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Climate Change Impact on Mental Health and Environmental Activism: A Narrative Review

Abstract

We are witnessing considerable changes in the climate of the Earth that have important repercussions on individuals' health, but also on the civic behaviours adopted by them. This narrative review aims, on the one hand, to systematise the repercussions that the current climate crisis has on the mental health of populations and, on the other, to reflect on their implications for the involvement in climate actions. The psychological responses that arise from climate change are very diverse and may result in what have been called psychoterratic syndromes, which includes eco-anxiety, climate anxiety, climate grief, ecological distress, ecoparalysis, solastalgia, climate sadness, climate anger, climate irritation, climate apprehension, climate hopelessness or climate isolation, but they also can result in climate hope, climate empowerment, climate discontent and climate indifference. Research into the personality of activists has highlighted the association between environmental activism and the personality characteristics of individuals, drawing attention to a potential "dark side" of environmental activists' personality, related to the dark triad traits – Machiavellianism, psychopathy and narcissism – as well as to the association of these traits with left-wing authoritarianism (i.e. antihierarchical aggression, anticonventionalism, top-down censorship). Psychology is in a privileged position to contribute to promoting the mental health of populations faced with climate change and to capitalising on adaptive actions for positive behavioural and policy change.

Keywords: environment, climate, activism, eco-anxiety, personality

Introduction

Research has long proven that direct experiences with natural environments – because of their reparative or restorative effect – have very profound emotional effects on people, for example, diminishing depression, anxiety, stress, anger, substance abuse, attention deficit, improving recovery after surgical procedures, improving cognitive functioning, performance in higher level tasks and creative problem solving (SILVA et al. 2022). But connection with nature also revealed to have an addictive effect. Connection with nature is associated with greater satisfaction with life (MAYER–FRANTZ 2004), positive affect (HERZOG–STREVEY 2008), happiness (WHITE et al. 2019; ZELENSKI–NISBET 2014), psychological, social and emotional well-being (CERVINKA et al. 2012; HOWELL et al. 2011; WHITE et al. 2019), greater meaning in life (CERVINKA et al. 2012; WHITE et al. 2019) and greater vitality (ZELENSKI–NISBET 2014).

Some researchers argue that the connection with nature is important to answer to existential anxieties about our identity, as happiness, loneliness, meaning in life, identity, freedom and death (PASSMORE–HOWELL 2014). Being connected to nature is also important to human flourishing, to experience a life with involvement, interest, meaning and purpose (PASSMORE–HOWELL 2014) and make us more capable of being empathic, of perspective-taking (ZHANG et al. 2014), more generous, more capable of trusting in others, more prone to help them (ZHANG et al. 2014), more connected to others, more caring, more prone to a spiritual attitude and more capable of feeling as being part of something bigger than oneself. Individuals who perceive themselves as connected with nature are more prone to defend the well-being of humanity and social well-being, report higher kindness and altruistic concern (CAPALDI et al. 2015).

The relation between nature and human beings is reciprocally advantageous. On the one hand, individuals who perceive themselves as connected to nature present higher individual well-being, and, on the other hand, this well-being that results from contact with nature is associated with an increase in responsible behaviours on the part of human beings (PASSMORE–HOWELL 2014).

However, despite these positive effects of nature connection, either in consequence of its restorative effect, or because of its protective and addictive effects, people's direct contact with the environment is decreasing, whether due to increasing rates of urbanisation, increased use of new technologies for entertainment or the perception that nearby natural places are unsafe (ROSA–COLLADO 2019). Globally, individuals are experiencing reduced daily contact with nature compared to preceding generations, spending more time inside buildings. Furthermore, we are witnessing considerable

changes in the climate of the Earth that have important repercussions on individuals' health, but also on the civic behaviours adopted by them.

Despite all of the above, we live in a consumer society with extremely harmful environmental impacts, which the planet has not the natural capacity to absorb. According to the United Nations (2021), between 1970 and 2019, natural disasters represent half of all the disasters, being responsible for 45% of all reported deaths and 74% of all economic losses. During this period, more than 11,000 catastrophes attributed to climate change were reported, totalling more than two million deaths and US\$3.64 billion in losses. Furthermore, although the majority of these deaths occurred in developing countries, in European countries, in this period of time, 1,672 disasters occurred and 159,438 citizens died due to natural events like extreme temperatures, floods and storms. The psychosocial reactions that occur in consequence of environmental disasters have been an area of concern for researchers, particularly post-traumatic stress disorders (PTSD), acute stress disorders, depressive disorders, anxiety disorders, sleep disorders, alcohol and drug abuse, aggression and violent behaviour, and absence to work (SILVA et al. 2023).

This narrative review aims, on the one hand, to systematise the repercussions that the current climate crisis has on the mental health of populations and to reflect on their implications for the involvement in climate actions.

Climate change impact on mental health

Gullone (2000) challenges us to question the blindly assumed assumption that the human species has an unlimited capacity to adapt to the environment and to reflect on what occurs to our cognitive capabilities, emotional states, social interaction and mental health when we do not have experiences in nature and Bratman et al. (2012) alerts us to the fact that a significant part of human beings is experiencing the impacts of this withdrawal of nature from their lives.

In fact, it urges to have a deeper understanding about how disconnection from the natural environment can affect physical and psychological health (NISBET et al. 2011), as well as about the repercussions that the current climate crisis has on the mental health of populations and how that impact reflects on the involvement in climate actions.

Simultaneously, we must consider other climate events and environmental situations that, in a different scale, cause an imbalance in individuals when they perceived that their usual skills and strategies for coping with these challenging circumstances

are not effective (SILVA 2009). Distress can also result from the degradation of the environment, degradation of our home and of our sense of belonging. The tension resulting from this stress can make individuals feel unbalanced, vulnerable and that they have no control over their lives (GILLILAND–JAMES 1988; ROBERTS 1990).

Exposures to climatic conditions as heat, humidity, rain, floods, drought and forest fires are associated with psychological distress, diminished mental health and higher mortality in individuals with pre-existing mental illnesses, increased psychiatric hospitalisations and increased suicide rate (CHARLSON et al. 2021). But psychosocial reactions to climate change in the general population very often are not recognised and do not seem to have received the same attention from researchers, despite their severity. Research has proven that climate change can cause a set of psychological reactions – fear, worry, distress and anxiety – which Albrecht (2011: 48) called “psychoterratic” syndromes. Even though it is not easy to prove the existence of a causal relation between climate and environmental crisis and mental disorders, Clayton (2020) recognises “ecoanxiety”, “climate anxiety”, “climate grief” and “ecological distress” (CLAYTON 2020: 2) as being between these negative responses, and Galway et al. (2019) use the expression “earth-related states” (GALWAY et al. 2019: 6) to refer to them. But other reactions have been identified by researchers and clinicians: eco-stress (EFPA 2023), eco-guilt (MALLETT 2012), climate powerless, climate hopelessness, climate sorrow, climate irritation, climate apprehension (MARCZAK et al. 2023) and biospheric concern (CIANCONI et al. 2020).

Furthermore, in scientific literature, we can also find terms as “nature deficit disorder”, “ecoparalysis” and “solastalgia”. The term “nature deficit disorder” was introduced by Louv (2005) to identify the human consequences of alienation from nature, namely the decreased use of the senses, attention deficits and higher prevalence of physical and psychological disorders. In his turn, Albrecht (2011) use the term “ecoparalysis” to refer to people that are incapable of acting because they are excessively distressed by environmental issues (reaction that very often is misunderstood and interpreted as apathy). Furthermore, the term “solastalgia” is applied to refer to the “distress that is produced by environmental change impacting on people while they are directly connected to their home environment” (ALBRECHT et al. 2007: S95).

Increased temperatures and extreme heat phenomena have been associated to increased mood and anxiety disorders, schizophrenia, vascular dementia and suicide risk; droughts have been associated to generalised anxiety, depression, shame, humiliation and increased tension in the family environment; and air pollution revealed to be associated to increased risk of anxiety, depression, psychosis, bipolar disorder impairment in cognitive function, lower level of happiness and life satisfaction, degradation of social

behaviour (increased irritability and higher rates of criminal behaviour), which all increases uptake of mental health services and suicide risk (SILVA et al. 2023).

Even gradual environmental change, as well as chronic and sub-acute climate events – like floods, heat waves, droughts, air pollution, chronic degradation of places in consequence of increased sea levels – can have substantial effects on individuals' mental health, whether they are adults, children or teenagers (VAN NIEUWENHUIZEN et al. 2021). More than half of individuals aged between 16 and 25 report being very or extremely concerned about climate change and demonstrate sadness, anxiety, guilt, annoyance, impotence and helplessness because of this change; many of them report that these feelings affect their functioning and daily life; the majority of them believe that their future is frightening and that human beings are failing in taking care for the planet (HICKMAN et al. 2021).

The psychological responses that arise from climate change are very diverse and not always result in these psychoterratic syndromes. They can also result in climate hope, climate empowerment, climate discontentment and climate indifference. Some of these psychological reactions are less adaptive, being associated with lower well-being, while others are protective of the individual's well-being and allow predicting their involvement in actions to defend the planet.

Some individuals present psychological distance concerning climate change and environmental crisis, that is to say that, for them, climate change is a real concern, but it is a psychological distant one as they see it as something that have impact only in other people, other communities or/and in a distant future (CLAYTON et al. 2021; MAIELLA et al. 2020). Although when individuals perceive climate change as something proximal and concrete, they are more prone to perform environmental protective behaviours; psychological distance does not necessarily constitute a barrier to adopt climate change mitigation and adaptation behaviours (MAIELLA et al. 2020).

Environmental activism

According to the European Federation of Psychologists' Associations (EFPA 2023: 3), "while eco-anxiety and eco-depression are less adaptive, relating to lower wellbeing, eco-anger may be protective of mental health as well as predict greater engagement in pro-climate activism (such as protest or signing a petition) and personal pro-environmental behaviours (such as recycling or use of green energy and less energy consumption)". This perspective has been previously supported by the research of

Stanley et al. (2021). So, despite that some psychological reactions are less adaptive, unconstructive and associated with intrapersonal dysfunction, other reactions are constructive and adaptative (VERPLANKEN et al. 2020), protective of the individual's well-being and allow predicting their involvement in actions to protect the planet, namely of environmental activism, phenomena that is increasing in these times of growing concerns about climate change.

Nevertheless, environmental activism can range from disruptive although non-violent actions to extreme and radical actions, such as, for example, blocking roads, invading premises, throwing paint at ministers, collages on planes, paintings at the headquarters of large companies and civil disobedience.

Research into the personality of activists has highlighted the association between environmental activism and personality characteristics of individuals, drawing attention to a potential "dark side" of environmental activists' personality (ZACHER 2024), related to the following "dark triad traits": Machiavellianism, psychopathy and narcissism.

Machiavellianism is characterised by manipulation of others for personal gain, relative absence of affection in interpersonal relationships, not showing concern with conventional morals, although these individuals are not necessarily immoral, demonstration of low ideological commitment. Individuals who score high in Machiavellianism are not unethical, but they are capable of sacrificing ethics according to their own interests, they are leaders who try to maintain their resources and privileges no matter what the costs and present a cynical worldview. People who score high in psychopathy, present a superficial charm, grandiose self-worth, present pathological deception, are manipulative, present lack of remorse and empathy, shallow affect, increased risk for displaying antisocial behaviour, poor behavioural control, stimulation seeking, impulsivity and irresponsibility. Finally, people who score high in narcissism, strive for uniqueness, have preoccupation with grandiose fantasies, present charming behaviour, strive for supremacy and devaluation of others.

Individuals who present high levels of the dark triad traits can use activism as a way of satisfying their ego-focused needs (as positive self-presentation, status gain, dominance over others, excitement seeking) (BERTRAMS-KRISPENZ 2024). Simultaneously, individuals who present high levels of Machiavellianism and narcissism can, in fact, be more effective in the context of environmental activism that intends to change attitudes and behaviour of other citizens, organisations and governments. Their characteristics seem to constitute an important resource in what concerns to

establishing alliances, leadership of groups, authority and using moral superiority to influence others (PAULHUS–WILLIAMS 2002).

Research has not led to consensus results. Some studies show that psychopathy is not significantly associated with environmental activism (ZACHER 2024), while others show that psychopathy is positively related to individuals' support for violent political activism, including physical attacks (GÖTZSCHE–ASTRUP 2021; PAVLOVIĆ–WERTAG 2021).

Conclusion

In conclusion, research carried out in recent years alerts us to the multitude of risks that climate change poses to mental health, and not only to the risks associated with environmental disasters, but also to the risks associated with climate change of lesser magnitude, previously “invisible” to governments, communities and mental health professionals. These reactions are not only related to mental health problems, they can also be related to pro-environmental actions and to a peaceful environmental activism, but also to violent one. It is important to have a deeper understanding of how the personality traits of activists and leaders of activist groups may be related to adaptive, non-violent environmental actions, but also to violent, extreme and radical ones.

Psychology is in a privileged position to contribute to promoting the mental health of populations who are facing climate change and to capitalising on adaptive actions for positive behavioural and policy change. Not only Climate Psychology can contribute to a greater understanding of the emotions, and of psychological and social processes related to environmental change, but it can also give a significant contribution in what concerns the promotion of citizens' engagement in environmental protection and the promotion of literacy related to environment and climate. This knowledge will constitute an important contribution “to promote and support change at a personal, community, cultural and political level; to support activists, scientists, and policy makers to bring about effective change; to nurture psychological resilience to face the impacts, including in mental health, of climate change happening now and in the future” (EFPA 2023: 3).

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