

Dr. Susan Clayton:

We know that climate change has already made some places essentially uninhabitable and is likely to do that to a greater extent in the future. There are coastal communities that have to be relocated because the coastlines are crumbling or the ocean is making inroads. In northern areas, the permafrost may be thawing and that means communities have to move. The loss of your homeland can actually be a significant source of stress and a threat to mental health.

Ellen Kelsay:

That's Dr. Susan Clayton, a conservation psychologist, who's interested in understanding and promoting the relationship between humans and nature. A professor of psychology and environmental studies at the College of Wooster, and the lead author of the *Sixth Assessment Report* from the Intergovernmental Panel on Climate Change, Dr. Clayton's focus on studying, teaching, and communicating the implications of climate change on psychological well-being.

I'm Ellen Kelsay, and this is a Business Group on Health podcast, conversations with experts on the most relevant health and well-being issues facing employers. In this episode of our two-part series on climate change, Dr. Susan Clayton and I discuss the direct and indirect effects of climate change on our mental health and ways employers can help.

Today's episode is sponsored by Virgin Pulse. Virgin Pulse empowers people to lead happier and healthier lives by engaging them in personal and rewarding ways throughout their health and well-being journeys.

Dr. Clayton, welcome. Thanks so much for joining us.

Dr. Susan Clayton:

Thanks, Ellen. It's a pleasure to be here.

Ellen Kelsay:

Your research is just fascinating, and among other things, I know you focus quite a bit on the connection between people and nature and your research shows that feeling connected to nature has a positive effect on all of us. It reduces our stress. It makes us happier. It often makes us more productive and also more physically healthy. But your research is also showing that there are some troubling impacts of nature, and specifically climate change, and what that does to our mental health. We're really going to use that and that connection between humans and nature as a foundation for our conversation today, as we drill more specifically into climate change and mental health. Let's start with a high-level overview. From your perspective, what is the impact of climate change on our mental health?

Dr. Susan Clayton:

Well, not surprisingly, it's negative for the most part. Now that certainly doesn't mean that everybody will experience a severe impact, but there are a variety of ways in which climate change does threaten mental health and we've already seen some of those negative impacts. I think it's helpful to think about different mechanisms by which climate change can have an impact or different kind of categories of impact. One of the most obvious is that climate change leads to increased natural disasters. We've seen this certainly in increased storms, increased wildfires that we're very aware of in the United States, and events like this have an impact on mental health. Three other important things that people might not be aware of and then we can go into details about them. One is the impact of rising heat, which also affects our mental health. One is indirect impacts of climate change, so to the extent climate change results in involuntary migration or people being displaced from their homes, that can have an effect on mental health. Then I think a lot of people are thinking more recently about the anxiety associated with climate change and how that might be a mental health stressor.

Ellen Kelsay:

There's so many different areas which you just mentioned, and you said specifically natural disasters and then rising heat. As I was preparing for this conversation, I was so struck by the heat and the warming of the planet

and what that then means in terms of how we as humans are responding from a psychological and a mental health perspective. Can you elaborate on specifically the heat aspect of mental health and climate change?

Dr. Susan Clayton:

Absolutely. I really like to stress this because I think it's something a lot of people are not aware of. There are actually decades of research looking at the psychological impacts of heat. We know that, for example, it tends to increase aggression. Often when it gets too hot, people have difficulty concentrating, so maybe their cognitive abilities are impaired. But more recently we've got these enormous data sets that show that heat is associated with increased mental health problems, such as psychiatric hospitalizations and even suicide.

Ellen Kelsay:

You even talked about in your research that we generally as people get a little bit grumpy when it's hot out, and it impacts how we relate to family members, friends, social connections. In addition to some of the more severe impacts that you just mentioned, there are just very kind of practical day-to-day implications of heat that maybe people don't immediately recognize, but when you delve into the research and look at the data sets, it's amazing how prevalently it is affecting the population more broadly as well, which is what really struck me, kind of the range of response that we all are experiencing related to heat, in particular.

Dr. Susan Clayton:

Very much. It's not necessarily an obscure link. Sometimes the link is actually quite obvious. We know we get grumpy and irritable when it's hot, so to the extent that happens, we're a little bit more likely to get into conflict with other people. In fact, we can be a little bit harder on ourselves as well. One of the ways in which heat affects us, which again, it doesn't sound like a big deal, but over a large enough number of people and a large enough number of days, it starts to have an impact. Heat makes it more difficult to sleep, and there's very good evidence that sleep quality is significantly reduced as the temperatures get higher. Again, anybody who's been sleepless knows that that can make them a little bit grumpy. If you have prolonged periods of sleeplessness, it will actually interfere with your ability to concentrate.

Ellen Kelsay:

Also, you said this kind of prolonged, over time, across a broad number of the population, there are increased incidents of violence and domestic abuse, and like you said, cognitive impairments. So really some very concerning aspects of the heat on a broad population. You also mentioned the indirect impacts. Could you elaborate there, specifically, what would some of those be?

Dr. Susan Clayton:

Some of the ones that we think about most are, as I mentioned earlier, displacement. We know that climate change has already made some places essentially uninhabitable and is likely to do that to a greater extent in the future. There are coastal communities that have to be relocated because the coastlines are crumbling or, you know, the ocean is making inroads. In northern areas, the permafrost may be thawing, and that means communities have to move. I think a lot of us are aware of low lying islands and the concerns of people in places like the Maldives and the Philippines that they're literally going to lose their homeland. Even in the United States, we already have communities that have been displaced by climate change. The loss of your homeland can actually be a significant source of stress and a threat to mental health for a number of reasons. One is just that it's disruptive, there's a lot of upheaval you have to adjust to. Normally our communities can be very helpful in protecting mental health and providing support. When you move, that community is disruptive and they may no longer be available as a source of support and resilience.

Ellen Kelsay:

Yes, I want to come back to the community aspect of this conversation a bit, because there are a lot that community can do to help really address and, you know, make positive impacts in these areas. We'll come back to that in a minute. The other aspect you've referenced was anxiety and the impact of climate change on just anxiety that maybe individuals feel or collective anxiety as a society. Could you expand there as well?

Dr. Susan Clayton:

Yes, this is something I've been looking at increasingly in the last few years. Partly I was motivated to do this because so many people started talking about it, in a very anecdotal way, but you can see it a lot in the newspapers that people said worry about climate change was making them anxious and mental health professionals were reporting that some of their clients were talking about this. There's been increasing research into the topic, and we find that a fairly high proportion of people, the majority to be honest, are worried about climate change and the potential impacts on themselves personally. Now, of course, most of those people, their mental health is still fine, but for some of them, their worry is beginning to affect them. It might make it, again, difficult for them to sleep or difficult for them to concentrate or maybe they find themselves crying a lot. Any source of stress, you know, most of us can cope with it, but they're going to be some people who are already close to the end of their rope and this additional source of stress might lead to them really having a mental health issue.

Ellen Kelsay:

Yes, there was this term, again, that I came across called eco-anxiety. There are those who are very directly impacted by climate change, and very directly you can see the correlation of that, you know, natural disaster, whatever the event is and how that would impact their mental health. Then there is kind of this general anxiety that maybe others feel they're not directly impacted by the event, but they have this cloud of anxiety that also is impacting them. You also mentioned some of that anxiety is helpful, but it can also maybe tip to a point where it's not productive and it's actually harmful. Anything more you would say on that?

Dr. Susan Clayton:

Yes, exactly. I think anxiety is a force that can be seen in a variety of ways. We don't necessarily want to make people not anxious. When there's a real problem, anxiety is an appropriate response. It may not be very comfortable, but it can motivate you to think, hmm, there's a problem here, I need to give it some attention. I need to decide how to respond to this. We don't want to be just calm and relaxed in the face of a real problem, but anxiety when it becomes too strong, when it's not resolved, or when it seems greater than your own abilities to react to it, can become kind of paralyzing. There are a lot of anxiety disorders which are clinically significant threats to mental health. We talk about general anxiety disorder. I don't think climate anxiety by itself, or eco-anxiety by itself, should be considered a mental health problem, but it certainly can contribute to a level of anxiety that is a mental health problem.

Ellen Kelsay:

Are there things that you would suggest that people do who maybe are starting to feel overwhelmed or as if the problem is insurmountable and we're talking about it more and more, we're talking about this issue today on the podcast, right? It's more prevalent. People are hearing about it more. Maybe they're feeling increasingly a sense of despair about it. Anything you would say to help them maybe frame the issue, keep it in perspective, to chunk it down so that they don't get to that point of feeling paralyzed and overwhelmed by it?

Dr. Susan Clayton:

Absolutely. I'll address maybe two categories of people. I think most people, and I would probably put myself in this box, we are anxious, but we're not overwhelmed by that anxiety. Good ways to respond to that are to get more information. I think definitely one of the contributors to anxiety is all the uncertainty about climate change, like people have a sense that there are bad things in the future, but we don't know exactly what that's going to look like and when exactly it's going to happen. There's a lot of, to be honest, kind of hyperbole out there. You might hear that, oh my gosh, the world is going to burn up in 10 years. I think finding accurate information about how your area is likely to be affected can help you feel a greater sense of control that at least you understand, okay, my town is not going to burn up. Maybe it will experience more days of higher temperatures, or maybe it'll be threatened by flooding, that kind of thing. So increased information. Forming social connections, can be very important because a lot of people who are worried about climate change also worry about the fact that they seem to be more worried than other people and they wonder why other people aren't showing the same degree of worry. So finding others who kind of sympathize with and understand your concerns can just help you to feel less alone. Then I often encourage people to get involved in some way that feels comfortable to them. For many people that could be political action, but it doesn't have to be. It could be

taking action to protect your own home or taking action within your community. But again, getting involved makes you feel more powerful, less powerless, and more like you're an agent and not a passive victim. But I also want to briefly say that some people who are feeling so anxious that it is overwhelming, they may really need to start by focusing on those emotions and getting on top of those. That could include stepping away from social media, for example. It could include mindfulness techniques, controlled breathing, going out for walks in nature. Essentially, you do need to attend to your own mental health as well, if you're going to respond without being overwhelmed by the climate crisis.

Ellen Kelsay:

I'm speaking with Dr. Susan Clayton. We'll be right back in just a few moments.

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Ellen Kelsay:

I do want to swing back around to when we were talking earlier on about the near-term effects and how climate change is manifesting itself in mental health. We also know that there are longer term and chronic impacts, in particular, on certain groups or communities who may be more vulnerable. Let's drill into that. If you could call out a few groups, who would you say are the groups that are particularly more vulnerable when it comes to climate change and impacts on mental health?

Dr. Susan Clayton:

Well, it partly depends if we're talking about globally or within a particular country, but I'll start by saying maybe within the U.S. what groups are more affected. It tends to be, there are groups that have fewer resources, and that can include economic resources, it can include informational resources, or even essentially political power. Minority communities are among those groups. They tend to be in neighborhoods that are more vulnerable to climate change. I think one of the ways in which we saw that was after Hurricane Katrina, that very much the African American residents of New Orleans were living in neighborhoods that were less protected from the effects of the storm. Minority communities also tend to be in areas that are less protected from heat. They have higher temperatures, they have fewer trees, and the trees can help to reduce the temperature. Part of this is the legacy of discriminatory housing lending practices in the United States. It's not something that's happening necessarily now, but it's the legacy of racist practices in the country.

Children tend to be more vulnerable. I think that's important because we all, at some level I think, feel a responsibility to protect children. They're more vulnerable for a variety of reasons. One is that because their bodies are still developing, including their nervous systems, they may be less able to regulate their own body temperature, and they may be more vulnerable to stressful events. Relatively recent research within psychology has shown, for example, that experiencing trauma as a young child can have essentially permanent impacts on how you respond to emotional events in the future and may lead to long-term impacts on your mental health.

Ellen Kelsay:

We've talked in this country, quite a bit recently, about the mental health and well-being of our children and young adults. I hadn't really thought about it through the lens of climate change. What you just said is so compelling and especially compounds what we know is already a crisis for that population, but with a unique layer when you overlay the climate aspect of it as well. Thank you for bringing that forward. Let's shift and talk about communities and certain vulnerable groups in other parts of the world. What would you share there?

Dr. Susan Clayton:

I think there are three main ways to think about vulnerability worldwide. One is, of course, that some people live in areas that are just more subject to climate change. A lot of the research has come from places like Australia, for example, and we've seen in Australia droughts, we've seen bush fires, and more recently floods. They are really facing some of these impacts of climate change very directly already. As I mentioned earlier, low lying islands. Africa is likely to be very strongly affected by climate change because they have increasing droughts, you know, more and more land may be less suitable for living. There are those geographic differences. Similarly, poverty makes you much more vulnerable to climate change. Something as simple as can you afford to buy air conditioning, for example. We already talked about how heat can be a major factor in affecting health.

But I also want to highlight indigenous communities and these have been studied in several places. Indigenous communities around the world typically have a culture and practices that are very closely tied to a particular location. Their relationship with the land matters very much to them. It's often reflected in traditional practices. When the land starts to change, it could be something as simple as you can no longer grow these traditional foods that were part of cultural ceremonies and rituals. Or to give a very concrete aspect, people in the far north of North America, who might normally rely on snowmobiles to travel and see people in the winter, and things are frozen for a great part of the year, but recently some of that travel has been disrupted because the ice is not strong enough to support the snowmobiles, so it's not safe to travel. There are really powerful impacts on some of their everyday behaviors. There's some research already to show that that undermining of your normal social interactions and undermining of your cultural traditions can be harmful to mental health and there are reports of increased at least suicidal thoughts and substance abuse, for example.

Ellen Kelsay:

I wouldn't have ever thought of that as an example. I'm really glad you brought that one forward, too. You just realized just how many different tangential areas are impacted and different groups are impacted all around the world from different perspectives. Thank you for that. Let's transition and talk about things we can do. We mentioned tactics and tips and tricks that maybe we as individuals can deploy and put in our toolbox to help us with the situation. What can communities and businesses do to help address the impacts of climate change on mental health. Maybe let's talk about communities. What are some examples of things that you have seen communities do to really help with these effects on mental health?

Dr. Susan Clayton:

Well, there are a variety of things communities can do, and I'm really glad you're asking this question. One of them is to be prepared. This is not something that is only the responsibility of individuals, but communities can establish task forces to anticipate the impacts of climate change. Some of these can be prevented, or at least you can put things in place to make people more resilient. If you know that your community is going to be subject to floods or to wildfires, you can respond to that. Not only does that reduce the likelihood that climate change will have those direct impacts, I think it gives people a sense of reassurance that their community is responding and they're not in denial and that people are paying attention to this issue.

Good mental health networks are also, of course, very important. You mentioned earlier how, we're so aware of the mental health threats, particularly faced by young people these days, and generally mental health problems seem to be on the rise. Our mental health system is underfunded. I think this is probably true in just about everywhere around the world, so greater attention to that. It doesn't just have to be PhD-level psychologists or psychiatrists who are responding, but there are many ways in which other members of community support networks can be trained to offer at least some mental health support and help. That could be through churches. It could be through community organizations. It could be through religious institutions, in some cases. There's a lot of room to enhance our ability to support people in the face of mental health threats.

Ellen Kelsay:

Those are great examples. I know when I was also am preparing for this, I came across some other examples you shared, in particular, where communities are building tree canopies and urban environments or cooling

centers for those who don't have air conditioning. Some very practical examples of things that communities can do to help in these examples to mitigate the impacts of heat on mental health.

Dr. Susan Clayton:

Yes, I'm glad you brought that up because sometimes we move right to the complex, sophisticated part of the response, and some of these are very practical things, but there are simple, practical things you can do to help people survive heat waves. Cooling shelters is something we've definitely seen, in places like Phoenix, for example. More awareness of the need that sometimes it gets really hot and people need to have a place to go.

Ellen Kelsay:

What would you say from a business perspective, what areas do you think businesses should be focused in terms of how they can support their workforce and family members from a climate impact on mental health perspective?

Dr. Susan Clayton:

Businesses, of course, in many ways are like little communities. So they can do some of the same things - provide access to mental health support, provide green infrastructure in the workplace. People are probably not going to go into the office to cope with a heat wave, but as you mentioned in the beginning of our discussion, access to nature can be very good for your mental health, so giving workers places where they might see trees or be able to sit outside, perhaps on their lunch hour or whatever, in these sort of green areas can be very good for mental health. Businesses, like communities, can also help establish supportive communities. Just encouraging people to connect with each other in a variety of ways is so important for mental health and can be particularly useful in helping people to confront their anxieties about climate change, so that would be another option.

Ellen Kelsay:

I'm glad you mentioned the green space and we've been talking a lot during this conversation about climate change and obviously the harmful changes in nature and what that then does therefore to our mental health, but there are also so many good positive aspects of immersing ourselves in nature and going for those walks and seeing green space and having more greenery in our built environment. I'm glad you referenced that as an example of things that we can all do in our homes and our communities and our businesses to really foster that positive connection to nature and not be overly indexed on the harmful climate change impacts on mental health. Really play up the positive where we can as well.

Dr. Susan Clayton:

Exactly.

Ellen Kelsay:

I'd love to close with not all is doom and gloom, and there is definitely some things that are happening that give us hope for the future. I would love to hear from you what gives you optimism as you look towards the future?

Dr. Susan Clayton:

Well, here's an example of where it helps to not be too young. I've been working in this area for a few decades and I really see an increased level of awareness about the connection between human well-being and environmental well-being. Yes, we're a little bit behind in responding to some of those connections, but I just think that increase in our understanding is very important and gives me hope for the future. One of the other things is seeing the level of activism, especially among young people, around the climate and talking to some of those climate activists. Their energy and their commitment is really inspiring and gives me great hope for the future.

Ellen Kelsay:

Dr. Clayton, thank you so much for joining us. I really appreciate all of the good work you are doing. As you said, there is a lot of hope for the future and a lot of very passionate, bright people who are really very

doggedly focused on this and bringing a lot of good energy to the cause. So, I appreciate your good work and look forward to seeing what comes, and of course, how we can support you and that effort going forward. Thanks again for taking time with us today.

Dr. Susan Clayton:

Thank you for the conversation.

Ellen Kelsay:

I've been speaking with Dr. Susan Clayton, professor at the College of Wooster, about the effect of climate change in our collective mental health. To hear about the impact of climate change in our physical health, check out our podcast from February 2022, *Combating Climate Change as a Prescription for Health and Equity*.

I'm Ellen Kelsey, and this podcast is produced by Business Group on Health, with Connected Social Media. Please consider rating and sharing this podcast with a colleague or friend.