially supports the initial hypothesis concerning connectedness with others. Existential concerns were found to significantly be correlated with aspects of eco-anxiety and to partially mediate between trust in life and affective symptoms.

### Eco-Anxiety

In order to determine the relationship between eco-anxiety and spirituality, the prevalence of eco-anxiety among youth in the Netherlands had to be examined first.

According to the results of the survey, participants did not experience high levels of eco-anxiety. This was partly to be expected, as Clayton & Karazsia (2020) have reported low overall levels of eco-anxiety before, with only a few participants scoring higher. Also, the Netherlands are a privileged country where young people have most likely not experienced direct impacts of the climate crisis on their personal lives yet, which according to Ogunbode et al. (2022) or Pihkala (2019) would otherwise relate to stronger climate relate emotions.

Most participants neither endured rumination, nor did they recognize behavioural symptoms, such as difficulties with sleeping, working, or in social situations. It might be that most participants of the survey did not recognize themselves in the questions posed by the HEAS-

13, as both the questions concerning rumination ('being unable to stop ...') and behavioural symptoms seem mostly fitting to a severe state of eco-anxiety. In retrospect, it might have been more suitable to use an instrument like the Climate Change Worry Scale (Stewart, 2021) for gaining a first overview of the prevailing situation among youth, as it includes items about rumination, worry, and paralysis without being too specific or too much related to pathological jargon. One possible risk of measuring eco-anxiety more broadly as worry is, however, that it becomes harder to assess the gravity of the situation and to determine whether specific support is needed for people experiencing climate-related worry or anxiety.

Nonetheless, besides an possibly unfit questionnaire, an additional explanation for the low scores for rumination could be strong coping mechanisms. Interviewees shared their tendency to push away disturbing thoughts and to look for distraction when thoughts threaten to take over. This suggests that distressing thoughts about climate change or environmental problems are likely to be present, but that they can still be kept under control most of the time. Another explanation for a low level of rumination is that the Netherlands is still largely unaffected by the worst impacts of climate change, meaning that youth do not need to worry if their house will still be standing or if there will be enough water and food for living. Nonetheless, scores for affective symptoms and anxiety about personal impact indicate that young people do experience these aspects of eco-anxiety at least some of the time. When asked straight away at the beginning of the survey, 80% of all the participants acknowledged feelings of anxiety concerning the climate crisis. Furthermore, a whole range of emotions was identified in the survey, as well as during the interviews, supporting the notion by many scholars (Agoston et al.,2022; Clayton, 2020; Metsäranta, 2021; Pihkala, 2021) that eco-anxiety features many more climate-related emotions than anxiety only. It remains to further study the more precise connection between the different emotions within, or next to, the construct of eco-anxiety. The analysis of the interviews indicates that some climate-related emotions, such as guilt, shame or powerlessness, were specifically linked to the anxiety about the personal impact. This was the dimension of eco-anxiety where youth scored the highest and which got most often mentioned during interviews. The prevalence hints at the understanding that personal pro-environmental engagement is needed to fight climate change. Some interviewees additionally suggested that governments and companies often appeal to personal responsibility which could increase pressure and anxiety about the personal impact.

In general, more involvement in pro-environmental engagement was linked to a higher level of eco-anxiety. Literature suggests that getting active is a good coping strategy to help dealing

with eco-anxiety or even to prevent eco-anxiety, while at the same time it is assumed that engaging more with climate can lead to more eco-anxiety (Clayton et al., 2017; Pihkala, 2019). The analysis of the survey indicates a significant, interaction between involvement and active symptoms and the interviews indicate that the more interviewees were involved, the more ecoparalysis they experienced. Unfortunately, the convergent and cross-sectional design of this study makes it unattainable to state more about the cause and effect relationship between eco-anxiety and other aspects like, involvement, dimensions of spirituality, or existential concerns.

## Eco-Anxiety and Existential Anxiety

The results of this study strongly support the conception by Pihkala that eco-anxiety is, besides practical and paralyzing, also very existential. Existential concerns showed significant, positive correlations with both analysed aspects of eco-anxiety. Between trust and affective symptoms, a partially mediating effect was discovered for existential concerns, while they seemed to have a direct impact on anxiety about the personal impact. Even though the ECQ includes aspects of five dimensions, i.e. guilt, isolation, meaninglessness, identity and death, it is intended to measure existential anxiety as a unidimensional construct. However, the analysis of the interviews implies that guilt, isolation, identity, and meaningfulness all play their parts in the experience of eco-anxiety. Guilt for example seemed to mainly originate from value conflicts and was more linked to statements concerning the anxiety about the personal impact, while meaninglessness and isolation were mentioned in relation to ecoparalysis. Identity on the other hand was implicitly referred to within the context of connection with others and belonging to a bigger group. The confrontation with death barely came up as a topic, although some participants mentioned the prospect of a better world hereafter as a source of hope.

When eco-anxiety gets acknowledged and treated as existential anxiety, it is plausible to therefore rely on principles known from existential psychotherapists like Frankl or Yalom. Existential concerns should be fully faced, in the knowledge that they can first lead to more feelings of fear and anxiety. According to Yalom (1980), no one is helped by ignoring the existential aspects of life. This implies the need to come to terms with all the uncertain and scary aspects of climate change and its effects on our lives. It needs to be recognized that the environmental crisis is a threat to our feeling of ontological security to then provide space to talk about personal experiences and come to terms with existential concerns. Some interviewees wished that the communication by governments would address the uncertain aspects and at the same time take some uncertainty away by communicating clearly about the possibilities, targets and actions needed to be taken by companies as well as individuals.

Besides facing the ultimate concerns of life, Frankl's approach is to search for and to find meaning. He regards it as our freedom and as our personal responsibility to be our best selves and to realize meaning by giving to life. This meaning has to be discovered, can be different for everyone and is usually linked to personal creations, experiences with others or nature, or our attitude towards suffering (Frankl, 2006, p. 111). One of the techniques used within Frankl's logotherapy to find meaning is engaging in dereflection. This approach invites people to move their focus away from obsessive self-observation to the actual meaning outside of oneself. In the case of eco-anxiety it would mean encouraging people to no longer focus on their shortcomings in saving the environment, but to take a step back, accept that the final outcome is not in one's hands, and instead shift the focus on the intrinsic meaning, the intention of acting and on the task at hand (Frankl, 2006, p. 129). Also, Socratic dialogue is supposed to help people discover their meaning of life and could probably help people identify their drive for pro-environmental engagement. Furthermore, the analysis of the interviews showed that talking with others about their worries, spending time with people that inspire them, and getting into action as part of a bigger group, shielded interviewees from feelings of isolation. Additionally the connection with others, with nature, or with their sense of meaning seemed to form a substantial part of their identity- for some thus far that being a climate activist composes a big part of their identity.

## Values

An aspect which was not regarded in the framework used for this research, but emerged throughout the interviews is values. Interviewees seemed to link their motivation for action to the perceived meaning to them. Most values that came up during interviews can be seen as belonging to the universal values of benevolence (enhancing others' welfare), universalism (concern for the larger world and nature), self-direction (independence, freedom of choice), or hedonism.

According to Schwartz (2012), various studies show that benevolence, universalism and self-direction are usually prevailing, independent of culture or country. Most of the values cherished by interviewees can be categorized as anxiety-free values, meaning that participants aim for growth and expansion and are not afraid of confrontation. The prevalence of benevolence and universalism additionally support that interviewees have a social focus and are concerned with the welfare of others. Hedonism, on the other hand, is more directed at personal interests. The analysis of the interviews further revealed that conflicts between values, for example, hedonism and benevolence, can cause anxiety, guilt or shame. This finding implies that in the context of

the environmental crisis it is important to make possible conflicts explicit by reflecting on which values are mostly guiding actions in different situations. The predominance of anxiety-free and self-transcendent values is promising and needed to stay motivated to engage in pro-environmental action, although, according to Schwartz (2012), the presence of e.g. power is also needed to motivate other individuals to work for group interests and eventually reach change. Further research is needed to make more comprehensive statements about the role of value (-conflicts) as a starting point for meaningful action concerning eco-anxiety.

## Spirituality and Eco-Anxiety

After having elaborated on eco-anxiety in relation to existential concerns and values, which form the frame in which spirituality gains relevance, it is time to return to the main question of this study and to further discuss the relation between spirituality and eco-anxiety.

The analysis of the survey showed that neither acceptance nor transcendent experiences or spiritual activities correlated significantly with aspects of eco-anxiety. These results were partly to be expected. Reasons for the insignificance of acceptance could be the low internal consistency of the subscale or that the SAIL was mainly developed for use within health care and included two questions directed at the acceptance of pain, which might not be applicable for people experiencing eco-anxiety. More specific research would be needed to learn more about the role of acceptance, as literature and also the insignificant negative correlation, do imply a helpful interaction with eco-anxiety (Pihkala, 2019; Reser et al., 2012). The irrelevant roles of transcendent experience and spiritual activities can partly be explained by taking a look at the demographics, as the majority of participants identified as atheists. According to Visser (2015), participants who do not regard themselves as either religious or spiritual are indeed scoring lower on these two subscales. Further qualitative or effect studies (e.g. eco-anxiety measured before and after a period of active meditation) are advised to gain a more in-depth picture of the role of transcendent experiences and spiritual activities. So far this study indicates minimal positive correlations, which would support the initial hypothesis about transcendent experiences, but not the one about spiritual activities being linked to protective effects against anxiety (Clayton et al., 2017; Visser, 2015). Same as the other three subscales, meaningfulness was not significantly correlated with aspects of eco-anxiety. Still, it showed a significant positive correlation with involvement and additionally was mentioned during the interviews as essential for the recovery from ecoparalysis or as a motivator for action. The subscales trust, connectedness with nature and care for others accounted for significant interactions and will be discussed in the following paragraphs.

## Trust and Eco-Anxiety

It seems evident that having a basic trust in life is protective against any feelings of anxiety, thus also against existential anxiety and eco-anxiety. Kaplan et al. (2015) for instance confirm that more trust is leading to less social anxiety and Krause (2015) acknowledges that more trust in God (via more feelings of forgiveness) induces less death anxiety. As these two examples already show, trust is a broad concept that can be used in various contexts or be directed at different subjects (such as trust in the system, friends, God, the lifeworld, etc.). In her study about existential well-being, Visser (2015) discovered that trust resembled well-being more than spirituality. This led to her excluding the dimension of trust in further analysis concerning spirituality.

While it makes sense that trust and well-being are positively corelated and that therefor people with a high level of well-being experience less affective symptoms of eco-anxiety, in the current research trust is still acknowledged as one of the dimensions of spirituality. According to Ojala (2019), trust is a crucial component of meaning and is often regarded as a common meaning-focused coping strategy which serves both engagement and well-being. The interviews conducted for this research support the premise that young people have little trust in big players with influence, such as the government or big companies. Interviewees were disappointed by the (in-) actions and indifference of these institutions towards climate change, but in general, still had a bit of hope left that the worst might be prevented in time, once all actors actively engage in saving the climate. This hope mainly originated from the interviewees' trust in the community and (other) activistic people. Different aspects of trust, such as trust in technological innovations, trust in a higher power or trust in one's own actions, were considered as hope-giving by participants of the survey. The philosopher McGeer (2008) argues that hope and trust are importantly interconnected as trust can nourish hope, but "our empowering capacity to hope" (p. 237) can ensure the capacity to trust. To elaborate further on the interconnectedness of trust and hope would exceed the scope of this study, but it remains clear that a high level of trust, most likely in combination with hope, can protect against feelings of eco-anxiety. This study did not further investigate the working mechanisms of trust and it also remains unclear if participants, for example, find trust more within themselves or in a higher power. Additionally the confidence interval concerning trust and affective symptoms included a zero, which indicates that further research with a bigger sample size is needed to learn more about the significance of the interaction. In general, more specific research is needed to study trust,

mediated by hope, in relation to spirituality and as a predictor for less affective symptoms of eco-anxiety.

## Connectedness to Nature and Eco-Anxiety

The biophilia hypothesis, first mentioned by Erich Fromm, suggests that humans are attracted to life and seek to be connected with nature, which then can make them more resilient (Gunderson, 2014). This hypothesis could explain why, according to various studies, connectedness or relatedness to nature has positive effects on mental health and well-being, and reduces anxiety (Mayer et al., 2009; Martyn & Brymer, 2016). The finding that connectedness to nature is beneficial for our mental health, is contrary to the findings of this study. However, some studies suggest that the beneficial effects of connectedness to nature do indeed not apply to climate change-related distress like eco-anxiety. Materia (2016) studied climate state anxiety and connectedness to nature in rural Tasmania (Australia) and found out that more connectedness to nature was linked to less trait anxiety, but more climate state anxiety. People who are more relating to "change in nature, climate and weather which are attributed to climate change" (p.283), or who have a pro-environmental orientation (Searle & Gow, 2010) are more likely to be distressed. Materia's evidence goes together with the initial hypothesis, which was based on Hickman's (2020) approach to place eco-anxiety in a framework of attachment.

Although the finding that connectedness to nature can predict aspects of eco-anxiety is backed, no other consulted study has used a multidimensional concept of eco-anxiety in relation to connectedness to nature yet. In this present study, connectedness was not predictive for affective symptoms, only for anxiety about the personal impact, which further included anxiety about personal responsibility to help address the issues of climate change and about personal behaviour not having enough impact. One possible explanation is, that when feeling connected to nature, it becomes more feasible, and is integrated more into someone's own identity or (daily) life. This connection comes with a higher sense of responsibility, subsequently sparking anxiety about the personal impact. One interviewee described his observations, that many activists have a great sense of responsibility, giving them the feeling of having to do everything in their power to protect the earth and to make others aware. This can feel like a heavy burden and lead to anxiety about one's impact or, when continuing, to burnout. The potential mediating role of responsibility, when considering the effect of connectedness to nature on feelings of anxiety about the personal impact, needs to be studied further before new statements can be made.

One more point of discussion concerning connectedness to nature is that the SAIL contains only two questions dedicated to connectedness to nature, while Mayer and Frantz (2004) showed that connectedness to nature is a complex construct on its own. Further research is advised on how connectedness to nature is related to and predictive of aspects of eco-anxiety, and what the roles of exposure to nature and pro-environmental behaviour are within that construction.

## Care for Others and Connectedness with Others

When discussing the relation of spirituality with eco-anxiety, one other aspect of spirituality should be included. Although based on the analysis of the quantitative results, this aspect did not end up as a significant predictor of eco-anxiety, it has been mentioned as a source of hope and resilience by participants and interviewees: care for others and connectedness to others.

The hypothesis of more care for others being correlated with more eco-anxiety was proven to be right, according to the results of the survey. In interviews, caring for others was often directed at future generations or at people living in areas most affected by climate change or people with a low socio-economic status who suffer more severely from the effects of the climate crisis. In these cases, caring was not a specific act but seemed like a form of solidarity which was shown by making pro-environmental adjustments. Besides caring for others, feeling connected with others was mentioned more explicitly in interviews but did not form a subscale of the SAIL. Not feeling connected with others or experiencing not being equally concerned about the climate crisis, makes it harder to talk about any personal feelings towards the crisis. One interviewee described being and feeling part of a bigger, dedicated group as a unique experience and as a reason that he is still involved in climate activism.

## Limitations and Strengths of this Study

This study is one of the first studies researching the relationship between spirituality and eco-anxiety and provides new insights about possible triggers and protectors of eco-anxiety. By doing this, it steps into a relatively young, developing and increasingly relevant field of study. Additionally, this study lays a foundation for empirical data about eco-anxiety among youth aged 15 to 30 living in the Netherlands. Through employing a mixed methods design, new knowledge about the occurrence of eco-anxiety was gained, while the interviews with five participants backed the data and gave more explanation and context to the findings of the survey. The relevance of the research topic came along with some challenges, such as an insufficient data situation to compare the findings to. Further, more promising academic and non-academic literature was published or announced to be published during the writing process

of this study (e.g., Agoston et al., 2022; Dohm & Schulze, 2022; Gunasiri et al., 2022; Pihkala, 2022), which sometimes made it feel like being overtaken by events.

Despite offering a meaningful contribution to scientific research, this study also knows certain limitations which need to be considered. Besides aspects already mentioned earlier in the discussion, there was little diversity in the educational background of participants of the survey. This and other demographic similarities, like gender or age, might be the result of a recruitment method that started with contacts of the researcher – being a highly educated woman aged 25, identifying as Christian and being pro-environmentally orientated. It is known that highly educated women are generally more likely to act pro-environmentally or to feel eco-anxiety (Closson et al., 2022), which made it likely that this group would be most willing to participate in this research project.

Most participants gave the feedback that participating in the survey was inspiring and interesting, although some reported spelling mistakes and complicated sentences. Most likely, the complexity of the survey, along with the length of it, the heavy, personal topic, and potential technical problems, are explanatory factors for the 32% of participants who did not complete the survey. During the analysis phase, some minor mistakes were found in the surveys, like the possibility to choose multiple answers in the Dutch version, but not in the English version. It would also have been advisable to have given 'agnostic' as an option, as two out of three atheists found that description more applicable during the interviews but did not think about that option while filling in the survey.

Another point of discussion is the target group. As this study was the first of its kind in the Netherlands, the choice was made to invite a broad group of participants. The prerequisite to be pro-environmentally orientated was not a fixed criterion and served the purpose to, on the one hand, find people who possibly are concerned about the climate crisis, but on the other hand, still study the general youth living in the Netherlands. Participants scored fairly low on all aspects of eco-anxiety and especially on rumination and behavioural aspects, which led to the subscales not being used for further analysis. In order to be able to analyse the relation between eco-anxiety and spirituality more thoroughly, it might have been more conducive to invite a more specific target group likely to score higher on eco-anxiety. The interviews suggested that focusing on climate activists only could be interesting for learning more about eco-anxiety, the relation with spirituality, and the processes around it.

Concerning the research design, the convergent design was the most feasible option and knew many benefits as described in the methods section. However, this way the questions asked in the interviews were not covering all aspects that ended up as crucial and predictive after the analysis of the quantitative results. If an explanatory design had been applied, the interviews could have served the purpose of gathering more context for the analysis of the results. As seven dimensions of spirituality were studied, it was not possible to ask interviewees about their experience on all the dimensions, which in the end made it more challenging to interpret the role of the dimensions of trust and connection to nature. With an explanatory design, the interpretation would have been even more meaningful.

## Recommendations

The objective of this study was to learn more about the link between eco-anxiety and spirituality to be able to support not only the youth affected but also (spiritual) caregivers to regard eco-anxiety as an existential matter and to find ways to prevent and deal with the (collective) experienced eco-anxiety. Based on the outcomes of this study, different recommendations can be made, both for further academic study and for young people and caregivers in the field. Some recommendations were already discussed in previous paragraphs and will only be briefly mentioned below. Regarding the character and the limitations of this study, practice recommendations need to be considered with the appropriate restraint.

### For Further Academic Research

Based on the results and the discussion, various recommendations for future studies can be made. First of all, it is crucial that longitudinal studies will be conducted. Like this research project, most studies within the field have a cross-sectional character, which makes sense considering the short period of relevance. Still, longitudinal research is needed soon to better understand the factors and processes that are triggering different aspects of eco-anxiety and to learn more about the working of constructive coping strategies and protective factors. Also, the role of spirituality is more efficiently studied in a longitudinal study, as now it is not possible to make statements about causality.

One reoccurring factor, which did not receive full attention in this study, is the pro-environmental involvement or the attituded towards climate change. An effect study examining participants before and after they have joined activistic activities or groups is recommended to understand the role of involvement and pro-environmental behaviour better and the effects of involvement on experienced eco-anxiety and dimensions of spirituality, like e.g. connectedness

to others or nature, meaningfulness or trust. Also, the relation to values, hope, and responsibility is recommended as a subject of further study.

The last recommendation, which is based on an interview with an activist, is to learn more about the regenerative culture[2] which is introduced by activist movements and to study if and how its aspects of self-, earth-, action-, and community care can be implemented in general society.

## For Practical Implications

Based on the findings of this study that (1) eco-anxiety is significantly connected to existential anxiety, and (2) at least some of the spiritual dimensions show significant interactions with different aspects of eco-anxiety, with additionally assuming that (3) eco-anxiety should not be regarded as a psychopathological condition of the individual, makes it obvious that recommendations, and support, should not be directed at minimalizing symptoms but at increasing purpose and meaning in life.

The recommendations that arise from acknowledging eco-anxiety can be summarized as first facing the uncertainty and the existential concerns to then searching for personal meaning, which helps to live accordingly to important values and not become hopeless and paralyzed in the light of the growing environmental crisis. It is recommended to not live through that struggle alone, but to open up to others and to look for inspiring people who share the same drive and intentions.

Concerning connectedness to nature and others and the prospect of higher levels of eco-anxiety when promoting more connectedness, Hickman's re-appraisal of regarding eco-anxiety as eco-compassion can be recommended. Furthermore, her approach can be seen as an example of the potential that re-appraisal and changing the perspective or narrative can have on experienced eco-anxiety. Regarding feelings of personal anxiety and high responsibility for care and action, it can be advised to critically reflect on the own circle of influence and to take responsibility and realise meaning within that circle, which then can slowly expand.

As trust was discovered as the most influential dimension of spirituality protecting from affective symptoms of eco-anxiety, it is recommended that trust is increased. So far, only little literature describes how to increase trust in life, but some tactics derived from other disciplines suggest not expecting too much too soon but sticking to your own commitments and acting

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[2] "We try to reconnect with ourselves, friends, fellow activists, society, and the natural world. Furthermore, we learn inclusivity, mutuality, empathy, and equality anew. We seek regenerative solutions up against any challenge. Regenerative cultures can be learned on the fly." (regenerative cultures, n.d.)

according to values. While building trust also includes own involvement, this message is actually best recommended to governments and companies. Basic tips like being true to own words, communicating effectively about commitments, thinking before committing, making realistic targets and being open about processes (Craig, 2019) - are among other basic tips that, if followed by governments, have the potential to increase trust and to decrease feelings of eco-anxiety (Hickman et al., 2021).

Although the interaction between pro-environmental engagement and eco-anxiety remains partly unclear, it became clear that engaging with others, becoming part of a movement, acting in line with own values, finding balance with nature and regaining a sense of purpose, hope and power are all closely related to action and to living a meaningful life with as little as possible disturbing eco-anxiety.

Finally, based on this study, schools, universities and caregivers are advised to fully recognize feelings of eco-anxiety, to provide safe opportunities for talking about climate-related emotions, and to stay alert to the spiritual attitudes and interests of young people.

## Conclusion

To conclude this study briefly, it can be stated that a beginning has been made to empirically study eco-anxiety in relation to existential concerns and spiritual attitudes among youth in the Netherlands. Confirming that eco-anxiety is interwoven with existential concerns, provides ground for treating eco-anxiety within an existential framework. It also supports the initial claim that spirituality can play part in triggering or coping with eco-anxiety. To answer the research question it can therefore be stated that the studied dimensions of spirituality interact in different manners with eco-anxiety. While keeping the limitations of this research in mind, it can tentatively be affirmed that more trust in life is associated with fewer feelings of anxiety, while feeling connected to nature is related to more anxiety about the personal impact. The dimension of connectedness with others can be both supportive and triggering, depending on the quality of the interaction. More research is recommended to learn more about the importance and interactions between the different factors.

## Epilogue

As mentioned in the prologue, it would have exceeded the scope of this study to also explore what role spiritual caregivers see for themselves and their profession in the upcoming years regarding eco-anxiety and the environmental crisis in general. However, the proven connection to existential concerns and spirituality makes it obvious that spiritual caregivers can no longer ignore this increasingly relevant phenomenon. In the hope to start a discourse and providing some inspiration, I add this more personal epilogue to the study. As professionals who recognize the power of nature and the importance of connectedness on all levels, it seems evident to me that we have to think about our responsibility to protect our environment. This can happen on different levels.

Like confrontation with other existential themes too, facing the climate crisis is likely to touch something in ourselves. Only, differently to many other situations, this time we are in the same boat with our clients, colleagues or managers. To avoid unconscious countertransference and to engage in meaningful interactions, it seems important to first discover own fears, attitudes, coping strategies, and sources of meaning which are connected to climate change. *Where could we share existential fears concerning the climate crisis?*

Usually, spiritual caregivers see others on an individual basis, related to a personal question or dilemma of the other. In these kinds of situations, bringing up climate change, would probably not serve the purpose. However, also for individual contacts it is important that we recognize the far-reaching effects which climate change can have, that we know how to detect climate-related (existential) emotions and thoughts, and that we learn how to support others who experience any form of eco-anxiety. *Is it our responsibility to start conversions about climate change-related experiences, and if yes, how can we best approach that?*

More than other topics, the climate crisis and eco-anxiety pull us out of our comfort zone as the whole (global) society is concerned. Eco-anxiety can affect all of us, and different to other mental health issues, this time there is a clear cause; even one that we (continue to) contribute(d) to. But there also are solutions, there are inspiring stories, feelings of shared responsibility, there is hope, solidarity, and even meaning out there. As spiritual caregivers we are professionals in engaging others in these topics and in turning up empowerment. *How can we use our expertise to make the world a better place for now and coming generations?*

These were some of the questions that accompanied me during the writing process. I will take them with me in my upcoming career as spiritual caregiver in the hope to find more answers.

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# Appendix 1: Complete survey, incl. informed consent

**Welcome**

Welcome and thank you for participating in this research!

This research is about your experience around the climate crisis and about what gives you meaning in life. It is aimed at young people and young adults between the age of 15 and 30 who live in the Netherlands. Three topics are discussed: experiences around climate change, the existing aspects of life and meaning.

Filling in the questionnaire takes 10 to 15 minutes, and the answers are anonymous. Thank you very much!

Big thanks in advance!

Yours sincerely,

Mara Feick

Masterstudent Spiritual Care

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**More information**

Participating in this research is voluntary. You can stop participating anytime without having to explain yourself. If wished to, it is possible to complete your survey on a later point.

All answers will immediately be anonymized and stay anonymous during the whole research process. The data will safely be saved on the server of the RUG. If you have any questions, you can email the researcher at m.feick@student.rug.nl.

Consent

Hereby I declare to be informed correctly. I give my consent for gathering and analysing my given data, for archiving the data, for anonymously publishing the data and for possibly re-using the data by other researchers.

o      Yes, I hereby give my consent  (2)

o      No, I don't give my consent  (1)

Ga naar: Einde enquête Als Hereby I declare to be informed correctly. I give my consent for gathering and analysing my given... = No, I don't give my consent

## Start van blok: Demographics

Uitleg In order to better understand and analyze the answers, some information to start with is needed.

Q24 Do you currently live in the Netherlands?

o        Yes  (1)

o        No  (2)

Age What is your age?

o        15-20  (1)

o        21-25  (2)

o        26-30  (3)

Gender What is your gender?

o        Female  (1)

o        Male  (2)

o        Other,  (3) _____

Education What is your past or current level of education?

o        primary or secondary education  (1)

o        post-secondary vocational education  (2)

o        University (of applied science)  (3)

Religion How would you describe yourself?

o        Christian  (1)

o        Muslim  (5)

o        Spiritual  (2)

o        Atheist  (3)

o        Otherwise,  (4) _____

ClimateChange What is your **attitude** towards climate change?

☐        Climate change does not keep me busy  (1)

☐ I try to live as sustainably as possible without having to make big adjustments to my lifestyle (2)

☐ I live as sustainably as possible, even if it means to make amendments and to adjust my lifestyle (3)

☐ I am very much involved with climate change and sustainability, e.g. through my studies, work or hobbies (4)

☐ I see myself as a climate activist and I am involved in that almost every day (8)

☐ Otherwise, (6) _____

**Emotions** When reading or hearing about the climate crisis, what do you feel?

☐ Anger (4)

☐ Anxiety (14)

☐ Optimism (13)

☐ Helplessness (5)

☐ Sadness (6)

☐ Hopefulness (7)

☐ Fear (8)

☐ Guilt (9)

☐ Confusion (10)

☐ Selfishness (11)

☐ Different, such as (12) _____

Which **values** play an important role or you at the moment?

o Power (1)

o Achievement (2)

o Hedonism (having fun) (3)

o Stimulation (excitement, challenge) (4)

o Self-direction (freedom, creativity) (5)

o Universalism (wisdom, harmony) (6)

o       Benevolence (helping others, honesty)  (7)

o       Conformity (courtesy, discipline)  (8)

o       Tradition  (9)

o       Security  (10)

**HEAS-13**

Please keep the following points in mind when answering the questions:

- Circle the answer that is most applicable to you

- There are no 'right' or 'wrong' answers

- Your first reaction is often the best; do not think too long about your answer

We realize that some questions may be difficult to answer for you, for instance because you have never thought about it before. Yet it is of utmost importance for our study that you answer every question.

This first part of the survey covers questions about the personally experienced emotions and problems concerning climate change.

Over the last 2 weeks, how often have you been bothered by the following problems, when thinking about climate change and other global environmental conditions (e.g., global warming, ecological degradation, resource depletion, species extinction, ozone hole, pollution of the oceans, deforestion)?

| | Not at all (1) | Several of the days (2) | Over half the days (3) | Nearly every day (4) |
|---|---|---|---|---|
| Feeling nervous, anxious or on edge (1) | o | o | o | o |
| Not being able to stop or control worrying (2) | o | o | o | o |
| Worrying too much (3) | o | o | o | o |
| Feeling afraid (4) | o | o | o | o |
| Unable to stop thinking about future climate change and other global environmental problems (5) | o | o | o | o |
| Unable to stop thinking about past events related to climate change (6) | o | o | o | o |
| Unable to stop thinking about losses to the environment (7) | o | o | o | o |

Difficulty sleeping (8)   o                    o                    o                    o

Difficulty enjoying social situations with family and friends (9) o                    o                    o

o

Difficulty working and/or studying (10)          o                    o                    o                    o


Feeling anxious about the impact of your personal behaviours on the earth (11)  o                    o

o                    o

Feeling anxious about your personal responsibility to help address environmental problems (12)

o                    o                    o                    o

Feeling anxious that your personal behaviours will do little to help fix the problem (13)  o

o                    o                    o

## ECQ

Climate change can confront us with existential aspects of life.

The following statements are about experiences people sometimes have.

ECQ Think about how often you have such an experience and mark the right answer.

|  | Never (1) | Seldom (2) | Sometimes (3) | Often (4) | Always (5) |
|---|---|---|---|---|---|

The question of whether life has meaning makes me anxious (1)          o          o

o          o          o

It frightens me when I realize how many choices life offers (2)  o          o          o

o          o

I worry about not being at home in the world, as if I do not belong here (3)          o          o

o          o          o

Existence feels threatening to me, as if at any moment something terrible could happen to me (4)

o          o          o          o          o

It frightens me that at some point in time I will be dead (5)          o          o          o

o          o

I worry about the meaning of life (6)          o          o          o          o

o

I try to forget that all my choices have consequences (7)       o           o           o
        o        o

I get anxious because of losing touch with myself (8)   o        o        o
      o        o

I struggle with feeling that in the end I am on my own in life (9)   o        o
      o        o        o

I makes me anxious that my life is passing by (10)     o        o        o
      o        o

When the question of whether life has meaning enters my mind, I try to think quickly about something else (11)   o        o        o        o        o

I worry about not living the life that I could live (12)   o        o        o
      o        o

The awareness that other people will never know me at the deepest level frightens me (13)   o
      o        o        o        o

I worry that, out of the blue, something terrible might happen to me (14)   o        o
      o        o        o

I try to push away the thought that life will end (15)   o        o        o
      o        o

It frightens me that things I once considered important seem meaningless when I look back on them (16)
      o        o        o        o        o

I am afraid that I do not get out of life what is in it (17) o        o        o
      o        o

I try to avoid the question of who I really am (18)     o        o        o
      o        o

I have the anxious feeling that there is a gap between me and other people (19)  o        o
       o        o        o

I become anxious when I realize how vulnerable my body is to the dangers of life (20)  o
      o        o        o        o

I worry about having to let go of everything at the moment of my death (21)  o        o
       o        o        o

I am afraid that I will never know myself at the deepest level (22)          o                    o

o                    o                    o

## SAIL

This is the last part of the questionnaire and is about the experienced meaning or spirituality.

SAIL To what extent do the following statements generally apply to you? (Not just now, but most of the time)

Not at all (1)    Hardly at all (2)Somehwat (3)   To a reasonable degree (4)          To    a    high degree (5)        To a very high degree (6)

I approach the world with trust (1)          o                    o                    o                    o

o                    o

It is important to me that I can do things for others (2)   o                    o                    o

o                    o                    o

In difficult times, I maintain my inner peace (3)          o                    o                    o

o                    o                    o

I know what my position is in life (4)    o                    o                    o                    o

o                    o

The beauty of nature moves me (5)          o                    o                    o                    o

o                    o

I accept that I am not in full control of the course of my life (6)  o                    o                    o

o                    o                    o

I am receptive to other people's suffering (7)     o                    o                    o                    o

o                    o

I accept that I am not able to influence everything (8)    o                    o                    o

o                    o                    o

Whatever happens, I am able to cope with life (9)          o                    o                    o

o                    o                    o

There is a God or a higher power in my life that gives me guidance (10)          o                    o

o                    o                    o                    o

I am aware that each life has its own tragedy (11)          o                    o                    o

o                    o                    o

I experience the things I do as meaningful (12)  o          o          o          o          o          o

I try to take life as it comes (13)  o          o          o          o          o          o

When I am in nature, I feel a strong sense of connection (14)  o          o          o          o          o          o

I accept that life will inevitably sometimes bring me pain (15)  o          o          o          o          o          o

I try to make a meaningful contribution to society (16)  o          o          o          o          o          o

My life has meaning and purpose (17)  o          o          o          o          o          o

I want to mean something to others (18)  o          o          o          o          o          o

SAIL-2 To what extent do the following statements generally apply to you?(Not just now, but most of the time)

|  | Never (1) | Seldom (2) | Sometimes (3) | Regularly (4) | Often (5) | Very often (6) |
|---|---|---|---|---|---|---|

I have had experiences during which the nature of reality became apparent to me (1)  o          o          o          o          o          o

I have had experiences in which I seemed to merge with a power or force greater than myself (2)  o          o          o          o          o          o

I have had experiences in which all things seemed to be part of a greater whole (3)  o          o          o          o          o          o

I talk about spiritual themes with others (themes such as meaning in life, death or religion) (4)  o          o          o          o          o          o

I have had experiences where everything seemed perfect (5)  o          o          o          o          o          o

I meditate or pray, or take time in other ways to find inner peace (6)  o          o          o          o          o          o

I have had experiences where I seemed to rise above myself (7)   o                o                o
          o              o              o

I attend sessions, workshops, etc. that are focused on spirituality or religion (8)   o                o
          o              o              o              o


Hope What gives you hope when thinking about climate change?

_____

## Further participation

Questionnaires cannot explain everything. Therefore, I would appreciate it to do a follow-up interview with a few participants. Taking part in the interview won't take longer than 30 minutes en could be conducted online. The aim of the interviews is to gain more in-depth knowledge about the personal experiences and the relation between the climate crisis and spirituality.

Would you like to participate? Please leave your e-mail address or telephone number here:

(Again, you can withdraw your further participation at any time.)

_____

## Final comments.

Think, for example, of your opinion about the type of questions, or aspects that you think have not been (sufficiently) addressed.

This is what I want to say about this questionnaire or the topic:

☐      Questionnaire was too long and/or to difficult  (1)

☐      Questionnaire was interesting and got me thinking  (2)

☐      I    want    to    add    something    about    the    topic,    namely        (3)
_____

☐      I    want    to    add    something    about    the    questionnaire,    namely        (4)
_____

☐      I don't need to add anything else  (5)

# Appendix 2: Interview Guide

## Introduction (3 minutes)

- Mara, Master Student GV Groningen

- research about relation spirituality and eco-anxiety

- Already have filled in survey, know what direction interview will go. Will take 20-30 minutes

- Also signed informed consent. Possible to withdraw. Data will be used anonymously. I'll record and then ask again for consent for recording.

## Opening questions (10 minutes)

How was it for you to fill in the survey?

    - emotions, questions stayed in mind, familiar/new, surprising/ known,…

You said you are involved/active/… (use personal answer from survey) in climate. Can you explain what that means and implies for you?

    - daily life, activities, adjustments, action, opinions/convictions, conflicts

How did your attitude towards and relation with the environment develop during your life?

    - key moments, inspiration, awareness, confrontation, community

You also said you see yourself as atheist/Christian/spiritual. What does that mean to you?

    - belief, view on life, rituals, community, involvement, influence on daily life

## Key Questions (10 minutes)

Eco-anxiety is often described as :"the generalized sense that the ecological foundations of existence are in the process of collapse" or more simple as: "worry caused by concerns about the present or future state of the environment". When you hear the term eco-anxiety and these definitions, what comes up in your mind?

    -situations, emotions, experiences, stories, …

What is your personal experience with eco-anxiety?

    - emotions, situations, experiences, thoughts, …

-If recognisable:  What makes you feel anxious?

    - situations, cause, places, triggers,  …

    - How do you cope with these emotions?

- If not: What do you think makes you resilient to anxiety?

    - trust, community, belief, hope, importance, preoccupations

In which way, do you think, does your spirituality or your world-view influence how you experience the climate crisis?

    - perspective, belief, purpose of life, role of humans, role of nature, connection, …

## Closing Questions (5 minutes)

Eco-anxiety is a more and more known phenomenon and especially young people are affected by it. What is in your opinion needed to help people experiencing eco-anxiety?

    - individual, community, cause, symptoms, professional, peers, awareness, focus

    - Who should provide support? What should the focus on?

Is there anything you would still like to add for now?

## Goodbye

- reached the end of the interview

- very big thank you!

- any questions, feel free to contact me

- thesis should be published in September. Would you like to receive a copy of it? Otherwise probably visible on my linkedin