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Climate change anxiety and our mental health

Susie Burke and Grant Blashki

The phrase *inconvenient truth*, made famous by Al Gore's movie, has unfortunately for humanity turned out to be not only inconvenient and true, but quite prophetic about the climate. Climate change, on current projections, threatens the very life support systems on which human civilisation depends. It is predicted to result in increasing rates of extreme weather events such as fires, floods and storms, drastic reductions in agricultural production, compromised global freshwater supply, exposure of populations to high rates of vector-borne illnesses, mass migration and flow-on effects such as conflict and loss of livelihoods. Scientists tell us that on our current trajectory, we are facing no less than the very collapse of civilisation as we know it.[1]

Feeling worried yet? You're not the only one. There is no way a person can learn about these myriad of ways in which global warming is negatively impacting our planet, without feeling very troubled. Scenarios of ongoing catastrophes of ecological and societal collapse are terrifying, and scientists' predictions worsen every year.

This chapter explores how we deal with our anxieties about climate change and how we cope — both with the *feelings* and with *the problem causing the fear*. This is what psychologists call 'coming to terms with' and 'psychologically adapting to'

climate change — being able to acknowledge and manage the feelings that arise as we face the truth of climate change, *as well as being able to stay engaged in effective responses to mitigate or reduce the very threat that is creating these feelings*.

In this chapter we briefly overview the concept of climate change anxiety and share some of the insights from psychology, medicine and social science that can help people manage climate anxieties in an active and effective way. We explore three helpful psychological coping strategies: those focused on reducing the threat which is causing the stress (problem-focused coping); those focused on dealing with the painful feelings (emotion-focused coping); and a third technique for finding meaning and hope in this confronting environmental dilemma of our time (meaning-focused coping). We also provide practical suggestions for how we can activate these coping strategies via (1) our thinking, (2) our feelings, (3) what we do, and (4) how we connect.

Overview of literature on levels of anxiety

Researchers and mental health professionals have been exploring the links between climate change and anxiety for many years. They have looked at the major ways in which climate change causes anxiety, as well as other mental health problems.[2,3] First, *direct* impacts of climate change — for example, in the form of extreme weather event disasters — have well-known implications for people's mental health. Anxiety disorders, including post-traumatic stress disorder, are some of the most likely mental health problems to follow a disaster, with up to 10–20% of affected people at risk of developing these and other problems.

Second, there are *indirect* ways in which climate change affects mental health. Gradual climate changes such as rising temperatures, rising sea levels and drought can change landscapes, land use and farming conditions, disrupt food and water supplies, damage and weaken infrastructure, and give rise to a range of financial, community and relationship stressors that can be a source of immense anxiety.[4,5]

The third way in which climate change impacts on our anxiety comes from what we call the *vicarious impacts of climate change*. While we might not personally be affected yet by acute impacts (e.g. fires, floods, cyclones) or the more gradual impacts, we may experience significant emotional distress through our awareness of the threats and impacts of climate change on the current and future wellbeing of the earth, people, animals and other species. Some authors suggest that this awareness is leading to what they call psychoterratic syndromes, which include phenomena such as 'eco-anxiety', 'eco-paralysis' or 'climate change anxiety'.

These terms are also being used to describe the growing distress around knowing that we all are, in so many ways, contributing to global warming, species extinction, dwindling natural resources, and increased pollution of our natural environment. A new term, 'solastalgia', describes 'the sadness caused by environmental change and by being displaced from a familiar environment'.[6] The term solastalgia derives from the words *solacium* (comfort) and *algia* (pain). In essence, it is pining for a lost environment. Glen Albrecht, who coined the term, suggests the sadness comes not from people being removed from the environment, but rather that the familiar

markers of their area, the physical and sensory signals that define home, are vanishing. Their environment is moving away from them. We underestimate the importance of having a stable, predictable environment for our mental wellbeing.

Worry about the future of mankind is not new. History is littered with periods when people thought the end of the world was near. In recent times, for example, the threat of nuclear war has loomed large in people's fears about the future. Many people recall that period as immensely frightening. Those who were children recount the school education and TV presentations about what to do in the case of a nuclear attack (notably, human actions through new international agreements are working to reduce this threat). And as we write this chapter, the world is adjusting to COVID-19, the global pandemic to which humans lack natural immunity. In a mere six months, millions of people have caught the disease and hundreds of thousands have died, every country in the world has imposed strict quarantines and isolation rules, and the world economy has been put on hold in a desperate attempt to contain the infection and reduce mortality rates.

But it is also important that we do not minimise or dismiss the current concerns about climate change as being just another case of people getting all worked up about nothing, or just another media beat-up. Unlike other periods in history, we are in the unique position of having more expert information about the problems than ever before. We have an overwhelming scientific consensus that our atmosphere and oceans are absorbing so much heat that the climate, intensified by various feedback loops, could spin completely out of control. The IPCC

— the Intergovernmental Panel on Climate Change — authored by the leading climate scientists from countries around the world, tells us that to limit the rise to less than two degrees, we not only need to reverse the warming trend of the past three decades, but we need to *approach zero net emissions, globally, in the next three decades*.[7] This is a massive undertaking, to say the least.

We are right to be worried.

Documented levels of anxiety related to climate change

While there is no doubt that climate change is a stressor in a number of different ways for people (directly, indirectly and vicariously), it is less easy to document just how much anxiety is being experienced by people around the globe, and how severe that anxiety is. Most information is known about the rates of anxiety disorders following extreme weather event disasters because these have been studied for many years even before we knew that climate change was driving an increased frequency and intensity of these sorts of events.

What is less well known, however, are the rates of anxiety in the general population about the perceived threat of climate change, although more and more surveys are being done around the world to gauge this. A widespread study of Australian people's perception and understanding of climate change 10 years ago showed that even then, a large percentage of people surveyed about climate change reported appreciable distress about the issue,[8] and similar results were reported in comparable quality studies in the UK and America. The Yale Climate Surveys annually measure 'Climate Change in the American Mind'.[9] Their latest national survey finds that even in the midst

of the COVID-19 epidemic, American public opinion about climate change has remained steady and, in some cases, reached all-time highs. Given the finite pool-of-worry hypothesis, they were prepared to find dramatically reduced levels of concern about climate change in this survey. Although they did find a slight decline in the proportion of Americans who reported being 'very worried' about climate change since their previous survey in November 2019, overall the results of the current survey were remarkably consistent with previous years, with two in three Americans (66%) saying that they are at least 'somewhat worried' about global warming. One in four (26%) are 'very worried' about it. Susan Clayton, a leading environmental psychologist in America, says in a recent BBC report: 'We can say that a significant proportion of people are experiencing stress and worry about the potential impacts of climate change, and that the level of worry is almost certainly increasing.'[10]

Children and climate change anxiety

There is a smaller but growing literature on the effects of climate change on children's levels of anxiety. Surveys from around the world show that many children and youths express worry, fear and anxiety about its impact on their future lives. This is true for both children in poorer countries already affected by climate change, as well as children from high-income countries that are not yet suffering many direct effects of climate change. Strife conducted in-depth interviews with 10- to 12-year-olds in the US and found that strong feelings of fear, sadness, and anger were expressed by 82% of the children when discussing environmental problems.[11] Many young people believe that the world may end during their lifetime due

to climate change and other global threats.[12] Climate change seems to be a stressor for children even when the impacts are vicarious rather than direct.[13,14]

A recent Australian study conducted by Mission Australia tracks the attitudes of 25,000 15- to 19-year-olds each year.[15] They reported that young people's worry about the environment rose dramatically from eighth place in 2018 to second place in 2019 of topics young people say are important issues in Australia. Another survey of children as young as 7 (7- to 24-year-olds) found that 96% considered climate change to be a serious problem, and 89% were worried about its effects.[16]

A survey done by the BBC and published in early 2020 surveyed 2,000 8- to 16-year-olds and asked them about their attitudes to climate change and to the environment.[17] Most children said that they were worried about the impact that climate change will have on them when they are older and one in five have even had a bad dream about it. Nearly three quarters (73%) said they were worried about the state of the planet right now — including 22% who say they are very worried. A similar number (17%) reported they have had their sleeping and eating habits affected by their concerns. Furthermore, children's worries about climate change are exacerbated by their concerns that not enough is being done about it. More than two in five (41%) of the children surveyed by the BBC said they do not trust adults to tackle the challenges that climate change presents.

Coping strategies for climate anxiety

Feeling anxious about an enormous problem like climate change is normal. However, anxiety can become a problem when it leads to people avoiding, neglecting or withdrawing

from important relationships and activities, have difficulty concentrating and making decisions, feel exhausted all the time, feel physically unwell, and experience other typical stress responses.

The space between denial and despair

Finding an appropriate mindset to climate change is a subtle art. What we are aiming for is what psychologists call *adaptive responses* that are healthy for our mental health and also help solve the climate problem. In doing this it is useful to be aware of the flipside — the *maladaptive responses* that ultimately make us feel worse and do not solve the problem!

Denial of climate change is an example of a maladaptive response. Denial can be like the ostrich that sticks its head in the sand and pretends that nothing bad is happening. Another version of climate denial is when people give credence to unscientific perspectives that report that climate change is not serious, perhaps a hoax, not caused by humans, or perhaps is good for the future of humanity! There are also more conspiratorial interpretations of climate change denial that view it as deliberate misinformation by those with vested interests in climate inaction, such as fossil fuel industries. These are all variations on how we can deny or minimise the seriousness of climate change. These behaviours or beliefs might make us feel less worried for a while, but ultimately they are very maladaptive responses given that climate change actually is happening, and needs our serious attention.

At the other end of the spectrum is *climate catastrophising*, or becoming obsessed with environmental doomsday scenarios. This perspective can be paralysing. It is usually dominated by

black-and-white, all-or-nothing thinking, and holds little or no hope for solving the climate crisis. The ensuing despair can be extremely painful and debilitating, and can leave little energy for living.

So, to take the metaphor of preparing a good meal, too much sugar or too much salt can both ruin the feast. Yes, climate change is real, and its implications are backed by authoritative and powerful scientific evidence. Yet it is also true that there is still room for hope, a middle path that involves contributing to the rapid transformation and decarbonisation that is required by society at this time in history. Keeping one's perspective along a middle path is a healthy adaptive psychological response to climate change.

Psychology and stress and coping

The fields of psychology and other social sciences provide a lot of insight into how humans can cope with stressful events. In the extensive stress and coping literature there are three major coping strategies that people typically use to cope with the anxiety and other distressing feelings that come from all manner of stressors, ranging from illness, death of a loved one, family hardship, and other difficulties of life. The three types of coping are: (1) problem-focused coping; (2) emotion-focused coping; and (3) meaning-focused coping. This is a very useful model for exploring different ways in which people are coping with the anxiety of climate change.

Problem-focused coping includes strategies that help us to cope better by doing something about the actual problem that is causing the stress. It can include things like searching for infor-

mation about the problem, identifying pathways to a solution, and finding concrete things to do to address climate change.

Emotion-focused coping strategies are the things that we do to help calm down the emotions that arise in response to stressful or distressing situations. So, this might include talking to a trusted friend, listening to music, or practising relaxation strategies.

Meaning-focused coping strategies have been recently identified as important strategies, particularly for coping with climate change, because of Swedish researcher Maria Ojala's interest in how young people are coping with the stressor of climate change.[18] Meaning-focused coping strategies are those that change how people think about the problem in order to better manage the stress of the problem. It includes strategies such as thinking about climate change in a historical context and recognising the much greater awareness of the problem now than in the past, developing trust in different societal actors like scientists and environmental organisations that are working for climate solutions, reappraising the problem in a positive way, and drawing on beliefs, values and existential goals to evoke positive feelings that can help them to bear the worry associated with the threat of climate change, without having to minimise or deny its reality. As Ojala points out, meaning-focused coping strategies are especially relevant when a problem cannot be removed or solved immediately but demands active involvement over the longer term — so climate change fits the bill for this approach.

Practical strategies to manage climate anxiety

In the following section we dive a little deeper into exploring these different strategies that people can use to manage the anxiety of climate change. To simplify things, we have decided to categorise the important strategies that people use to cope into *feeling, thinking, doing, and connection strategies.*

Managing feelings

One of the skills that humans develop from early childhood and into adulthood, and often keep working on for the whole of our lifetime, is the skill of managing our feelings. Psychologists often use the term 'emotion regulation' to describe this capacity. Just like we regulate the taps by turning them down or up in a shower to find the ideal temperature, we can also, to a reasonable extent, regulate our feelings *up* if we are feeling low, or *down* if we are feeling overly excited or anxious.

Following are several ways in which people can practise regulating their feelings to manage the anxiety of climate change.

- Acknowledge your feelings. Put words to your feelings to help make sense of them (e.g. I'm feeling sad, I'm feeling angry). Writing in a journal can be a useful way of identifying thoughts and feelings.
- Validate your feelings. Say things like — 'It makes sense that I am feeling worried about climate change.' 'It's a huge problem and we're being very slow to put things into place for a zero carbon economy.'

- Remind yourself that this is something that you have in common with everyone else. 'So many others have been feeling like this too.' 'I'm not alone in my experience.'
- Recognise that feelings come and go. That's just what feelings do.
- Practise self-compassion. Acknowledge to yourself what an immense job you are doing, and thank yourself for the care and effort you are making every day. Thank yourself for all that you have done. Say something that facilitates kindness to yourself: 'May I treat myself kindly.'
- Express your feelings. Let yourself have a cry from time to time. Crying can help release endorphins that make us feel better.
- Spend time in nature. There is a lot of evidence that being in nature helps our mood in many different ways.[19]
- Notice where you feel things in your body and make room for them. Pay attention to your own reactions. Become familiar with your own stress signals.

Managing thinking

All of us have an ongoing self-talk in our minds — a constant chatter of ideas, assessments, opinions, judgments, and mental images. This never-ending dialogue with ourselves is very much a part of being human. What psychologists and doctors have found, however, is that people can get stuck in the mud of their own negative self-talk. Common negative thinking patterns have been identified and are often referred to as *thinking errors*

or *cognitive distortions*. Not only are they often incorrect, but in most instances they are quite unhelpful.

We have been interested for a long time in the different types of unhelpful thinking that people can get caught up in with respect to climate change, and of course, in exploring ways for people to overcome these unhelpful thinking patterns.

Take, for example, what psychologists call 'should and must' statements: 'I should've done more for climate change.' 'I shouldn't have gone on that overseas holiday.' 'Government should've done more about climate change.' The tone of should and must statements is often fuelled by guilt and blaming, and is usually focused in the past. This can easily suck the energy out of solving future problems.

Catastrophising is another common thinking error that commonly appears in one's mind when thinking about climate change. It might be something like, 'Well there's no hope now. it's too late, the environment is doomed, we are all doomed. Therefore, there's no point trying to do anything!' Along with catastrophising thoughts come feelings of helplessness and hopelessness and anxiety. This type of thinking is ultimately counterproductive as it is demotivating and discounts any possibility of change and contributing to creating a different future.

The good news about recognising this type of unhelpful thinking is that psychologists have developed effective approaches such as cognitive behavioural therapy to help people identify and challenge these patterns of thinking. People can be taught to replace these unhelpful thoughts with more accurate and more useful ways of thinking. This is not just the

use of positive affirmations, but involves the work of systematically identifying and dissecting negative thoughts (sometimes using worksheets and homework!), learning to replace them with what are often termed disputing thoughts, and building new habits of thinking. (You might refer to one of the previous Future Leader chapters about this topic.[20])

Below are a few examples of how a person could dispute the catastrophising thought above:

- 'I would prefer that I had done more about the environment in the past but we're here now and we still have a wonderful opportunity to transform the future and actively address climate change.'
- 'In fact human beings have risen to many global challenges in the past and have succeeded against great odds.'
- 'I will put my energy into helping solve the climate crisis rather than worrying about my past failings.'
- 'Scientists tell us that we still have a very important decade to make major changes to decarbonise our economies around the world.'

One of the psychological challenges of working to solve the climate crisis is maintaining hope. The concept of *hop*e always turns up when the going gets tough, whether we are dealing with personal challenges like illness or great loss, or enormous societal challenges like climate change. Hope is an integral part of being human. It is what gets us out of bed each day and gives us the reason to go on when faced with adversity, trials and threats. Without hope we risk becoming depressed, resigning ourselves to disaster, turning towards nihilism, giving up,

deciding that there is no point in constraining fossil fuel use because we have no chance of limiting global temperature increase. None of these responses are at all helpful.

Norwegian environmental psychologist Per Epsom Stoknes identifies four different types of hope, some of which are naively optimistic (e.g. 'Pollyanna Hope' — believing that a positive future will simply come about on its own, or as a result of someone or something else).[21] Some of these are stoically optimistic (e.g., 'There's no end to human ingenuity' and 'We'll make it happen'). Both these types of hope require you to believe in the likelihood of good outcomes, which are sometimes hard to carry off where climate change is concerned. A more useful version of hope that Stoknes has identified is that of active scepticism. With active scepticism the person is realistic about the threats, and at the same time sceptical about it turning out okay, accepts that there is perhaps no reason to be optimistic, but is determined to go for it anyway and chooses to do whatever she or he can to bring about the best possible outcome, because standing by is an unacceptable and unethical option. This form of hope has been variously called 'grounded hope' (Stoknes) or 'authentic hope' (Susi Moser — environmental psychologist) or 'mature hope' (Bill McKibben — 350 founder) or 'active hope' (Joanna Macy, eco-warrior).

Active hope requires that we tell the truth and face the truth about climate change. Psychologist Margarat Klein Salamon talks a lot about the power of truth as a 'radical and incredibly motivating force'. Telling the truth about the climate, and treating the climate crisis like the emergency it is, is highly contagious.[22]

Managing our actions

Acting personally and collectively to reduce carbon emissions is in itself a significant coping strategy. Not only do the things that we do help to restore a safe climate, but taking action also helps us to feel we are part of the solution, not just the problem, and help manage the distressing feelings aroused by this grave threat to our future. Action is the best antidote to despair and helplessness.

Of course, all actions are not equal, and there are some things that we can do that have far greater emission reduction potential — in other words, they remove or prevent far more greenhouse gases from entering the atmosphere — than other actions. While individual actions like carpooling and holidaying locally rather than overseas are important, there is also tremendous potential in collective actions that we can do with other people, such as being involved in a community wind farm project, or lobbying politicians and big businesses to close coal mines, ports and dirty power plants.

It is useful to reflect on the many different types of actions that you can be involved in, and consider which give the 'best bang for your buck'. Environmental psychologists and other scientists have done a lot of research about the different impacts of environmental actions both for the benefit of the planet, and the benefit of people. There are some general principles that emerge from the research that we have summarised below:

Be mindful of tokenism and rebound. Tokenism is when people do something that aims to reduce their carbon footprint, but the action does not really make much of a difference in the

bigger picture. The problem is that if the person thinks that they have now 'done their bit for the environment' they are likely to switch off and not do further things for the environment. Rebound is when people make savings in carbon emissions in one area, then treat themselves using their savings, and end up engaging in an even higher carbon emitting behaviour.

Get political — lobby against policies that put profit before people and planet. Tell your local, state and federal politicians that your vote depends on the strength of their climate policies.

Demand social change and support movements towards fair and just societies. Protect our social institutions, functioning democracies, legal systems and communities, and protest unfair wealth inequality. These are all meaningful climate actions that will go some way in buffering us from the societal chaos that climate change threatens.

Make your environmental values and actions visible to others. This engages the power of social norms to encourage other people to do the same. Leave behavioural traces of your sustainable behaviours, such as putting a sticker on your letter-box saying this house is powered by solar energy, or proudly displaying a sign that your business is carbon neutral.

Make some of your projects local, community-based ones that you have some realistic hope of winning. 'Keep trying to save what you love *specifically* — a community, an institution, a wild place, a species that's in trouble—and take heart in your small successes. Any good thing you do now is arguably a hedge against the hotter future, but the really meaningful thing is that it's good today. As long as you have something to love, you have something to hope for.'[23]

Take a break — this is also something that you can do to manage the anxiety of climate change. It takes a huge psychological toll to be thinking about and taking action on this enormous, chronic, global environmental stressor. Taking a deliberate break and having a rest can be enormously valuable. Try not checking emails for a few days, turning off the 24/7 news, having a few days out to rest and recuperate.

Do things that keep you physically fit and healthy, and maintain routines that always help us to thrive. Make time to practise relaxation. You can use a formal technique such as meditation or yoga, or just make time to absorb yourself in a relaxing activity like gardening or listening to music. Avoid overuse of alcohol or other drugs to cope.

Find things to do which are fun. People are better able to solve complex problems when they are feeling good. Positive experiences are also critical for our wellbeing. Find activist tasks that engage you and excite you (people are happy when solving problems in a domain they love).

Jonathon Franzen argues that even if we can no longer hope to be saved from two degrees of warming, there is still a strong practical and ethical case for reducing carbon emissions. In the long run, it probably makes no difference how badly we overshoot two degrees; once the point of no return is passed, the world will become self-transforming. In the shorter term, however, half measures are better than no measures. Halfway cutting our emissions would make the immediate effects of warming somewhat less severe, and it would somewhat postpone the point of no return; whereas if you accept the reality that the planet will soon overheat to the point of threat-

ening civilisation, there is a whole lot more you should be doing. In fact, it would be worth pursuing even if it had no effect at all. To fail to conserve a finite resource when conservation measures are available, to needlessly add carbon to the atmosphere when we know very well what carbon is doing to it, is simply wrong. Although the actions of one individual have zero effect on the climate, this does not mean that they are meaningless. Each of us has an ethical choice to make.[24]

Take breaks. Putting down tools for a while is not the same as avoiding or minimising the problem. Practise some limit setting. Remind yourself that you don't have to be working on solving climate change all the time, and that saying no to a request does not mean that your commitment is any less.

Managing connections

Social support enhances psychological wellbeing and reduces psychological distress during stressful times. Our relationships with others help to buffer us from stressful events by giving us help, a sense that we are not alone. Connecting with like-minded people is a great way to stay the course, and in the end, this challenge is a marathon not a sprint.

Taking time to connect with people who we care about, and who care about us, is an extremely important coping strategy.

Spend time with people who help generate good feelings (good and bad feelings are both contagious).

Spend time with friends, family and community members, and make sure you do this both with people who share your values as well as with people who are outside your environmental values.

Join groups that have a specific focus on environmental activities and get the double benefit of belonging to a group and taking action on the environment.

Ask yourself whether your relationships are being negatively impacted by your feelings. Are others telling you that they think you have changed?

Conclusion

We live at a time in history that places us on the cusp of the climate crisis. How humanity responds is in large part driven by the psychology and motivations of communities around the world. We know that climate change plays out in impacting people's mental health directly, indirectly and vicariously. The discipline of psychology tells us a lot about people's coping strategies such as problem solving and emotion-based coping strategies and responses that involve changing people's sense of meaning in their lives. Practical approaches can greatly assist people to find an adaptive approach to dealing with climate anxiety that involve strategies to manage feelings, thoughts and actions, and continuing to connect with like-minded others.

Glossary

'Ecoanxiety' refers to the anxiety people face from constantly being surrounded by the wicked and threatening problems associated with a changing climate.

'Ecoparalysis' refers to the complex feelings of not being able to take effective action to significantly mitigate climate change risks.

'Solastalgia' refers to the distress and isolation caused by the gradual removal of solace from the present state of one's home environment.

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