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MIELI Mental Health Finland

Climate Anxiety

Panu Pihkala, Summer 2019

Abstract

This first, more extensive Finnish-language report on climate anxiety is based on multidisciplinary research and observations made from practical actions taken to alleviate it.

Climate anxiety is an aspect of the wider phenomenon of eco-anxiety: it encompasses challenging emotions, experienced to a significant degree, due to environmental issues and the threats they pose. On a wider scale, both eco-anxiety and climate anxiety are components of a phenomenon, in which the state of the world (i.e. the so-called macro social factors) impacts our mental health.

Climate anxiety can be a problem if it is so intense that a person may come paralysed, but climate anxiety is not primarily a disease. Instead it is an understandable reaction to the magnitude of the environmental problems that surround us. Climate anxiety can often be an important resource as well, but this entails that a person finds, along with others, a) enough time and space to deal with their emotions and b) enough constructive activity to help mitigate climate change.

The report places climate anxiety as one of the health effects of climate change (Chapter 2). Two central psychological challenges and tasks (Chapter 3) are a) adjusting to changing circumstances, i.e. remaining functional, and b) accepting one's own ethical responsibility and keeping a healthy perspective, i.e. living with ambivalence. The report publishes, for the first time in Finnish, a review of the various symptoms of climate anxiety, with reference to international studies (Chapter 4). The symptoms can be placed on a scale of the mildest to the most severe and they can also manifest as psychophysical symptoms. What makes identifying the symptoms more difficult is that they are multidimensional (climate change impacts almost everything). Social pressures that relate to climate change also influence this.

Chapter 5 deals with vulnerabilities and the role of social context when coping with climate change. The chapter includes a list of people who are especially vulnerable and life situations that create vulnerabilities. Some of these groups of people identify with climate anxiety (e.g. young people) and some (e.g. farmers) experience symptoms relating to the phenomenon but call it something else.

The sixth chapter raises the issue of the importance of experiencing that life is meaningful, when dealing with climate anxiety (meaning-focused coping, existential well-being.) Chapter 7 discusses the various emotions, such as sadness, fear and guilt, which may possibly relate to climate anxiety. Climate anxiety can also be approached from the perspective of shock and trauma. Emotional skills and mental health skills can help when dealing with climate anxiety. The report also emphasizes that strong emotions can be a powerful resource.

Chapter 8 offers an extensive overview of the various initiatives and resource materials, that have been developed in the last few years to deal with climate anxiety, both internationally and in Finland. The focus is on third sector initiatives. Basic formats include a) self-help and support materials, b) group activities, c) events and d) peer support. The report takes a broad look at the resources and initiatives created in, e.g. Australia and the United Kingdom. In addition to psychologist organizations' initiatives, those created by environmental organizations, ecopsychologists, artists and environmental educators are also discussed.

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1. Introduction: What is climate anxiety?

A brand new grandparent holds her new grandchild in her arms and feels anxious about how the little baby will cope in a future world, which, according to predictions, will be plagued by increasingly severe environmental problems.

A high school student recounts how he is so deeply anxious about climate change that he has been prescribed antidepressants to help him cope with his symptoms.

A middle-aged person, who usually spends much of her time outdoors, notices that she is going out into nature less often, because being there reminds her of all the losses and all of the threats to the environment.

I have selected the above quotes, which describe different types of symptoms of climate anxiety from conversations I had in autumn, 2018. Climate anxiety is an aspect of the wider phenomenon of eco-anxiety: it encompasses challenging emotions experienced to a significant degree, due to environmental issues and the threats they pose. On a wider scale, both eco-anxiety and climate anxiety are components of a phenomenon, in which the state of the world (i.e. the so-called macro social factors) impacts our mental health. This phenomenon has previously been researched in relation to the threat of nuclear war.¹

¹ See Tytti Solantaus' research, e.g. Solantaus 1990, 1991. Psychologist Robert Jay Lifton (2017), for example, has compared the threats to mental health of nuclear war and climate change. These two phenomena have much in common, but they differ in the how the physical effects manifest: the ecological crisis is ongoing and getting worse, while the threat of nuclear

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Climate anxiety is a phenomenon that can be approached from various frames of reference. Broadly defined it encompasses various psychological effects, caused by climate change, which could be called mental health effects of climate change. There has not been much discussion about the phenomenon, due to socially constructed silence: the subject was so difficult and painful, that the severity of the symptoms relating to it were often belittled.³

In the 2000s more research has been done on the phenomenon, but there still remain many aspects of it that have not yet been scientifically examined. We know, for example, that there is increasing concern in Finland about climate change,⁴ especially among young people,⁵ and there are many examples of the various symptoms of climate anxiety that have emerged.⁶ There is, however, no comprehensive study so far, that enumerates the types of symptoms that exist and the dynamics that are involved. Some dissertations are being prepared on the subject⁷ and, for example, Sitra (The Finnish Innovation Fund) has commissioned a survey on climate emotions and climate anxiety.⁸ The preliminary findings of a climate anxiety survey, commissioned by Nyyti ry (Mental Wellbeing for Students) and Mielenterveysseura (The Finnish Association for Mental Health) show how serious the phenomenon is. There has also been increasing discussion about climate anxiety and eco-anxiety in the media between 2017-2019.⁹

In this report I will introduce the key research findings regarding climate anxiety, its symptoms and the factors affecting it. I also introduce the fields of research that relate to the phenomenon and discuss the important issues that require more research. My report serves as a general introduction to the subject, but it also has a practical purpose: the development of local initiatives by MIELI ry (Mental Health Finland), so that climate anxiety can be dealt with in better ways. For this reason I introduce, at the end of report, examples of third sector initiatives designed to alleviate climate anxiety.

war is unrealized, for now. The continuous nature of climate change creates its own type of stress. One of the challenges of additional research and practical analysis is what can be learned from mental processes under the worst nuclear threat.

² Pihkala 2018; Lehtonen, Salonen & Cantell 2018

³ Stoknes 2015; Norgaard 2011; Macy 1995

⁴ Yle survey in Finnish: "Finns can afford to be worried about climate change", 2.1.2018, <https://yle.fi/uutiset/3-9998441>

⁵ Latest Youth Barometer results in Finnish; Pekkarinen & Myllyniemi (Ed.) 2109; Myllyniemi (Ed.) 2017. Young peoples' climate views analysed by Piispa & Myllyniemi 2019.

⁶ "Ilmastoahdistus aiheuttaa vihaa, surua ja syyllisyyttä" (Climate anxiety causes anger, sadness and guilt) - Aalto University offers students support in coping with climate change and reminds them of hope, 15.4.2018, <https://yle.fi/uutiset/3-10140284>: Results for a student survey done at Tampere University, see "Moreenimedia selvitti: Ilmastomuutos ahdistaa opiskelijoita" (Moreenimedia finds: Climate change distresses students), 27.9.2018, <https://moreenimedia.uta.fi/2018/09/27/moreenimedia-selvitti-ilmastonmuutos-ahdistaa-opiskelijoita-monia-kalvaa-omien-tekojen-riittamattomys/>

⁷ Raikamo 2019. I am aware of several additional theses being written: Siina-Riikka Saine, The University of Jyväskylä, psychology Master's Thesis; Santtu Merjanaho, Climate Psychology dissertation, the University of Tampere.

⁸ The preliminary report on the potential survey was compiled by Alexander Kohl. See Kohl 2018.

⁹ E.g. Tiainen 2017; "Saako luonnon tuhoutumista surra?" (Are we allowed to mourn the destruction of nature?) YLE Radio 1, Havaintoja ihmisestä (Observations about people), 19.4.2018 (<https://areena.yle.fi/1-4377495> "Ilmastoahdistus" (Climate anxiety), YLE TV 1 Friday 6.4.2018 (<https://areena.yle.fi/1-4247875>); Väärämäki 2019. YLE Akuutti published in April 2019 a media compilation about climate anxiety.

2. The health effects of climate change

Climate change has many health effects. These can be divided into more physical and more psychological health effects, but symptoms often manifest as both physical and psychological. The effects can further be divided into direct and indirect impacts, but the line between these two categories is fluid. For example, in the Nordic countries, the impact and threat of climate change was vicarious and indirect in the 2010s (e.g. worrying climate news), but physical and direct effects are already being felt (e.g. increasing extreme climate events).

The Mental Health Effects of Climate Change

Direct Effects: natural phenomena exacerbated by climate change have effects on mental health (e.g. as a consequence of a heat wave or a flood)

Indirect Effects:

- a) an important environment (an ecosystem and/or built environment) is damaged, which causes mental stress
- b) the risk of physical injury or mental problems grows, which has both causal and reciprocal connections to mental health

Sources: Doherty 2015; Clayton et al. 2017; Berry et al. 2018

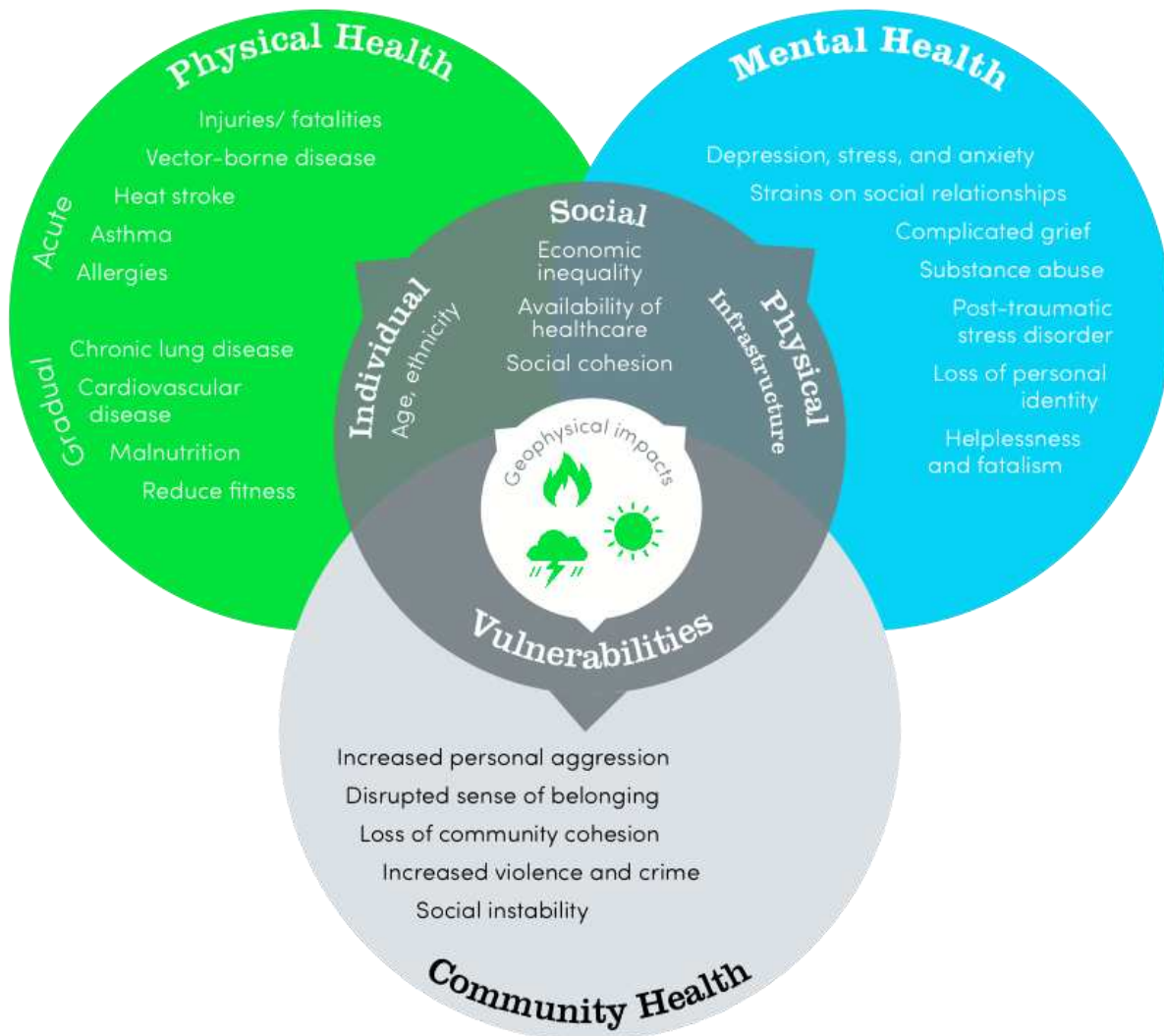
The Australian environmental researcher, Glenn Albrecht, has classified the symptoms of climate change as belonging to, on the one hand, the more physical “somaterratic” syndromes and, on the other hand, the more psychological “psychoterratic” syndromes.¹⁰ He notes that these may exacerbate one another. Albrecht has over the years developed more precise terms for environmental emotions.¹¹

Psychologists and, especially sociopsychologists, have produced visual material to illustrate the direct and indirect impacts of climate change.¹² The following chart illustrates the connections between the vulnerabilities and potential impacts of climate change on human health:

¹⁰ Albrecht 2012, 48-49

¹¹ Albrecht 2017. At least two book about eco-emotions and climate emotions will be published in 2019: *Earth Emotions* (Cornell Press, May) by Albrecht and my own *Mieli maassa? Ympäristötunteet* (Kirjapaja, September).

¹² The psychiatric world has only woken up to climate anxiety in recent years and not much research has been done yet (Evert-Palmer et al. 2016). A climate psychiatry organization has been created in the United States, which aims to further action and research in this field: see <https://www.climatepsychiatry.org/>



Mental Health & Climate Change report (Clayton et al. 2017)

3. The psychological challenges of dealing with climate change

There are two basic challenges and tasks when dealing with the psychological impact of climate change.

The two central psychological tasks when dealing with climate change

- a) adapting to changing circumstances, i.e. maintaining coping skills
- b) accepting one's ethical responsibility, while keeping things in perspective, i.e. the ability to live with ambivalence¹³

¹³ Doherty 2015; for a discussion on ambivalence and climate change see also Pihkala 2017, 164-167.

Resilience is often mentioned in this context: the ability to maintain coping skills while changes take place around us. Ethical issues and dealing with ambivalence also significantly affect our ability to remain resilient.¹⁴

Research and daily experiences indicate that both these tasks present big challenges. Climate change is such an enormous and “wicked” problem, that people naturally find it very difficult to accept the situation. This phenomenon has been researched in numerous scientific disciplines. I will introduce two psychological models, which use adaptation as their frame of reference.

Two psychological models of adapting to climate change

- a) The Hamilton and Kasser model: adaptive / maladaptive coping:
Denial – maladaptive coping – adaptive coping
- b) The Reser, Bradley and Ellul model of mental acceptance:
Becoming more attentive to the issue
Accepting climate change as a threat
Adopting a problem-solving attitude
Shifting values to a more “pro-environmental” position

(Reser, Bradley & Ellul 2012; Bradley, Reser, Glendon & Ellul 2014)

In order to maintain and enhance coping skills, healthy psychological adaptation is needed, where the issue at hand is encountered, but one does not get crushed by it. The question of individual responsibility divides opinion: almost all agree that citizens of wealthy, industrial nations should do their share, but what is disagreed upon is what that share should be. Some emphasize the need for a greater structural and political responsibility, while others feel that in order to create general pressure for change, one must concentrate on changing individual behaviour.¹⁵ This situation generates two new challenges to mental resilience. The individual needs to feel that s/he can make a difference, but must, at the same time, maintain an atmosphere, where individuals do not have a continuous feeling of inadequacy. I shall return to these questions when discussing symptoms.

The psychological tasks above are so challenging, that grappling with them can often cause varying degrees of anxiety. Models for facing and dealing with climate change have been built in many scientific disciplines. They do not all deal with anxiety, but it is clear that the psychosocial dynamic of climate anxiety contributes to the phenomena described in these models.¹⁶

¹⁴ Resilience, in its various forms (physical resilience, mental resilience), is an intrinsic term in climate literature. General questions about mental resilience have been discussed in Finland by, for example, Poijula (2018).

¹⁵ These issues are discussed in environmental ethics and environmental philosophy. See e.g. Kortemäki, Laitinen & Yrjönsuuri 2013; Nurmi 2016.

¹⁶ Non-technical introductions to various points of view are offered by, for example, Marshall 2014; Pihkala 2017b.

4. The symptoms of climate anxiety

A greater number of people in the Western world have been exposed to the mental effects of climate change in an indirect, rather than in a direct way.¹⁷ Thomas Doherty, a psychologist who has studied climate change in depth, emphasizes that in the current situation, where indirect exposure causes many symptoms, there is a need to reconsider the old models of exposure, which accentuate the importance of physical distance to the severity of symptoms.¹⁸ Even indirect and semi-indirect exposure can cause serious symptoms.

Symptoms of Climate Anxiety

Severe

- significant psychosomatic symptoms: serious insomnia, states of depression, clinically definable anxiety (“Climate Anxiety Disorder”)
- difficulty maintaining functioning, especially when faced with news about climate change, its consequences and threat scenarios
- compulsive behaviour,¹⁹ this includes behaviours that have been called “climate anorexia” or “climate orthorexia”
- at its most severe, self-destructive behaviours, for example, substance abuse and self-harming²⁰

Mild

- occasional insomnia
- sadness, restlessness (milder symptoms of anxiety)
- occasional decreased levels of functioning, temporary paralysis, for example, when making moral decisions
- effects on mood
- milder symptomatic behaviour, for example, single action bias or mild dissociation (For example: a person experiences a heightened need to recycle efficiently, expecting climate issues to become better as a consequence of their actions)

(Sources: Clayton et al. 2017; Albrecht 2012; Berry et al. 2018; Doherty 2015; cf. Pihkala 2018c)

¹⁷ Indirect effects have been insightfully discussed by, for example, Reser, Morrissey & Ellul 2011.

¹⁸ Doherty 2015, 200-201.

¹⁹ Clayton et al. 2017, 36

²⁰ it is difficult to study precise cause and effect relationships in this area of study. Examples of the relationship between substance abuse and climate anxiety: Bodnar 2009. The increased use of substance abuse due to climate anxiety: Clayton et al. 2017

Preliminary research findings into climate anxiety in Finland indicate that media reports on bad news about the climate are an important contributing factor to raised stress levels.²¹ I do not feel, however, that we need to continually blame the media, but that it is important and beneficial to present information that is based on facts. Instead, we need to maintain a continuous debate about what climate communication should specifically be like, and who should be the ones disseminating it. One of the central questions is how to balance bad news and signs of hope, i.e. emphasizing climate success stories.²² This is where communication and education merge.

Climate anxiety symptoms can be viewed on a scale of mild to severe, but it must be noted that mild symptoms too may be persistent and affect both our ability to function and our well-being. Psychologists have recommended monitoring the following preliminary symptoms:

- sleeping disorders/insomnia
- mood changes
- overstimulation
- decreased energy levels²³

A special feature on climate anxiety is that it is undefinable and reaches everywhere: because climate change affects so many things, its impact is considerable and yet obscure at the same time. Climate change often introduces more stress factors to situations, which traditionally already carry a lot of stress, such as caring for children and planning for the future. In other words, climate anxiety is combined in people's lives with other anxieties, such as those related to choosing a profession.²⁴ It is possible that there is something in a person's life that is causing deeper anxiety, but because climate anxiety has often been belittled²⁵, it is important to take it seriously, in addition to making a critical general evaluation of the overall situation.

There are cases, when it is easier to observe the cause and effect relationship of climate anxiety. These, especially, are single events or chains of events, that create anxiety and stress. An example in Finland is the heat wave of 2018 and the forest fires in Sweden, which evoked climate anxiety in many people. Social tensions emerged, at the same time, which are a general feature of environmental and climate anxiety: some Finns were delighted that it was beach weather and others mourned the future of the world.²⁶

Many of the characteristics that define climate change as a phenomenon, are also reflected in the nature of the symptoms. The consequences of climate change fluctuate according to time and place. There is often a discordance between everyday experiences and understanding the broader scientific meaning of the phenomenon: one can not directly draw conclusions about climate change from individual weather events, but on a larger scale, climate change strengthens certain extreme climate events. It is difficult for a person to feel that they understand the phenomenon or that they are doing enough to

²¹ This correlates with many international research findings regarding industrial nations. The Finnish research mentioned are surveys and theses that are still being written, to which I have had confidential access.

²² Discussions on the topic: Pihkala 2017, 225-248; Nikkanen (Ed.) 2017; Moser 2015.

²³ For example Doherty 2015; "Climate Change and Dealing with Burnout", <https://www.psychology.org.au/for-the-public/Psychology-topics/Climate-change-psychology/Climate-change-and-dealing-with-burnout>

²⁴ There are many grassroots examples of this dynamic, but there is less compiled research. This topic is examined by e.g. Harkki 2018; YLE Perjantai 6.4.2018 (YLE Areena); "Grief, despair, fear – climate anxiety impacts the future plans of young people" (in Finnish), YLE 3.5.2019, <https://yle.fi/uutiset/3-10754435>.

²⁵ Regarding downplaying see e.g. Stoknes 2015.

²⁶ There were many examples of this in the social media. The theme was especially visible in facilitated peer groups which discussed climate anxiety in the spring of 2019 (Lapinlahti + Tampere, second facilitator Panu Pihkala).

help control it. These factors resonate with the complexity of the symptoms and their varying from mild to severe.²⁷

5. Vulnerability and the impact of social context

Research has found that certain factors make it more likely for people to experience the more severe symptoms of climate anxiety. The serious environmental changes (and those associated with climate change) taking place around them, will naturally affect the number of symptoms they experience. Those, whose personal history and personality traits create a greater than average predisposition for experiencing anxiety, are often more likely to suffer more from climate anxiety.²⁸ Strong bonds with nature can add to their burden, when there is destruction in nature, but it is worth noting that many people also experience an increase in resilience due to these emotional bonds.²⁹

Some population groups are shown to be more vulnerable:

- In terms of a person's ability to cope mentally, those who are in an especially vulnerable position are children, teenagers and young people, plus those who are already struggling with mental health issues.
- Those, who earn their living from nature or whose lifestyle takes them out into nature, have a strong bond with ecosystems that are in flux: e.g. indigenous peoples, farmers, fishermen, hunters, those who exercise in nature (e.g. winter sports) and those whose religious beliefs are connected to nature
- People who are involved in climate issues and climate research: e.g. climatologists and volunteer climate activists in environmental organizations.³⁰

Social context and certain (psycho)social factors have a marked influence on how climate anxiety manifests itself and on the resources that people have access to when dealing with climate anxiety. The so-called environmental racism³¹ or environmental injustice occurs both with regard to physical and mental consequences. The research that studies climate justice addresses questions relating to this³² but the mental aspects have yet to receive wider attention. Instead the literature, which examines the mental effects of climate change, often takes social factors into consideration.

The groups of people who are less advantaged in society suffer, in proportion, more from various mental health issues and this is also true in the case of climate anxiety. If a large part of a person's daily energy is spent on taking care of basic needs, there is not much room for dealing with climate anxiety as well.³³ In addition, the (scattered) support systems created to help deal with climate anxiety have, so far, been of the kind that have a lower threshold for a broadly defined middle class adult to participate in.

The skills needed to deal with emotions and potentially anxiety, in addition to cultural factors, also affect how climate anxiety is dealt with. It must be emphasized that the general cultural strengths and

²⁷ Fields of research, that study climate change and experiencing weather are, e.g. anthropology, ethnography, phenomenology and sociology. Research literature is mainly available in English.

²⁸ Searle & Gow 2010.

²⁹ The positive effects of a connection with nature are a central theme in eco and environmental psychology. Fraser et al. 2013 however note incisively that being in nature can powerfully remind people, who are aware of these issues, of threats to nature.

³⁰ Coyle & van Susteren 2012, 16-19; Cunsolo & Ellis 2018; Clayton 2018; Pearce, Goodman & Rosewarne 2010.

³¹ Environmental racism means oppressing other groups of people or an unfair situation regarding environmental problems. E.g. in the US polluting production plants and factories are often placed near poorer areas.

³² A recent handbook introduces these themes:

<https://www.routledge.com/Routledge-Handbook-of-Climate-Justice/Jafry/p/book/9781138689350>

³³ Clayton et al. 2017; Doherty 2015, 206

weaknesses in Finland are significant factors affecting climate anxiety. E.g. teaching emotional skills has long been seriously inadequate in the Finnish schooling system, although this problem has been acknowledged in recent years. Various support measures and new resources regarding emotional skills are increasingly being created.

6. Action, emotions and meaningfulness

Taking action has often been proposed as a solution to climate anxiety.³⁴ In the United States, this has been summarised into the slogan: “The antidote to anxiety is action”. It is clear that taking action helps with mental coping, but in (over)emphasizing action, one can also see traits that stem from a general avoidance of emotions or even a culture of belittling. It is not possible to delve into the questions of the “cultural politics of emotion” in this report, but they do affect the manifestation and coping models of climate anxiety.³⁵

In addition to action, we need adequate resources to deal with a variety of emotions. This is why living with climate anxiety can be depicted within the frame of reference of mental health skills.³⁶ Developing the skills to deal with climate anxiety necessitates supporting a cultural change towards a society which would be more positive about emotions in general.³⁷

A model that combines both action and coping skills has been created, based on the coping-theories of Lazarus and Folkman. A leading researcher of climate education and psychology, the Swedish clinical psychologist Maria Ojala, for example, has in her many articles developed a model, that centers on growing and maintaining **meaning-focused coping**, after Susan Folkman.³⁸ The stance of maintaining the meaningfulness of life combines two basic themes of coping theories: 1) the need for dealing with emotions sufficiently/adequately and developing emotional skills (emotion-focused coping) and 2) the need for sufficient/adequate opportunities to act and be active (problem-focused coping).

An essential feature, relating to meaningfulness, is making a distinction between wishful thinking and constructive hope. Wishful thinking may temporarily help, when coping with anxiety, but it is destructive in the long run, regarding both the ecological crisis and mental endurance. It is difficult to deal with disappointments in an over-optimistic state, if they occur regularly. On the other hand, over-pessimism can cause paralysis. “Radical hope” has, for example, been proposed as the solution: suggesting that we hope even though we can not in the present moment know exactly what could save the situation.³⁹

Ojala, and Panu Pihkala in Finland, have approached climate anxiety as both an anxiety relating to practical situations⁴⁰ and as a so-called existential anxiety.⁴¹ Existential anxiety involves dealing with the

³⁴ This has been a significant emphasis in the extensive public discussion, which has taken place in Finland about climate anxiety 2017-2019.

³⁵ See Pihkala 2018b; Leukumavaara 2018.

³⁶ Mental coping skills, see e.g. Erkkö & Hannukkala 2015 and many of the Mielenterveysseura publications.

³⁷ An organization called Tunne (Emotion) ry was founded in Finland, whose mission is specifically advancing the processes of dealing with emotions regarding climate change. See www.tunne.org

³⁸ Ojala 2012; Folkman 2008. Ojala has discussed the topic in numerous publications, which examine various groups of people. Different coping-theories are also examined by Bradley et al. 2014; Reser & Swim 2011.

³⁹ Ojala 2012; Pihkala 2017.

⁴⁰ Anxiety researcher and philosopher Charlie Kurth (2018) highlights this type of “practical” anxiety. Kurth offers an insightful model of the various aspects of practical anxiety, but I feel he unnecessarily deprecates existential anxiety. Existential anxiety can be seen as a “filter” or a contributing factor, which can mold an individual’s experience of different kinds of practical anxiety.

⁴¹ Ojala 2016; Pihkala 2017, Pihkala 2018c.

basic questions of life and death. Climate change and the ecological crisis nowadays evoke these questions of fate. The central importance of experiencing meaningfulness (cf. Victor Frankl's views and Logotherapy⁴²) emerges against the background of the existential aspects of climate anxiety.⁴³

7. Appreciating and encountering different emotions

There are many emotions involved in climate anxiety. The ability to live with climate anxiety can be approached from the perspectives of these various feelings, moods and sensations.

Basic differences in the way people perceive the role of emotions will naturally also affect the views on the ways of dealing with climate emotions. Climate psychology and climate education often use the distinction between positive and negative emotions. Based on this, positive emotions are generally emphasized as being empowering. This aspect should not be downplayed, but it is essential, nonetheless, to be aware of the importance of other emotions as well, and of the ways in which emotions are categorized in general.

Many researchers' view is that so-called negative feelings contain important empowering characteristics.⁴⁴ Because these feelings are sometimes denigrated and rejected, some researchers have suggested giving up the positive-negative divide altogether, which can easily be connected with value judgements, which suggest that positive emotions are somehow better.⁴⁵ Psychotherapist Miriam Greenspan offers a different type of division model, which includes the concept of dark emotions.⁴⁶ One option is to talk about "difficult emotions", which are defined according to contextual situations: even happiness could be a difficult emotion during climate anxiety, because of feelings of survivor's guilt.

A recent study on climate communication and climate psychology has begun, more than before, to take into consideration the central importance of "negative" emotions. It was found that outrage and grief can, for example, lead to increased action and motivation.⁴⁷ Below is a discussion about a number of central emotions, which are often associated with climate anxiety and the need to face it.⁴⁸ All of the following options are built around the understanding that climate anxiety is not a disease that needs to be healed, but a natural reaction, which can be developed into a resource. It is also essential to move forward from the paralysing aspects of climate anxiety.

Grief

Encountering change can often evoke various kinds of grief. In recent years, people have become aware of how many different types of environmental grief there are and how many of these have lain below the surface.⁴⁹ General cultural factors have influenced this. When there already are, for example, problems dealing with grief and anger (individually and culturally), a consequence is that it makes dealing with climate grief and climate anger all the more difficult. Many have suffered, because their climate grief has become disenfranchised grief.⁵⁰

⁴² E.g. Frankl 2005 [1969]

⁴³ Cf. Ramsay & Manderson 2012.

⁴⁴ See Pihkala 2017c and the literature mentioned there.

⁴⁵ Solomon & Stone 2002.

⁴⁶ Greenspan 2004.

⁴⁷ Anspach & Draguljic 2019.

⁴⁸ The author of this report, Panu Pihkala, is busy writing a handbook on eco-emotions, which is to be published in September 2019. See Pihkala 2019b.

⁴⁹ Cunsolo & Landman (Ed.) 2017.

⁵⁰ Cunsolo Willox 2012; Pihkala 2017, 60-71; Pihkala 2018b.

The psychology of dealing with climate change has been adapted around theories of grief and loss. It is internationally fairly well known that Elizabeth Kübler-Ross's theory on grief has been adapted into climate change. The theory succinctly brings into focus the many emotions and occurrences that people experience in relation to climate change: denial, anger, bargaining, depression and, at best, acceptance.⁵¹ Researchers, however, also know that the theory is often applied more rigidly than Kübler-Ross herself intended: the original model does not depict a linear progression and all people do not go through all of the stages of grief.

Some researchers, such as Rosemary Randall, Panu Pihkala and Marie Eaton, prefer grief researcher William Worden's model for dealing with climate change. Worden's model discusses tasks of grief and loss:

- Accepting the reality of the loss.
- Processing the pain of grief.
- Adjusting to a new environment.
- Reinvesting emotional energy.⁵²

The task and challenge of climate grief is daring to feel the grief and, by doing so, unlocking one's resources (over time).⁵³

Trauma

Facing climate change can also be viewed as a traumatic experience, which is a relatively new field of study. Adapting various trauma theories may create more understanding around how one faces the psychological effects of climate change.⁵⁴ For example, the desired end result of trauma processes (reconnection) is, worded differently, part of many other models dealing with climate anxiety.⁵⁵ The goal is to advance from a paralysed state towards post-traumatic growth.⁵⁶

Fear

A situation is eased if a person can move from undefined anxiety to a place where fears can be recognized and discussed.⁵⁷ A certain healing trajectory goes from (severe) anxiety to recognizing and experiencing fear.

Powerlessness and helplessness, anger

The goal is to move toward increasing empowerment, i.e. towards a person experiencing that they can have an impact on their lives, not least in terms of their own attitudes and mental well-being. This is, at the same time, shifting one's perspective from being a bystander to being a participant.⁵⁸ This trajectory helps deal with feelings of anger, frustration, and outrage. The sense of indignation can at best be channeled into nonviolent civil action against injustice.

⁵¹ Running 2007; Pihkala 2017, 68.

⁵² Pihkala 2017, 65-71; Eaton 2017; Randall 2009. Adaptation can be seen here as a broad concept, which refers to both physical and mental adaptation.

⁵³ Pihkala 2017, 167-187.

⁵⁴ White 2015; Woodbury 2019; Pihkala 2019. Environmental education and trauma, see Saari & Mullen 2018.

⁵⁵ Cf. Macy & Johnstone 2012.

⁵⁶ Pihkala 2019; Pihkala 2017, 78-82.

⁵⁷ Greenspan 2004; Cf. Tillich 1953.

⁵⁸ Frankl 1980; Pihkala 2017, 82-86. On the bystander problem and its alleviation Greenspan 2004.

Guilt, shame and inadequacy

It would be beneficial to move from paralysing guilt to “animating guilt”⁵⁹ and from paralysing shame to a feeling of being good enough. Both of these are linked to a growing ability to live with ambivalence, so that there is a kind of balance between action and rest.⁶⁰ This process also includes the challenge of getting rid of a paralysing feeling of inadequacy towards accepting incompleteness and feeling adequate. Social acceptance and peer support are important here⁶¹.

It is important to note that the above-mentioned processes require many stages and are components of the experiences of a lifetime. It is possible to develop one’s emotional skills, but it is not a question of totally controlling one’s feelings (which is not possible), but of having the ability to live with a variety of emotions.

The emotional coping trajectory of climate anxiety

from avoidance to facing the situation and from denial to acceptance

from anxiety to fear (i.e. experiencing healthy fear)

from sadness to courage and unlocking resources

from trauma or a great shock to post-traumatic growth

from a feeling of inadequacy to accepting incompleteness

from paralysing guilt to animating guilt

from incapacitating shame to feeling one is good enough

from anger and frustration to action against injustice

from helplessness to empowerment

from meaninglessness to experiencing meaningfulness

8. Third sector initiatives and resources

A variety of different initiatives, dealing with various manifestations of climate anxiety, have been developed around the world, especially in the 2010s. This review looks at the types of initiatives that focus on dealing with emotions, concentrating on not-for-profit organizations’ initiatives.

The basic forms are:

- self-help and support materials
- group activities
- events
- peer support (and the opportunity to offer it, which relieves one’s own feelings)

⁵⁹ Robert Jay Lifton has coined the term “animating guilt”. Pihkala 2017, 162; Cf. Lifton 2017.

⁶⁰ Pihkala 2017, 161-167.

⁶¹ Pihkala 2017, 161-164, 220-223.

The initiatives are divided here according to the organizations using them. For example, many international psychological organizations offer several different types of initiatives.

Environmental organizations, that give space to dealing with emotions as well

Dealing with severe climate emotions has traditionally been difficult, for a number of reasons, for environmental organizations, which have attempted to maintain a mood of optimism.⁶² There are signs, at the moment, that indicate that this may be changing soon. Increasing numbers of organizations are offering the space to process climate emotions as well. At best, this gives people the opportunity to take action and to face their emotions with peer support in the same social group. Finnish organizations, such as, Ilmastovanhemmat and Elokapina (Extinction Rebellion, a new international organization) offer workshops to help people deal with their emotions.

Psychological organizations

The **American Psychological Association's** (APA) research on climate psychology has been globally influential. The wide-ranging report it published in 2009 is a corner stone of climate psychology,⁶³ as is the themed issue of *American Psychologist* - magazine, published in 2011.⁶⁴ Some of the psychologists, who contributed to these publications, have continued working with the theme and have created a set of practical recommendations. The two reports on climate psychology, compiled under the lead of social psychologist Susan Clayton, recommend preventive work to help develop mental resilience.⁶⁵

I know of a few psychological associations that practice grassroots consultation and generate resource materials. The Australian **Psychology for a Safe Climate**⁶⁶ has both published its own material on climate psychology and contributed to the extensive publishing activity that the **Australian Psychological Society** (APS) has undertaken. The publications are multifaceted and of a high standard. I introduce a few important ones here:

Coping with Climate Change Distress

A condensed general look at important mental coping methods. A compilation of recommendations, that can be used for both self-regulation and as topics in small group discussions:

- * Use expressive coping
- * Seek social support
- * Maintain healthy routines
- * Restore yourself psychologically
- * Use different ways of thinking about problems to change how you feel
- * Allow yourself to be in touch with feelings of loss
- * Adopt a problem-solving attitude
- * Take action
- * Take a break from being too focused on the problem⁶⁷

⁶² Pihkala 2017, 236-239; Johnson 2018.

⁶³ *Psychology and Climate Change* 2009. The report is available online.

⁶⁴ The articles are available at <https://www.apa.org/science/about/psa/2011/06/climate-change>

⁶⁵ Clayton, Manning & Hodge 2014; Clayton et al. 2017.

⁶⁶ <https://www.psychologyforasafeclimate.org>

⁶⁷ <https://www.psychology.org.au/for-the-public/Psychology-topics/Climate-change-psychology/Coping-with-climate-change-distress>

Raising Children to Survive in a Climate Changed World

A seven-page guidebook that highlights both practical individual skills and communal development ideas. Emotional skills and co-operation skills are emphasized. A 15-page second guidebook, *A Guide for Parents about the Climate Crisis*, includes practical tips on how to have conversations with children and young people of different ages.⁶⁸

Climate Change and Dealing with Burnout

A booklet that raises the important issue of how climate change can, in a number of ways, exacerbate the risk of burnout and offers suggestions for preventive care and aftercare.⁶⁹

The Australian associations in question have also produced resource material for practical climate action⁷⁰ and for climate communication, or to put it in layman's terms, talking about climate change.⁷¹ These diverse topics and climate psychology are discussed in the *Climate Change Empowerment Handbook*.⁷²

A group of psychotherapists, who are the driving force of the British **Climate Psychology Alliance**, also contributed to the pioneering work, edited by Sally Weintrobe, called *Engaging with Climate Change*⁷³: e.g. Rosemary Randall and Paul Hoggett. The organization arranges events, publishes and offers consultation services.⁷⁴

Randall has been an important influence in **Carbon Conversations**, which is based on forming small groups that discuss climate change and finding ideas for activities.⁷⁵ The book, *In Time for Tomorrow? The Carbon Conversations Handbook*⁷⁶, was created for group work and is a very useful handbook for psychologically-informed climate discussions. In Finland, the climate education researcher Mikko Valtonen has been leading small groups in Jyväskylä using this method and has translated some of the organization's published material⁷⁷ into Finnish. In practice these small groups almost always end up discussing the topic of climate anxiety, as has happened in Finland too.⁷⁸

Peer groups

The **Good Grief Network**, in the United States, has created the most extensive peer group model that I have come across, which is made up of ten meetings (a 10-Step Program). The main creator of the program has drawn inspiration from her own experiences in Adult Children of Alcoholics (ACA). There is a step for each visit and a short introduction, which the group's facilitator reads.⁷⁹ The facilitators are also

⁶⁸ Both reports are available at <https://www.psychology.org.au/for-the-public/Psychology-topics/Climate-change-psychology/Talking-with-children-about-the-environment>

⁶⁹ <https://www.psychology.org.au/for-the-public/Psychology-topics/Climate-change-psychology/Climate-change-and-dealing-with-burnout>

⁷⁰ <https://www.psychology.org.au/for-the-public/Psychology-topics/Climate-change-psychology/What-can-consumers-do-about-climate-change>

⁷¹ The most important of these is those that concentrate on communication *Let's Speak about Climate Change* and *Facing the Heat: stories of climate change conversations*, both are available on the association's website:

<https://www.psychologyforasafeclimate.org/publications>

⁷² <https://www.psychology.org.au/for-the-public/Psychology-topics/Climate-change-psychology/Climate-change>

⁷³ Weintrobe (Ed.) 2013. There are also two Finnish contributors, Emeritus Professor Johannes Lehtonen and psychoanalyst Jukka Välimäki.

⁷⁴ <https://www.climatepsychologyalliance.org>

⁷⁵ <http://www.carbonconversations.co.uk>

⁷⁶ Randall & Brown 2015. Materials can be downloaded for free after registration: <http://www.intimefortomorrow.co.uk>

⁷⁷ More information about Valtonen's work and research on his webpage: <https://rakkaudestammelajiin.com/>

⁷⁸ Personal conversation with Mikko Valtonen, December 2017.

⁷⁹ The texts can be found in the manual, which is freely available: <https://www.goodgriefnetwork.org/>

given a few simple instructions about group dynamics. The format has received positive feedback. I have written a slightly more expanded introduction in my blog.⁸⁰

The Good Grief 10-Step Program

Step 1: Accept The Problem And Its Severity

Step 2: Acknowledge That I Am Part Of The Problem As Well As The Solution

Step 3: Practice Sitting With Uncertainty

Step 4: Confront My Own Mortality And The Mortality Of All

Step 5: Feel My Feelings

Step 6: Do Inner Work

Step 7: Take Breaks And Rest As Needed

Step 8: Develop Awareness of Brain Patterns & Perception

Step 9: Show Up

Step 10: Reinvest Myself Into Problem-Solving Efforts

People who are especially vulnerable, such as environmental activists and environmental students, have in recent years begun to form their own peer groups to cope with climate anxiety.

Climate change has been a central topic in these groups. Dealing with severe climate emotions has been addressed in Finland, using peer group activity in a group called **Toivokerho**, which is part of the **Ilmastovanhemmat** (Climate Parents Finland) association.⁸¹ I am also aware of a few other unofficial peer groups, that have had meetings on a smaller scale.⁸²

Facilitated discussion groups

Discussion methods can vary in facilitated groups in, for example, how much of a role the facilitator plays and how long the meetings last for.⁸³ The first, as far as is known, facilitated discussion group on climate anxiety in Finland began its program at Aalto University in winter, 2018, with education psychologist Sanna Saarimäki and university chaplain Anu Morikawa as facilitators. The group has used several different methodologies adapted from, among others, acceptance and commitment therapy, mindfulness and crisis psychology.⁸⁴ The group work has generated a fair amount of interest, both in the university world and in the media.⁸⁵

⁸⁰ "Hyvä suru sentään! ("Good grief!)", <https://ekoahdistus.blogspot.com/2018/10/hyva-suru-sentaan-good-grief-network.html>

⁸¹ <http://ilmastovanhemmat.fi/jasenille/toivokerho/>

⁸² Information about these groups is fragmentary for now. Such groups have been organized, for example, at the University of Helsinki. Kelly 2017 mentions similar groups in Australia.

⁸³ For information about these groups' specially in the UK:

<https://jembendell.com/2018/07/26/emotional-support-in-face-of-climate-tragedy/>

⁸⁴ Saarimäki 2018.

⁸⁵ <https://yle.fi/uutiset/3-10140284>; <https://www.iltalehti.fi/kotimaa/a/58d7eb54-35d7-4a91-bf57-72d03d6c847e>

In spring 2019, more facilitated group discussions were organized in Finland. Panu Pihkala, who has studied climate anxiety and developed methods for coping with it, facilitated a group of students (organized by the Tampere Students' Union) at Tampere University with trauma psychotherapist Riitta Ylikomi and in Lapinlahti for the general public (organized by MIELI ry, Lapinlahden Lähde) with social psychologist Kati Kärkkäinen. A short description of the types of discussions held can be found on the MIELI ry website.

Activities and ecotherapy offered by ecopsychologists

I will address various initiatives, which involve nature-based activities and holistic ecopsychology.

A pioneer of developing coping strategies for climate anxiety is philosopher and activist Joanna Macy, who wrote, as early as in the beginning of the 1980s, about dealing with severe climate emotions.⁸⁶ Macy has, with her collaborators, created The Work that Reconnects, which is a model that deals with severe climate emotions, using a type of dramatic arc. The guide, published by Macy and Molly Young Brown, includes a detailed description of the model and many exercises, some of which are very intense (e.g. the ecological grief rituals). The main stages of the Macy model are:

- Practicing gratitude, which creates the mental resilience needed to handle difficult issues
- Respecting the pain that relates to the global situation, i.e. exercises for handling difficult climate emotions.
- Seeing with new eyes, a focused view of both oneself and the world.
- Going forth⁸⁷

Education psychologist Santtu Merjanaho, the Finnish Psychological Association's Eco and Environmental Psychology workgroup's present chairman, has familiarized himself with Macy's models. Merjanaho is working on his dissertation about our connection with nature and ways in which to strengthen them.⁸⁸ Several ecopsychologists have organized a variety of events and activities during which climate emotions can be encountered and Kirsi Salonen, in particular, has written about climate psychology.⁸⁹ It is impossible in this report to deal comprehensively with the entire international field of ecopsychology, but events and activities, where climate emotions can be processed, have been organized by, for example, Benjamin White⁹⁰ and Elizabeth (Eshana) Bragg.⁹¹

The literature of so-called ecotherapy, which emphasizes the holistically healing effects that natural environments have, also discusses the effects of climate change and climate anxiety.⁹² Further, some organizers of ritual activities have adapted their methods to dealing with climate anxiety, including therapist and author, Francis Weller, in the United States.⁹³

⁸⁶ See Macy 1983, where the focus is on dealing with emotions arising from nuclear threat.

⁸⁷ Macy & Brown 2015; see also Macy & Johnstone 2012; <https://workthatreconnects.org>.

⁸⁸ https://www.psyli.fi/ajankohtaista/medialle/psykologiliiton_asiantuntijat. The working group made a public statement about climate change in 2011: https://www.psyli.fi/files/2265/Ilmastomuutosuositus_2011.doc

⁸⁹ Salonen 2010; 2005.

⁹⁰ <http://www.theclimatewithin.org>

⁹¹ <http://www.joyality.org/>

⁹² Buzzell & Chalquist 2009. An earlier compilation of articles, Roszak, Gomes & Kanner (Ed.) 1995, does not deal so much with climate change, but includes many articles about climate emotions. For anxiety and ecotherapy see also Clinebell 1996.

⁹³ Weller 2015. Psychologist Carolyn Baker, who believes some kind of societal collapse is inevitable, has written many works about facing difficult climate emotions (<https://carolynbaker.net>). Another psychologist from the US, Bill Plotkin, has become known as the organizer of self-reflections that take place in nature (<https://animas.org/>). There are spiritual elements in the work of the above, as there are in many other ecopsychologists.

An interesting new type of action is Radical Joy for Hard Times & Guerrilla Beauty, founded by Trebbe Johnson. It gives people the opportunity to connect with natural places that have been damaged through human or natural acts. The focus is on exposing people to emotions and not on actions. Participants have reported achieving a deeper connection to their inner emotional landscape and an increased resilience.⁹⁴

Individual events, where climate anxiety is examined and processed

My own experiences too have shown me that many people feel a sense of relief, when they are able to process their climate emotions, with others at a private event. These events give the various climate anxiety symptoms social acceptance. Here one can also offer peer support and tips on how to deal with emotions. I myself have, on these occasions, used a methodology that builds a dramatic arc towards empowerment and signs of hope. I offer guidelines, tips on self-regulation and the opportunity to offer peer support. The feedback from these sessions has mainly been very positive. Others, who have organized similar events in Finland are mainly (eco)psychologists, environmental educators and artists.

Environmental education and art

Various environmental educators and artists have organized workshops, exhibitions, performances and other events, during which participants have been able to process their climate emotions. These art-based methods can be integrated into a variety of local activities and can, of course, be booked for events.

In Finland, climate educator Anna Lehtonen has adapted the methods of participatory drama to process climate anxiety, occasionally in co-operation with Panu Pihkala. Drama methods enable a quick transition into examining deeper themes, because taking on a role gives a sense of privacy. Drama also gives people the opportunity to deal with difficult emotions via humour.⁹⁵

Creative writing trainer Henna Laininen has, for several years, facilitated writing workshops called “Ilmastomuutos minussa” (Climate change within me). Laininen is also preparing a dissertation on the subject.⁹⁶ Artist Maija Raikamo has used a number of different methods in her workshops and has worked in co-operation with, for example, the Kouvola Mielenterveysseura (Mental Health Society).⁹⁷ Internationally, literature academics, Hayden Gabriel and Greg Garrard⁹⁸ and environmental educator Elin Kelsey⁹⁹ have, for example, developed methods of using creative writing to deal with climate emotions.

Many artistic methods can be used to deal with climate anxiety. Photography and graphic art, for example, offer many opportunities to do this. One can create one’s own art, or use images created by others, as guides for reflection and contemplation. An interesting example of processing eco-anxiety and climate anxiety, through the use of photographs, was the Jälki (Trace) photography exhibition at the Finnish Nature Center Haltia in Nuuksio, during winter 2018-2019.¹⁰⁰ Climate anxiety-themed exhibitions have been organized by, for example, Marika Tomu Kaipainen¹⁰¹ and, more loosely, by the IC-98 Group.¹⁰²

⁹⁴ Johnson 2017; Johnson 2018; <https://radicaljoy.org/>

⁹⁵ Lehtonen 2015; Lehtonen & Pihkala 2019; <https://yle.fi/uutiset/3-10610928>.

⁹⁶ Kortekallio 2016: <http://hennalaininen.net>

⁹⁷ Raikamo 2019 <https://www.maijaraikamo.com/>

⁹⁸ Gabriel and Garrard 2012.

⁹⁹ Kelsey 2014.

¹⁰⁰ See <https://www.haltia.com/fi/vieraile-and-info/nayttelyt/erikoisnayttely/jalki/> and the book on the exhibition Spår/Jälki/Trace.

¹⁰¹ “Biophilia in Us”, Tikkurila and Helsinki, 2018. <https://marikatomukaipainen.blogspot.com/>

¹⁰² E.g. their Helsinki Taidehalli exhibition, summer 2018, generated discussion about climate anxiety.

Theatrical performances dealing with climate anxiety are, for example, the Helsinki Student Theatre's recent productions (Järkeni ei riitä 2017, Nomadia 2018, Kuningas Patu Lear 2018)¹⁰³, Rakkaudesta- theatre production and the related Utopedia-vocabulary (which can be used in e.g. group work)¹⁰⁴ and Elinvoima-production (TEAK, 2018), manuscript by Ilja Lehtinen.¹⁰⁵

Therapeutic encounters with lay people

Some people have, individually or in collaboration with others, provided therapeutic encounters to people by simply offering to listen to their climate worries. One example is North-American Kate Schapira, who has created interest with her Climate Anxiety Counseling, where she sets up a "therapy booth" - like the one in the Peanuts cartoon - in a variety of places and offers counseling.¹⁰⁶ The Sustaining All Life - organization has some activity in Finland as well and has offered therapeutic encounters in Europe during, for example, climate conferences there.¹⁰⁷

Bibliography

Albrecht, Glenn. 2017. "Solastalgia and the New Mourning." Teoksessa *Mourning Nature: Hope at the Heart of Ecological Loss and Grief*, toim. Ashlee Cunsolo Willox & Karen Landman, 292–315. Montreal & Kingston: McGill-Queen's University Press.

Albrecht, Glenn. 2012. "Chronic Environmental Change: Emerging 'Psychoterratic' Syndromes." Teoksessa *Climate Change and Human Well-being: Global Challenges and Opportunities*, toim. Inka Weissbecker, 43-56. New York: Springer.

Anspach, Nicolas M. & Draguljić, Gorana. 2019. "Effective advocacy: the psychological mechanisms of environmental issue framing." *Environmental Politics* 28 (4), 615-63. DOI: 10.1080/09644016.2019.1565468

Berry, Helen, Thomas D. Waite, Keith B. G. Dear, Anthony G. Capon, & Virginia Murray. 2018. "The Case for Systems Thinking about Climate Change and Mental Health." *Nature Climate Change* 8 (4): 282–290.

Bodnar, Susan. 2008. "Wasted and Bombed: Clinical Enactments of a Changing Relationship to the Earth." *Psychoanalytic Dialogues* 18 (4): 484–512.

Bradley, Graham L., Joseph P. Reser, A. Ian Glendon, & Michelle Ellul. 2014. "Distress and Coping in Response to Climate Change." In *Stress and Anxiety: Applications to Social and Environmental Threats, Psychological Well-being, Occupational Challenges, and Developmental Psychology Climate Change*, ed. by K. Kaniasty, K. A. Moore, S. Howard & P. Buchwald, 33–42. Berlin: Logos Verlag.

Buzzell, Linda & Craig Chalquist (ed.). 2009. *Ecotherapy: Healing with Nature in Mind*. San Francisco: Sierra Club Books.

Clayton, Susan, Christie Manning, Kierra Krygsmann & Meighen Speiser. 2017. *Mental Health and Our Changing Climate: Impacts, Implications, and Guidance*. Washington, DC: APA and ecoAmerica.

¹⁰³ See e.g. <https://www.hs.fi/nyt/art-2000005466305.html>

¹⁰⁴ www.utopedia.fi

¹⁰⁵ <https://www.hs.fi/kulttuuri/art-2000006005508.html>

¹⁰⁶ <https://climateanxietycounseling.wordpress.com>

¹⁰⁷ Personal discussion, Kaisli Syrjänen, 2017. <https://www.sustainingalllife.org>

Clayton, Susan, Christie Manning, & Caroline Hodge. 2014. *Beyond Storms & Droughts: The Psychological Impacts of Climate Change*. Washington, DC: APA and ecoAmerica.

Clayton, Susan. 2018. "Mental Health Risk and Resilience among Climate Scientists." *Nature Climate Change* 8 (April): 260–261. doi: 10.1038/s41558-018-0123-z

Clinebell, Howard. 1996. *Ecotherapy: Healing Ourselves, Healing the Earth*. Minneapolis: Fortress Press.

Coyle, Kevin J., & Lise Van Susteren. 2012. *The Psychological Effects of Global Warming on the United States: And Why the U.S. Mental Health Care System is Not Adequately Prepared*. Reston: National Wildlife Federation.

Cunsolo Willox, Ashlee. 2012. "Climate Change as the Work of Mourning." *Ethics & the Environment* 17 (2): 137–164.

Cunsolo, Ashlee & Neville R. Ellis. 2018. "Ecological Grief as a Mental Health Response to Climate Change-Related Loss." *Nature Climate Change* 8 (4): 275-281.

Cunsolo, Ashlee & Karen Landman (ed.). 2017. *Mourning Nature: Hope at the Heart of Ecological Loss & Grief*. Montreal & Kingston: McGill-Queen's University Press.

Doherty, Thomas J. 2015. "Mental Health Impacts." In *Climate Change and Public Health*, ed. by Barry Levy & Jonathan Patz, 195–214. Oxford & New York: Oxford University Press.

Eaton, Marie. 2017. "Navigating Anger, Fear, Grief, and Despair." In *Contemplative Approaches to Sustainability in Higher Education: Theory and Practice*, ed. by Marie Eaton, H. J. Hughes & J. McGregor, 40–54. New York: Routledge.

Erkko, Anna & Marjo Hannukkala. 2015. *Mielenterveysvoimaksi*. Helsinki: Suomen Mielenterveysseura.

Folkman, Susan. 2008. "The Case for Positive Emotions in the Stress Process." *Anxiety, Stress, & Coping* 21 (1): 3–14.

Frankl, Victor E. 1980. *Elämän tarkoitusta etsimässä*. Suom. Ben Furman. Helsinki: Otava.

Frankl, Victor E. 2005. [1969.] *Logoterapia*. Suom. Raija Viitanen. Logoterapiainstituutti.

Gabriel, Hayden & Greg Garrard. 2012. "Reading and Writing Climate Change." In *Teaching Ecocriticism and Green Cultural Studies*, ed. by Greg Garrard, 117–129. Houndmills & New York: Palgrave Macmillan.

Greenspan, Miriam. 2004. *Healing Through the Dark Emotions: The Wisdom of Grief, Fear, and Despair*. Boulder: Shambhala.

Harkki, Sini. 2018. "Mitä jos ilmastonmuutos vie meiltä luottamuksen?". Greenpeacen blogi. <http://www.greenpeace.org/finland/fi/media/blogi/mit-jos-ilmastonmuutos-vie-meilt-luottamuksen/blog/61943/>

Johnson, Trebbe. 2018. *Radical Joy for Hard Times: Finding Meaning and Making Beauty in Earth's Broken Places*. Berkeley: North Atlantic Books.

---. 2017. *101 Ways to Make Guerrilla Beauty*. [USA]: Radjoy Press.

Kelly, Anna. 2017. *Eco-Anxiety at University: Student Experiences and Academic Perspectives on Cultivating Healthy Emotional Responses to the Climate Crisis*. Independent Study Project (ISP) Collection 2642. The University of Colorado at Boulder & Melbourne. http://digitalcollections.sit.edu/isp_collection/2642

Kelsey, Elin (ed.). 2014. *Beyond Doom and Gloom: An Exploration through Letters*. Munich: Rachel Carson Center.

Kohl, Alexander. 2018. "Ilmastonmuutos ahdistaa, mutta nuoret eivät ole vaipuneet toimettomuuteen." Artikkelit Sitran internetsivuilla, 7.12.2018. <https://www.sitra.fi/artikkelit/ilmastonmuutos-ahdistaa-mutta-nuoret-eivat-ole-vaipuneet-toimettomuuteen/>

Kortekallio, Kaisa. 2016. "Lohdun paikoista tulevaisuudesta kertomiseen." (Henna Lainisen haastattelu.) *Elonkehä* 4, 16-23.

Kortetmäki, Teea, Laitinen, Arto & Yrjönsuuri, Mikko (ed.). 2013. *Ajatuksia ilmastoetiikasta*. SoPhi 123. Jyväskylän yliopisto. Saatavissa internetistä.

Kurth, Charles. 2018. *The Anxious Mind: An Investigation into the Varieties and Virtues of Anxiety*. Cambridge & London: MIT Press.

Lehtonen, Anna. 2015. "Calls for Creative Collaboration: How Can Drama Provide Creative and Collaborative Learning Methods for Climate Change Education?" *Nordisk Dramapedagogisk Tidskrift* 52 (3): 34–37.

Lehtonen, Anna & Pihkala, Panu. 2019. "From Eco-anxiety to Hope Through Drama." In *Beyond Text: Education Research through Creative Practices*, ed. by Jeff Adams, Intellect Books, painossa.

Lehtonen, Anna, Salonen, Arto & Cantell, Hannele. 2018. "Climate Change Education: A New Approach for a World of Wicked Problems." In *Sustainability, Human Well-Being, and the Future of Education*, ed. by Justin W. Cook, 339–374. Palgrave MacMillan.

Leukumavaara, Jenni. 2018. "Suomalainen viha." *Vihreä Lanka* (7), 20–27.

Lifton, Robert Jay. 2017. *Climate Swerve: Reflections on Mind, Hope, and Survival*. New York: The New Press.

Macy, Joanna. 1983. *Despair and Personal Power in the Nuclear Age*. Philadelphia: New Society Publishers.

Macy, Joanna. 1995. "Working through Environmental Despair." In *Ecopsychology: Restoring the Earth, Healing the Mind*, ed. by Theodore Roszak, Mary E. Gomes & Allen D. Kanner, 240–269. San Francisco: Sierra Club.

Macy, Joanna & Chris Johnstone. 2012. *Active Hope: How to Face the Mess We're in without Going Crazy*. Novato: New World Library.

Macy, Joanna & Molly Brown. 2014. *Coming Back to Life*. Gabriola Island: New Society Publishers.

Moser, Susanne C. 2015. "Whither the Heart(-to-Heart)? Prospects for a Humanistic Turn in Environmental Communication as the World Changes Darkly." In *Handbook on Environment and Communication*, ed. by Anders Hansen & Robert Cox, 402-413. London: Routledge.

Myllyniemi, Sami (ed.). 2017. *Katse tulevaisuudessa: Nuorisobarometri 2016*. [Helsinki]: Opetus- ja kulttuuriministeriö, Valtion nuorisoneuvosto ja Nuorisotutkimusseura.

Nikkanen, Hanna (ed.). 2017. *Hyvän sään aikana: Mitä Suomi tekee, kun ilmastonmuutos muuttaa kaiken?* Helsinki: Into.

Norgaard, Kari Marie. 2011. *Living in Denial: Climate Change, Emotions, and Everyday Life*. Cambridge: MIT Press.

Nurmi, Suvielise. 2016. *Merkintöjä eettisyydestä*. Seitsemän kirjoituksen sarja. <https://www.sitra.fi/hankkeet/kestavyyden-eettiset-ulottuvuudet/>

Ojala, Maria. 2016. "Facing Anxiety in Climate Change Education: From Therapeutic Practice to Hopeful Transgressive Learning." *Canadian Journal of Environmental Education* 21: 41–56.

---. 2012. "Hope and Climate Change: The Importance of Hope for Environmental Engagement among Young People." *Environmental Education Research* 18(5), 625–642.

Psychology & Global Climate Change: Addressing a Multi-Faceted Phenomenon and Set of Challenges. Report of the American Psychological Association Task Force on the Interface between Psychology and Global Climate Change 2009. American Psychological Association. <https://www.apa.org/science/about/publications/climate-change>

Pearse, Rebecca, James Goodman, & Stuart Rosewarne. 2010. "Researching Direct Action against Carbon Emissions: A Digital Ethnography of Climate Agency." *Cosmopolitan Civil Societies: An Interdisciplinary Journal* 2 (3): 76–103.

Pekkarinen, Elina & Myllyniemi, Sami (ed.) 2019. *Vaikutusvaltaa Euroopan laidalla. Nuorisobarometri 2018*. Valtion nuorisoneuvosto & Nuorisotutkimusseura. <https://tietoanuorista.fi/nuorisobarometri/nuorisobarometri-2018/>

Pihkala, Panu. 2019. "The Cost of Bearing Witness to the Environmental Crisis: Vicarious traumatization and secondary traumatic stress among environmental researchers." *Social Epistemology* (Forthcoming).

---. 2019b. *Mieli maassa? Ympäristötunteet*. Helsinki: Kirjapaja.

---. 2019c. *Keskusteluryhmiä ympäristöahdistuksesta. Raportti kahden pilottiryhmän tiimoilta, kevät 2019*. Mieli ry. https://mieli.fi/sites/default/files/materials_files/keskusteluryhmiä_ymparistoahdistuksesta_raportti-web.pdf

---. 2018. "Johdatus ympäristöahdistukseen: Ympäristöongelmien psyykkiset vaikutukset", *Tieteessä tapahtuu* 36 (6), 31–38.

---. 2018b. "Ympäristötunteet: Missä ovat suru ja raivo?", *Vihreä Lanka*, kesäkuu 2018, 74–77.

---. 2018c. "Eco-anxiety, tragedy, and hope: psychological and spiritual dimensions of climate change", *Zygon* 53 (2), 545–569.

---. 2017. *Päin helvettiä? Ympäristöahdistus ja toivo*. Helsinki: Kirjapaja.

---. 2017b. "Environmental Education After Sustainability: Hope in the Midst of Tragedy", *Global Discourse* 7 (1), 109–27.

Piispa, Mikko & Myllyniemi, Sami. 2019. "Nuoret ja ilmastonmuutos: Tiedot, huoli ja toiminta Nuorisobarometriä valossa." *Yhteiskuntapolitiikka* 84 (1): 61-69.

Poijula, Soili. 2018. *Resilienssi: Muutosten kohtaamisen taito*. Helsinki: Kirjapaja.

Raikamo, Anna-Maija. 2019. "Minussa (ilmast)on muutos: Taidelähtöiset menetelmät ilmastotunteiden työstämisen välineinä ja tukena." *Opinnäytetyö (YAMK)*, Turun ammattikorkeakoulu, Kulttuuriala, Soveltava taide.

Ramsay, Tamasin & Lenore Manderson. 2012. "Resilience, Spirituality and Posttraumatic Growth: Reshaping the Effects of Climate Change." In *Climate Change and Human Well-being: Global Challenges and Opportunities*, ed. by Inka Weissbecker, 165-184. New York: Springer.

Randall, Rosemary. 2009. "Loss and Climate Change: The Cost of Parallel Narratives." *Ecopsychology* 1 (3): 118-129.

Randall, Rosemary & Andy Brown 2015. *In Time for Tomorrow: The Carbon Conversations Handbook*. Stirling: The Surefoot Effect.

Reser, Joseph P. and Janet K. Swim. 2011. "Adapting to and Coping with the Threat and Impacts of Climate Change." *American Psychologist* 66 (4): 277–89.

Reser, Joseph P., Shirley A. Morrissey, & Michelle Ellul. 2011. "The Threat of Climate Change: Psychological Response, Adaptation, and Impacts." In *Climate Change and Human Well-being: Global Challenges and Opportunities*, ed. by Inka Weissbecker, 19–42. New York: Springer.

Roszak, Theodore, Gomes, Mary E. & Allen D. Kanner (ed.). 1995. *Ecopsychology: Restoring the Earth, Healing the Mind*. San Francisco: Sierra Club.

Running, Steven W. 2007. "The 5 Stages of Climate Grief", Numerical Terradynamic Simulation Group Publications, 173. (http://scholarworks.umt.edu/ntsg_pubs/173)

Saari, Antti, and John Mullen. 2018. "Dark Places: Environmental Education Research in a World of Hyperobjects." *Environmental Education Research* 1–13.

Saarimäki, Sanni. 2018. "Climate Anxiety Discussion Groups in Aalto University." Unpublished report (in Finnish).

Salonen, Kirsi. 2010. *Mielen luonto: Eko- ja ympäristöpsykologinen näkökulma*. Helsinki: Green Spot.

Salonen, Kirsi. 2005. *Mieli ja maisemat: Eko- ja ympäristöpsykologinen näkökulma*. Helsinki: Edita.

Searle, Kristina & Kathryn Gow. 2010. "Do Concerns about Climate Change Lead to Distress?" *International Journal of Climate Change Strategies and Management* 2 (4): 362-379.

Solantaus, Tytti. 1990. *Mental Health of Young People and the Threat of Nuclear War: Socioepidemiological and Activity Theoretical Studies*. Väitöskirja, Helsingin yliopisto.

Solantaus, Tytti. 1991. *Young People and the Threat of Nuclear War: Out There Is a World I Belong to; A Literature Review*. London: Frank Cass & Co, 1991.

Solomon, Robert C. & Lori D. Stone, 2002. "On 'Positive' and 'Negative' Emotions." *Journal for the Theory of Social Behaviour* 32 (4): 417-435.

Stoknes, Per Espen. 2015. *What we Think about when we Try Not to Think about Global Warming: Toward a New Psychology of Climate Action*. Chelsea Green Publishing.

Tiainen, Antti. 2017. "Ilmastonmuutos ja luonnonkatastrofit ahdistavat lähes kaikkia – Liian moni sivuuttaa nämä tunteet, vaikka juuri ne ovat ratkaisu, sanoo tutkija Panu Pihkala." *Helsingin Sanomat* 7.10. <https://www.hs.fi/elama/art-2000005398521.html>

Tillich, Paul. 1952. *The Courage to be*. New Haven: Yale University Press.

Väärämäki, Heidi. 2019. "Stressiä luonnosta." *Helsingin Sanomat* 9.2. <https://www.hs.fi/hyvinvointi/art-2000005993260.html>

Weintrobe, Sally (ed.) 2013. *Engaging with Climate Change: Psychoanalytic Perspectives*. London and New York: Routledge.

White, Benjamin. 2015. "States of Emergency: Trauma and Climate Change." *Ecopsychology* 7 (4): 192–197.

Woodbury, Chiva. 2019. "Climate Trauma: Towards a New Taxonomy of Trauma." *Ecopsychology* 11 (1). DOI: 10.1089/eco.2018.0021

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