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Understanding Eco-Anxiety and Eco-Grief: A Comprehensive Review

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A B S T R A C T

The study of the effect of climate change and ecological deterioration on mental health is a relatively recent phenomenon, which is gaining greater prominence as humankind has failed to take the required steps to combat climate change. This paper aims to develop a comprehensive understanding of the two such effects i.e. eco-grief and eco-anxiety. Eco-anxiety is anxiety which can be caused by awareness or experience of ecological change and an understanding of the ecological deterioration and disasters occurring in the world. Eco-grief means experiencing feelings of grief and sadness because of past, current or anticipated losses of ecosystems, wildlife and natural environment. Eco-anxiety is found to be higher among children, young adults, climate scientists, indigenous communities and both are higher in females and communities with close connection with nature. Therapeutic interventions for both mostly focus on increasing inner resilience, joining groups for social and emotional support, providing encouragement for taking action, developing a close relationship with nature. There are three types of coping behaviors i.e. problem, emotion and meaning focused coping. Coping strategies include denial, avoidance, social support, cognitive reframing, optimism etc. These variables need to be studied on more diverse populations and scales need to be standardized on them, interdisciplinary work needs to be increased, clinical strategies need to be developed or researched on to aid therapists, counselors and other mental health professionals and art, writing and movement based practices need to be studied.

Keywords: Eco-anxiety, eco-grief, climate anxiety, coping

1. Understanding eco-anxiety and eco-grief: A comprehensive review

The United Nations Secretary-General António Guterres delivered a statement on 20th March, 2023 in which he said, "We have never been better equipped to solve the climate challenge – but we must move into warp speed climate action now." This statement about climate change, the leading cause of environmental degradation and ecological crisis and the associated effects like destruction of several habitats, extinction of various species, high pollution levels, depletion of natural resources, degradation of soil, water and air, is an indicator of the dire circumstances on planet Earth.

The impact of climate change and ecological disturbances on mental health can be varied. According to Palinkas and Wong (2019), there are three different types of climate related events which are linked with poor mental health. These events are acute events, for example hurricanes and floods, subacute events which involve changes over a long period of time, for example drought, and the last is the chronic events which is existential threat that is caused by long lasting changes, for example rising sea levels, which can potentially lead to environments which can't be inhabited.

According to Lawrence et al. (2022) climate change events can have an immediate direct impact such as physical injury, death, loss of nature, loss of infrastructure etc. which can directly lead to a negative effect on mental health and emotional well-being including stress, PTSD, suicide, grief, anxiety, depression, eco-anxiety, climate grief etc. However, it can also be linked to longer term direct impacts which include conflict and violence, disruptions in health system, food and water supply, livelihood loss, forced migration etc. and this can also cause effects on mental health and emotional well-being. Both of these can independently lead to indirect impacts which primarily occur because of either witnessing or being aware of loss of ecosystems and impact of extreme weather events and these indirect impacts specifically only lead to climate grief, eco-anxiety and solastalgia.

As the field of mental health in relation to the effects of climate change and ecological disturbances is gaining prominence, new terms are being introduced or existing are being made more specific, e.g. eco-anxiety, eco-grief, eco-guilt, eco-depression etc. This paper focuses on eco-anxiety and eco-grief. The aim is to develop a comprehensive understanding of eco-anxiety and eco-grief, understand the coping mechanisms used for the same and give further research recommendations.

2. Review of literature

According to Pihkala (2022), eco-anxiety and eco-grief, despite being two very distinct phenomena, are seen as closely interconnected by a lot of researchers.

2.1 Definition and components of eco-anxiety

Albrecht (2012) defined eco-anxiety as "the generalized sense that the ecological foundations of existence are in the process of collapse". Clayton (2020) defined eco-anxiety as the "anxiety associated with perceptions about climate change, even among people who have not personally experienced any direct impacts".

Ágoston, Csaba, et al. (2022) gave six different components of eco-anxiety i.e. worry, primarily because of future generations in general or one's own future generations in particular; empathy, because of negative emotions experienced by witnessing the suffering of others; conflicts with family, friends, co-workers because of differences in attitudes and behaviors associated with climate change action; physical symptoms related to changes in the environment; mental health symptoms and the last component is helplessness and frustration.

2.2 Definition and types of eco-grief

The concept of eco-grief was introduced by Cunsolo and Ellis. Cunsolo and Ellis (2018) described ecological grief as experiencing "intense feelings of grief as people suffer climate-related losses to valued species, ecosystems and landscapes". According to Ágoston, Csaba, et al. (2022) eco-grief is "a response to ecological loss that can be related to the loss of physical environment, anticipated future losses and disruptions to environmental knowledge systems, which leads to the feeling of loss of identity".

Cunsolo and Ellis (2018) gave three types of eco-grief which are grief associated with physical ecological loss (for example, the loss of homes in a hurricane, extinction of a species), grief related with loss of the environmental knowledge system and loss of identity which is a result of it (for example, with climate change and ecological deterioration the traditional knowledge that farmers had about the ecology and agriculture is no longer applicable), and grief associated with anticipated future loss related with ecology (for example future drought conditions because of declining water table).

2.3 Pihkala's process model of eco-anxiety and eco-grief

According to Pihkala (2022) the entire process begins with unknowing and awakening. Semi consciousness is the stage in which an individual has some information but is also in a sort of denial and this is where eco-anxiety first develops. After this, the individual moves towards awakening, shock and potential trauma. Awakening is the realization that an ecological crisis is happening. This is linked with shock because the seriousness of the ecological crisis is very disturbing. However, this doesn't happen with everyone. Awakening and shock have the potential to cause trauma. From awakening and shock, the individual can move towards action, anxiety, depression, grief, distance or avoidance. The major aspect of this model is coping and changing and there are several pathways of reaching this phase. Stress and trauma have a huge role in the development of various types of coping responses. Depending on the strength of trauma, several maladaptive responses can be developed. Trauma can lead to manic action and complicated grief can be the result of very strong trauma. An even stronger trauma can lead to dissociation. All three along with trauma have the potential of causing eco-anxiety. There is also the possibility of burnout. Pihkala also mentions that every individual has some degree of engagement with all three possibilities that come after awakening and shock - action, grieving and distancing. The goals which lead the individual towards living with ecological crisis are adjustment and transformation. Living with ecological crisis involves three factors - action, self-care which includes distancing, and emotional engagement which includes grieving. Distancing is not always unhealthy and some amount of distancing can prevent development of other problems. It just has to be balanced.

2.4 Demographic correlates of eco-anxiety and eco-grief

There has been some research on the effect of different demographic variables on the occurrence of eco-anxiety and eco-grief. Ágoston, Urbán, et al. (2022) found that subjective socio-economic status had a weak but positive relationship with eco-anxiety and eco-grief. There was a low but negative correlation between age and eco-anxiety and age didn't have any correlation with eco-grief. They also found that eco-grief and eco-anxiety was higher in females as compared to men, those who were in a relationship or married experienced lesser eco-anxiety as compared to those who were single and unemployed people had higher eco-anxiety and eco-grief as compared with employed people. However, the effect was very small in these cases.

Climate scientists are also more likely to suffer from eco-anxiety. This can be because they are intellectually and emotionally very closely connected with the natural world. (Coffey et al., 2021) Clayton (2020) reported that children and younger adults experience climate anxiety more than other age groups. A reason can be that these age groups spend more time thinking about the future and climate change impacts their future more than any other age group. Despite lack of research, Clayton emphasized on the possibility that indigenous groups may be more vulnerable to it because the areas that they live in are more vulnerable to the effects of climate change.

Comtesse et al. (2021) found that eco-grief is more likely to be experienced by people who have close relationships with nature and the environment around them. This can be due to livelihood or cultural relations. Even though studies have shown that women, children, older people, non-white communities etc. are more vulnerable to the effects of climate change on mental health, the effect of these in relation to eco-grief isn't exactly known.

2.5 Behaviours, cognitions and emotions related with eco-anxiety and eco-grief

According to Coffey et al. (2021) physical illness, panic attacks, irritability, sadness, numbness, helplessness, guilt, anger, frustration and hopelessness has been associated with climate change. However, not all emotions or behaviours are negative. Some positive aspects can be hope, feeling of empowerment as well as connection which can further motivate an individual to actively engage in climate action.

Comtesse et al. (2021) stated that eco-grief can lead to adaptive as well as maladaptive consequences. Its presence can prevent an individual from coping with a traumatic environmental event in a healthy manner. Eco-grief can lead to an individual withdrawing themselves from social and recreational activities. If the individual perceives that they have low social support, they can be at higher risk of developing other mental health disorders. However, eco-grief can also serve as a motivator for pro-environmental behaviour.

2.6 Reef grief, snow anxiety and winter grief

In the field of eco-grief, several new terms are being used which are much more specific. One such term is "reef grief" which is the ecological grief being experienced in the Great Barrier Reef in Australia due to ecological degradation and this was studied by Marshall et al. (2019) The study showed that almost 50% of local residents, tourists and tourism operators and around 25% of fishers experienced reef grief.

Pihkala (2022) gave other terms like snow anxiety which occurs because of the uncertainty regarding whether snow will occur or not in areas where traditionally snow has been a regular phenomenon. Winter grief occurs because of loss of conditions which have traditionally been associated with the winter season.

2.7 Relationship of eco-anxiety with pro-climate behaviour and well-being

Stanley et al. (2021) found that eco-anger and eco-anxiety were experienced more as compared to eco-depression by climate acceptors. With regards to mental health outcomes, they experienced only normal levels of stress and anxiety and mild levels of depression. Eco-anxiety and eco-depression were found to be related with lower levels of well-being. Participants engaged in personal pro-climate behaviours much more than collective action. It was found that eco-anxiety and eco-depression were not related with personal behaviour, however eco-anxiety predicted lesser engagement in pro-climate collective action and it was eco-depression which predicted greater engagement. It's eco-anger which was related with higher personal as well as collective behaviours.

Even though the direct relationship between eco-grief and pro-environmental behaviour hasn't been studied, there is indirect evidence of the link. Crossley (2020) explored the desire for eco-friendly tourism after COVID-19 in relation to eco-grief. Crossley argued that social media stories about wildlife reclaiming urban, tourist spaces during the pandemic and subsequent desire for environmental healing in tourism which has been expressed on tourism social media itself is evidence of the eco-grief triggered by the pandemic. This indicates that ecological grief and pro-environmental behaviour are somehow related.

2.8 Interventions for eco-anxiety and eco-grief

Baudon and Jachens (2021) conducted a review to study the interventions for treatment of eco-anxiety and found only 34 relevant records published between 2005 and 2019. The 4 empirical studies found mentioned the use of group discussion of dreams which included the themes of eco-anxiety (Gillespie, 2013); psychotherapists considered PTSD treatment, motivational interviewing, CBT, MB-CBT and psychodynamic psychotherapy treatment modalities as most helpful with clients with eco-anxiety (Seaman, 2016). The interventions identified included the themes of increasing inner resilience, joining groups for social and emotional support, encouragement for taking action, helping the clients connect and develop a closer relationship with nature, practitioners own education and inner work. They suggested that treatment of eco-anxiety needs to embrace a holistic model.

2.8.1. Contemplative Practices

Atkinson (2022) studied the use of contemplative practices to help the students deal with eco-grief and climate anxiety. They advocated the use of four tools which are reflective writing, ritual, activities based on movement and using clay to make art. Also, they believe that collective expression can promote solidarity and help overcome feelings of isolation and engage in meaningful action

2.8.2. Interdisciplinary Perspective

Wang et al. (2023) advocated an interdisciplinary perspective in coping with eco-anxiety and talked about how other disciplines like public health, communication and media, political economy etc. can add to the efforts of health professionals e.g., developing communication strategies for patient-provider interaction, change in media messages about climate change which presently can evoke eco-anxiety should instead be such that they evoke hope, using storytelling to convey the information, knowledge sharing and linking resources among different disciplines.

2.8.3. Positive Response by the Government

Hickman et al. (2021) found that a negative perception of governmental response towards climate change and perceived inadequate government response was associated with climate anxiety and increased distress.

2.9 Coping with eco-anxiety and eco-grief

Ojala (2012) talked about three main categories of coping i.e. problem focused coping in which a person tries to solve the problem which is the cause behind the need for coping, emotion focused coping involves dealing with emotions caused by stressors and meaning focused coping comes into play when it is not possible to solve the problems and it becomes important to experience the meaning of life and, it includes components of both problem and emotion focused coping.

However, it is important to recognise that coping can be adaptive as well as maladaptive and in a lot of cases this depends on the context of the coping i.e. the situation and time in which it is taking place.

2.9.1. Types of Coping Mechanisms for Eco-anxiety and Eco-grief

Ágoston, Csaba, et al. (2022) gave six different types of coping mechanisms used to deal with eco-anxiety, eco-guilt and eco-grief. Taking actions or planning can include adoption of eco-friendly behaviours or attitudes and planning to do the same in future. Second, confrontation involves trying to convince others to adopt eco-friendly behaviours and attitudes. These two are problem focused coping mechanisms. Next three are emotion focused coping mechanisms. Positive reappraisal or optimism involves being hopeful about the circumstances and considering ecological-crisis as a challenge which can be overcome. This decreases eco-anxiety. Withdrawal or acceptance involves feeling helpless. It includes feelings of the eco-crisis having reached such an extreme that no solution is possible and the best solution is to accept the doom that's awaiting humanity. Avoidance of the problem or denial or wishful thinking can be understood with the examples of avoiding awareness of climate change related news. This is adaptive for the individual but can be maladaptive for the environment. The last is seeking social support and this involves both problem and emotion focused coping. The individual may join a society of like-minded people with similar concerns who can provide emotional support and together they can come up with new ideas to mitigate ecological crises.

Coping with eco-anxiety and eco-grief needn't always be using well defined psychological coping mechanisms. As mentioned in the study by Atkinson (2022), various art, writing and movement based techniques can be healthy ways of dealing with eco-anxiety and eco-grief.

3. Discussion

Eco-anxiety and eco-grief are distinct as well as highly interconnected phenomena. Eco-anxiety is found to be higher among children, young adults, climate scientists, indigenous communities and eco-anxiety and eco-grief are higher in females and the communities which have a close connection with nature because of livelihood and culture. Younger people might be showing higher eco-anxiety because ecological change is going to play a bigger role in their future as compared to older people. Both eco-anxiety and eco-grief can have adaptive as well as maladaptive consequences. Pro-environmental behaviour is one of the biggest examples of adaptive consequences. However, these can also lead to physical illness, sadness, irritability, helplessness, anger, withdrawal etc. But eco-anxiety is linked with lower levels of wellbeing and lesser engagement in pro-climate collective behaviour as well as individual behaviour. Holistic treatment strategies have been advocated for eco-anxiety and eco-grief. Therapeutic interventions mostly focus on increasing inner resilience, joining groups for social and emotional support, providing encouragement for taking action, developing a close relationship with nature. There are three types of coping behaviours i.e. problem focused, emotion focused and meaning focused coping. Coping strategies include denial, avoidance, withdrawal, social support, cognitive reframing, optimism, confrontation, taking action etc. The type of coping strategies being used can be influenced by the age group in which the individual falls.

There is no standardization of terms in the research related to psychology of climate change and ecological crisis. Different terms are being used in the same or similar context. This creates confusion and can also result in unintentional duplication of studies. Cultural differences in regards to these variables also need to be studied. There is hardly any research literature on these variables in Asian context, specifically South Asia and this needs to be changed. Moreover, within eco-psychology, eco-grief is a very underdeveloped research area which Adger et al. (2017) suggested might be because grief is disenfranchised in society. There is an "implicit assumption that climate change only becomes important to society when it affects material aspects of well-being, those most easily summarized in economic costs". This statement can be generalized to the entire field of eco-psychology.

With increasing evidence of presence of eco-anxiety and eco-grief in different populations, it becomes very important for environmental social workers, educators, healthcare workers and counselors to gain a greater understanding of these concepts. Eco-anxiety and eco-grief also need to be studied from the clinical viewpoint. Whatever limited research has been done for the treatment of eco-anxiety mostly consists of non-empirical studies. It's important to back the theoretical understanding of the treatment approaches with empirical studies so that these can be practically applied by mental health practitioners. With reference to the mental health impacts of acute climate events, the use and efficacy of psychological first aid needs to be studied.

There is evidence of use of denial and problem avoidance as a coping mechanism with ecological anxiety as well as ecological grief. However, it needs to be studied in greater detail, especially the long term consequences of their use. Also, the relationship of use of such mechanisms with behaviours and

attitudes that are harmful for the environment need to be understood. There is also the question of how to best use eco-anxiety and eco-grief to promote eco-friendly behaviours and attitudes.

Most of the research with regards to coping essentially deals with conventional psychological methods of coping and the focus is on understanding what coping mechanisms are being used by people. Therapeutic practices like art, writing and movement based practices haven't been explored much and there is limited research on mechanisms which can be used by individuals and therapists to cope and help cope with eco-anxiety and eco-grief. More research needs to be undertaken in this area.

4. Conclusion

Eco-anxiety and eco-grief may be relatively new concepts in the field of psychology but that doesn't make them any less important especially when we consider the rate at which ecological deterioration, environmental degradation and climate change is happening. There is a very limited research literature when it comes to these concepts and a lot of it is repetitive. The urgency of the situation needs to be understood by the researchers in the field of psychology in general and eco-psychology in particular and should be reflected in the work that is being done.

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