

Climate change: Environmental Psychological Perspectives.*By*

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Abstract

Climate change is one of the most pressing issues the current society is facing. It is not only an environmental problem but also a human problem. As the primarily responsible humans and as the most affected in this scenario, humans need to consider behavioural change and attitudinal change. Modern environmental psychology studies and emphasize people's thoughts, emotions and perceptions about the environment, and human behaviour in this regard should be with the objective of the promotion of human wellbeing and environmental consciousness.

Climate change is one of the main factors that come under environmental stress, which can be characterized as a force shaping adaptation and evaluation in changing environments. It is a property of both the stressor and the stressed. The main purpose of this paper is to introduce climate-changing issues as an environmental stressor and bring to light the environmental psychological perspectives on climate change and its effect on mental wellbeing. Similarly, this paper describes the relations between environmental perception and emotion with climate change. As a methodology, the qualitative method is applied and therefore, this research is based on analyses of the existing research reports and the other books, by different authors in this subject field.

Key words: *Environment stressors, Climate Change, Mental wellbeing, Psychology*

Introduction

Climate change is one of the most significant global challenges. This paper has been inspired and preceded by various efforts and events, which continue to pave the way for including mental health and psychological well-being as crucial aspects in the global discourse on climate change. There is scientific consensus that climate change is caused by human activity, which brings with it the burden of responsibility and the opportunity to take measures of mitigation. However, climate change is also a reality that requires adaptation. Climate change is expected to increase the severity of disasters and adverse weather conditions worldwide. That is why the researchers have

started to investigate the impact of climate change on issues such as health, security, conflict, and human development. However, the potential contributions from the field of psychology are often missing from the discussion about climate change, and the possible impact on mental health and psychological well-being are rarely discussed.

Need for the identification of Environmental Stressors

The physical environment affects people in many ways; how they feel, what they think and how they act. When the demands of the physical environment outweigh an individual's ability to deal with those demands, stress occurs. Environmental stress refers to a negative subjective psychological response to an environmental stimulus. It is important to note that an environmental stimulus that is stressful for one person in a particular situation may not be stressful for another or the same person in a different situation. As such, environmental stress is an interaction between an individual and an external stimulus. Environmental factors exist as complex regimes of intensities of exposure, which vary on a continuous scale as well as over space and time and interact with each other. Environmental stressors also affect ecosystems at the larger scale of populations, communities and eco-space.

The study of environmental stressors began with research into environmental factors, such as the pioneering work of Justus von Liebig noted in the introduction section that a stressor is an environmental factor that is available in too limited an amount to satisfy the biological demand, or that occurs in such a great exposure that toxicity or kind of damage is caused. Among the earliest researchers of environmental stressors were the plant physiologists who were interested in regimes of environmental conditions, and nutrients and toxicologists who studies the poisonous effects of industrial chemicals released into the environment, including gas such as sulphur dioxide and ozone as well as metals and pesticides.

A stressor that affects organizes and ecosystem is associated with various kinds of environmental factors, such as regimes of temperature, moisture, nutrients, or space, that are insufficient to allow for growth rates as high as genetically possible, as well as difficulties associated with too intense an exposure to those same factors and constraints associated with biological interaction such as competition, disease, and predation. Short-lived events of disturbance may be caused by windstorms or a clear cut of a stand of forest.

What is Climate Change?

Projected manifestations of climate change include wide-ranging changes in weather patterns, higher temperatures, rising ocean levels, shifts in climatic zones and ecosystems, increased pollution, and more weather fluctuations (IPCC, 2007a). The Intergovernmental Panel on Climate Change (IPCC) has defined climate change as “any change in climate over time whether due to natural variability or as a result of human activity. (IPCC, 2007a). Climate change is the result of rising greenhouse gas emissions, which are a result of increasing industrialization. The main greenhouse gas is CO₂, followed by methane, nitrous oxide, aerosols, and others such as ozone-forming chemicals. Greenhouse gases can stay in the atmosphere for many years and trap solar radiation, which causes a warming of the earth's surface and the troposphere.

Global surface temperatures have already increased by 0.74C° between 1906 and 2005, which is partially attributable to human activity. The IPCC predicts that temperatures will continue to increase by about 0.74C° per decade, considering various emission scenarios. Even if the concentrations of all greenhouse gases had been kept constant at the year 2000 levels, further warming of about 0.1C° per decade would be expected. Similarly, sea levels have already risen about 17cm (12-22cm). It increases the average ocean temperature and losses in ice sheets and decreases in glaciers and ice caps which are expected to continue, contributing to further sea-level rise. Rising temperatures can also affect storm severity. Particularly warm waters, from where they draw both energy and moisture, strengthen storms. It is also very likely that climate change will impact a wide range of plant and animal species. Changes in the timing of spring can affect plant growth, the life cycles of various animals, and migration patterns. Animals may migrate to different regions, which can have wide-ranging effects on other plant and animal species.

Climate change will affect both urban and rural areas, including increased heat stress, damaging infrastructure by storms and floods, increased demand for energy, and air pollution.

Psychology and Climate Change

Psychology pays attention to climate change in social psychological perspectives, especially how to change the attitudes, while leading to more

environmentally friendly behaviour. This has led to highlight the contributions of psychological theories about risk perception, changing attitudes and behaviour, social marketing, and diffusion of information. Psychologists and mental health professionals have a window of opportunity to join the global dialogue about climate change and demonstrate that their profession can make tangible contributions to addressing this complex issue.

The threat of climate change has the potential to lead to significant anxiety and worry among the general population, which has been increasingly discussed among researchers. Climate change may also lead to more gradual effects on mental health and psychological well-being. Recently, the term “Solastalgia” has been coined to describe the psychological distress caused by climate-related environmental changes and degradation in rural Australia (Albrecht et al., 2007). Furthermore, it has been predicted that individuals, and especially children, may experience some anxiety over the ongoing threat of climate change. The word “eco-anxiety” has been used to refer to worry and anxiety over environmental problems including climate change.

Climate change may also lead to more gradual effects on mental health and psychosocial well-being, which have received little attention thus far but are likely to pose new challenges. Climate change also implicitly includes reference to the consequences of global weather patterns changes on the local and global environment and ecosystem, that is, climate change and its physical environmental impacts, which are the more noticeable changes taking place in our environments. Nevertheless, there is another ‘environment’, the human psychological, social, societal, and cultural environment, where important and dramatic changes and impacts relating to climate changes and consequent biophysical environmental changes are taking place.

Psychological research reveals the relation between environmental risks and climate change. This includes environmental perception and evaluation; decision making under stress; risk communication, perception, and appraisal; threat appraisal and response in the context of stress and coping; environmental stress; and environmental and social psychological research findings emphasize that one’s psychological response to an appraisal of potential risk or harm to the environment. Psychology-based research on the environment particularly in the context of environmental risks and climate change has accepted that there are two paths involved in this regard, i.e., risk perception and response, or sense-making in the face of threat.

These two paths are the cognitive-based risks and analysis and the other emotion-based paths. Here we will consider risk as a feeling as well as rationality about the environmental risk.

Climate change has the potential to lead to adverse mental health outcomes through several pathways. First, there is an established body of literature outlining the adverse mental health impacts of natural disasters (such as floods, cyclone events, droughts, and fires) and the factors that can modify the risk of poor mental health. “Mental health outcomes in the event of such disasters [...] the threat of climate change and its consequences may have wider psychological and social effects on communities through the impact on perceptions of safety, security, and fears regarding the future. The methods and tenor of communication regarding the actual or potential health and social risks associated with climate change will be important determinants of community emotional and behavioural responses. (NCCARF 2009) Psychological responses to the problem of climate change are posing particular challenges for psychological understandings of fear, anxiety, and worry.

Nature of Psychoterratic and Somaterratic Syndromes

Humans are extremely versatile and adaptive animals. They have colonized virtually all parts of the planet and have successfully inhabited all types of climates and topographies including the Arctic, deserts, and tropical rainforests. However, climate change will affect a man and his mental well-being in two ways; psychoterratic and somaterratic syndromes. Psychoterratic or earth-related mental health syndrome is the effect of changing environment on human life. Exposure of the body to extreme heat or toxic chemicals released into the biophysical environment is identified as a somaterratic bodily burden illness. People are aware of the fact that potentially serious implications of climate change are also likely to make them anxious about the possible harm that might fall on their children in the future and further, the fate of all generations. Therefore, more research study on the interaction of the somaterratic and psychoterratic syndromes are needed.

The somaterratic (body-earth) syndrome concerns heat stress, environmental cancers, and endocrine disruptors as well the seasonal affective disorder. The study field of psychoterratic syndrome (Psych-Earth) will be about the nature of Eco-anxiety, Eco-paralysis, Solastalgia, Eco-nostalgia. Psychoterratic

conditions are likely to become more significant components of the causes of mental health problems as climate change impacts more severely on the home environments of vulnerable people. Environmental psychologists reveal that unfortunately, psychoterratic syndromes are likely to become more common in the future.

Eco-anxiety is caused by a dread of environmental perils, especially climate change, and a feeling of helplessness over the potential consequences for those living now and even more so for those later generations. Eco-anxiety refers to a fear of environmental damage or ecological disaster. This sense of anxiety is largely based on the current and predicted future state of the environment and human-induced climate change. Eco-anxiety is not the same as a clinical anxiety disorder, though physicians say fears about the climate can worsen or trigger pre-existing mental health problems. In fact, for most people, eco-anxiety is a healthy response to the climate crisis.

Eco-paralysis is the inability to meaningfully respond to the climate and ecological challenges that we face not always as an inner feeling of anxiety, fear or powerlessness manifest as a lack of action or a paralysis (Lertzman, 2008, p.17). The concept of solastalgia has its origins in the concepts of 'solace' and 'desolation'; solace is derived from Solari and solarium, with meanings connected to the alleviation of distress or the provision of comfort or consolation in the face of distressing events. Desolation has its origins in solus and desolate with meanings connected to abandonment and loneliness. The meaning of 'algia' is pain or suffering or sickness. Behind the concept of solastalgia is that people believe the earth is their home and that witnessing events destroying the endemic place, identity (cultural and biological diversity) at any place on earth is personally distressing to them.

In this manner, the environment directly influences the mental health of all living creatures in this universe including the earth. Man and his emotional connection with nature are something we have to pay attention to. In this sense, Climate change has generated a considerable social debate involving cultural practices and contests, social beliefs, cognitive representation, and emotional reactions that need to be studied to adapt individual and collective practices that reduce CO₂ emissions and enhance adaptation to new climate conditions. In this aspect, emotions are the starting point of human actions; they influence thinking and learning at the individual or collective levels, and drive people to anticipate or avoid actions that lead to anti-social behaviour. Emotions are also decisive drivers in the

cognitive decision-making process and action performance (Lewis, 2005). In the climate context, it is claimed that, beyond perception, understanding emotional reactions are pivotal in enhancing human practices and actions that are relevant to adaptation and mitigation responses to climate change; unattended feelings can be maladaptive and misleading, e.g., a hopeless fear may drive to numbness and inaction instead of promoting good practices. The analysis of emotional reactions induced by the cognitive appraisal of climate is, therefore, relevant for predicting the behavioural changes required in addressing climate change, as man and his emotions are attached to the environment. Place attachment, sense of places, and the concept of emotional geographies all provide a theoretical understanding of the way that people and communities develop emotional ties to their local environment. Place attachment is the interplay of effect and emotions, knowledge and beliefs, and behaviours and actions about the place.

Man, and his attachment to the environment and places are essential to man's life. Because his feelings are linked with a specific environment. In this manner, we can define place attachment as a positive emotional bond between individuals and groups and their environment. Nevertheless, climate change affects some lives so badly that it separates his life and the environment, leading to an imbalance in mental health.

Conclusion

Societies around the world are under pressure due to the interacting forces of global and local environmental change. Climate change is already affecting ecosystems across the world, with consequences for biodiversity and the functioning of ecosystems and people who depend on them. While climate change and other aspects of environmental change are pervasive and affect societies in different ways in many different contexts, the impacts are often multiplied in not only urban areas but also in non-urban areas. Therefore, innovative approaches to overcome these challenges should be given priority. In this context, nature-based solutions are a must. The nature-based solutions can address the urban changes by exploring nature's features. The concept of nature-based solutions is currently used to reframe climate change mitigation and adaptation strategies, and to address biodiversity conservation.

It is evident that the environmental changes and urbanization led people to emotionally disconnect from other people, and communities. Hence, new interventions that connect people with the broader environment such as improving

access to green spaces and outside recreational activities and events may be promising in this regard. Similarly, they needed a corpus of strong and in-depth research studies to investigate more psychoneurotics and some erratic syndrome is emphasized. We should not forget that the effects of the forcing of natural climate to change are largely a result of technological processes and products. Therefore, to protect mental health there is a certain influence from the environment, so man, nature, and the environmental consciousness have to maintain properly.

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