



# **Climate Change and Counselling Education: The Incontrovertible Role of Counselling in Psycho-Social Human Adjustment in Nigeria**

**Chigbu Eberechukwu Francisca <sup>a\*</sup>, Obi Joy Sylvia Chisara <sup>a</sup>,**  
**Uzoekwe H. E. <sup>a</sup> and Grace Chinyere Nnadi <sup>a</sup>**

<sup>a</sup> Department of Guidance and Counselling, Nnamdi Azikiwe University, Awka, Nigeria.

## **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

## **Article Information**

DOI: 10.9734/AJESS/2021/v25i130591

### **Open Peer Review History:**

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here:  
<https://www.sdiarticle5.com/review-history/74519>

**Opinion Article**

**Received 15 September 2021**

**Accepted 12 November 2021**

**Published 23 December 2021**

## **ABSTRACT**

Climate change threatens to aggravate problem of mental health and social inequality in Nigeria. The causes and danger associate with it has continuously intensified its effect thereby causing some psychological and social problems in the life of people, communities and society at large. Therefore, it becomes pertinent for counselling professionals to come together to address the issues both at local and international levels.

In this article, the focal point is on ways Counsellors can respond to climate change through counselling, advocacy, learning, sensitization and psycho-social human adjustment.

**Keywords:** Climate change; COVID-19; counselling; psycho-social; human adjustment; mental health.

## **1. INTRODUCTION**

Counselling education is vital to the present generation as all human needed their services for overall development and wellbeing. Counselling is relevant to all spheres of life, with

inclusion of all stages of development from infancy to old age (Dhal, 2017). Counsellors should be equipped with necessary skills, principles and techniques to face the over running populace.

\*Corresponding author: Email: ef.chigbu@unizik.edu.ng;

However, the overall increase of societal pressure has contributed heavily to the existing problems of people. These problems range from environmental stress, human frustration, conflict within and among people, work hazard, strain from the present day's technological advancement, natural disaster, seasonal disease, viruses and deadly infections occasioned by exposure to harsh climatic condition, which can in turn result to mental health consequences such as anxiety, depression, fear, despair, psychosomatic and post-traumatic stress disorder. However, a significant proportion of people affected by the aforementioned problems develop chronic psycho-social dysfunction hence, the need for counselling.

The rationale for counselling services in all spheres of life cannot be overstated due to increasingly complexities of modernization and innovation, which gave vent to climate change and places with heavy demand over responsibilities on human endeavour. These demands can emanate to disposition of maladaptive behaviour as a result of psychosocial need problems (Weiten, 2007). Dryafol [1] pointed out people who are usually of deviant behaviour patterns and these are highly influenced by technological change and transformation. Also, people experience erratic physiological and psycho-social changes resulting to unpredictable mood swings, social development and climatic changes that are evident; for instance, they become defiant to the authority [2]. Sindabi [3] postulates, that young people in secondary schools undergo emotional development, manifesting characteristics of being erratic, irritable, unpredictable, ambivalent, critical and rebellious as a result of climate crises.

Climate is the totality of weather condition including temperature variation and rainfall [4]. The earth's climate system evolves due to natural concurrency and human influence called anthropogenic, hence led to climate change. Climate change is the interference of weather condition in the global climates over time. Presently, climate change is considered to be a challenging factor which attract international intervention because it negatively alters human health [5]. The International Governmental Panel on Climate Change [6] warns that there is bound to be increase in sea levels, which will have adverse effects on natural and human systems if green house gases continue to be emitted

unchecked, thus, the climate system will change significantly in the 21<sup>st</sup> Century. IPCC (2001a) forecasts that if carbon dioxide emissions are not checked, that 21<sup>st</sup> Century global warming will trigger above 1.5 degree celsius and could assuredly lead to 6 degree of warming; land will warm more than oceans, and higher latitude more than tropical latitudes; precipitation will increase on average; mid latitude, mid continental drying in summer is likely in some areas and hydrological cycle will intensify and enhanced droughts and flood, and more heat wave and fever cold snaps.

Regrettably, Nigeria is non resisting to climate hazards. Odo & Chilaka [4] observe that climate change in Nigeria has over time disrupted the normal functioning of the ecosystem that interacts with humans, and affects they access certain vital resources for their survival. However, when climate crises such as heavy droughts and famine, harsh weather, dry spells in the north occurs in Nigeria, it is usually perceived to be environmental degradation, natural resource scarcity, migration and food shortage. In view of the above assertion, increase in sea level could rise; natural disasters, droughts, food-shortages, and any ensuing international conflicts could contribute to increase in social inequality, diminished mental and physical health, in addition to geographic displacement and migration [7].

Conventionally, counsellors should be unavoidably prepared to respond to the consequences of climate change; having in mind the following questions:

- (a) How will climate change affect the psychological wellbeing of individuals.
- (b) How do counsellors address the issue of mental health as a consequence of climate change.
- (c) As an international issue of climate justice and human right, how do counsellors react to the climate break down.
- (d) How can counsellors help in psycho-social human adjustment as regards climate change.
- (e) How can counsellors help individuals to overcome Ecological grief (climate anxiety/existential fear).

However, with constant climate change which usually results to different and complex abnormalities and psychosocial problems, there is need for adjustment which counselling is verily

needed for such amendment and adjustment. Moreover, in a steadily changing environment, equipping one with necessary information, awareness, ability, resilience and skill to imbibe into rigorous challenge, facing every human in the present technological advancement becomes very vital. Nonetheless, psycho-social human adjustment cannot be achieved without recognizing and the roles of counselling in the society.

### 1.1 Objectives of the Study

The central objective of this paper is on climate change and counselling education: the climate change and counselling education: the incontrovertible role of counselling in psycho-social human adjustment: in lieu of the above these specifics are addressed;

- (1) To examine the causes and danger of climate change
- (2) The relationship between climate change, covid-19 and mental health
- (3) To determine the counsellors role in climate change abatement and mitigation.

To illustrate the imperative of counselling for psycho-social human adjustment.

## 2. CAUSES/DANGER OF CLIMATE CHANGE

Climate change poses a fundamental threat to places, species and people's livelihoods. Climate change is the global phenomenon of climate transformation characterized by the changes in the usual climate of the planet through increased concentration of greenhouse gases in the air caused by human activities. Manstrandrea and Schneider [8] enumerate climate change as a long term alteration in global weather patterns such as increases in temperature and storm activity, often linked to the potential consequence of rising levels of heat trapping gases known as the greenhouse effect. Manstrandrea and Schneider further opine that climate change and global warming are often used interchangeably.

Climate change is caused by fossil fuel combustion, deforestation, ice activation, livestock ranching, industrial production, and human activities which have increased since the development of agriculture and especially since the emergence of the industrial revolution. Ozone layer depletion is the gradual reduction of the earth's ozone layer in the upper atmosphere due

to the release of chemical compounds containing gaseous bromine from industries or other human activities, CO<sub>2</sub> concentration, green-house gases (GHG<sub>S</sub>) in the atmosphere such as carbon dioxide, methane, water vapour, absorb infrared radiation emitted from earth's surface and reradiate it back, thus contributing to the greenhouse effect.

According to Ezirim and Onuoha [9]: Climate change is caused by increasing concentration of greenhouse gases (GHG) in the atmosphere. Greenhouse gases are called greenhouse gases because they display effects similar to that in a "greenhouse". The glass in a "green house" allows the sunlight to pass through but trapping the heat formed and preventing it from escaping, thereby causing a rise in temperature.

The United Nations Intergovernmental Panel on Climate Change (IPCC), in its Fourth Assessment Report of the IPCC, presented in *Climate Change 2007* observed as follows:

- warming of the climate system is now unequivocal;
- the rate of warming in the last century is historically high;
- the net effect of human activities since 1750 has been one of warming, due primarily to fossil fuel use, land-use change and agriculture;
- most of the observed increase in globally averaged temperatures since the mid-20th century is very likely (greater than 90 per cent) due to the observed increase in anthropogenic (i.e., caused by human activity) greenhouse gas concentrations;
- long-term changes in climate have already been observed, including changes in Arctic temperature and ice, widespread changes in precipitation amounts, ocean salinity, wind patterns and aspects of extreme weather including droughts, heavy precipitation, heat waves and intensity of tropical cyclones;
- from 1900 to 2005, drying has been observed in the Sahel, the Mediterranean, southern Africa and parts of southern Asia;
- more intense and longer droughts have been observed over wider areas since the 1970s, particularly in the tropics and subtropics;
- continued greenhouse gas emissions at or above current rates would cause further warming and induce many changes in the

- global climate system during the 21st century that would very likely be larger than those of the 20th century;
- projections for the 21st century include a greater chance that more areas will be affected by drought, that intense tropical cyclone activity will increase, that the incidence of extreme high sea levels will increase, and that heat waves and heavy precipitation events will be more frequent; and
- Even if greenhouse gas concentrations were to be stabilized, anthropogenic warming and sea level rise would continue for centuries due to the timescales associated with climate processes and feedbacks (Ezirim and Onuoha [9] in Odo & Chilaka [4].

The effect of climate change is contributing adversely to increased occurrences of extreme disasters such as floods, drought, wildfires and hurricanes [10].

Further, scholars believe that climate change has also played a role in the civil unrest and conflict that contributed to the Syrian crises, as well as forcing migration from Latin America to the U.S (Kelley et al., 2015). Odoh and Chilaka [4] equally believe that the immediate cause of Fulani herdsmen and farmer conflict is resources scarcity; that the remote cause is climate change, which has through drought and desertification led to natural resource scarcity and therefore intensified the conflict between the two.

Climate change relates to change in habitat and ecosystems all over the world. Submerge of coastal area, hurricanes and floods, and prolonged droughts are associated with migration of pollution, regionally and internationally [11]. It has been suggested that the reasons for migration also influence the propensity to develop psychological problems in individuals. Migration of individuals is related to acculturation stress, which is likely to act in the genesis of psychiatric disorder. Those individuals forced to migrate after strife and disasters are more likely to suffer from psychiatric illness compared to those individuals who choose to migrate voluntarily [12]. Unmitigated climate change is predicted to increase sea level rise, which lead to the creation of over 300 million climate refugees, mostly from less resourced coastal cities concentrated in Asia, such as Bangladesh, Vietnam, India, and Indonesia [13]. World Health

Organization [14] declares that climate change threatens to cause additional 250,000 deaths per year through increased occurrences of malnutrition, malaria, diarrhea, and heat stress.

Consequently, the National Emergency Management Agency (NEMA, 2018) reported that over 1.9 million Nigerians were affected by severe flooding that ravaged 103 Local Government Areas across 10 states in the country. The agency also reported that the flood of 2012 was the worst in over 40 years with 30 out of Nigeria 36 states affected, 1.3 million Nigerians displaced, and resulting in 43 deaths. Adejuwa [15] confirmed thus;

*"I was in Bayelsa state, and I had the opportunity of visiting one of the affected communities where I was told that the flood caused corpses in the cemetery in that vicinity to be exhumed. I witnessed first-hand depression, anxiety, shock, despair, that came along with memories of a flood that also caused damage to properties and farmlands, loss of livelihood, deterioration of health conditions and so on. Some people said they couldn't erase the memory of the flood bringing human remains and other waste into their homes and were so devastated that they had to move out of the area. The level of stress that it caused was high and the tension in that community was palpable as at that time"*

Glenn Albrecht [16], explained the term "solastalgia" which he defined as "the homesickness you have when you are still at home" because the land has become unrecognizable [16]. Amy [17] stated that simply knowing that others are in the path of disaster can trigger anxiety or depression which he calls "existential fear". According to him, existential fear is the fear that faced many people who may not necessarily have been directly impacted by flooding or had to run for their lives.

Climate change also poses a distinct threat to mental health and well-being across communities around the world. Some communities in Nigeria are vulnerable to the psychological effects of climate change because of factors such as vogue information on the frequency and intensity of the impacts, disease epidemics, poor nutrition, economic inequality, violence, weak infrastructures, and socioeconomic and demographic variables such as low average education levels, and large numbers of children and old people. It has been suggested that there

is a relationship between temperature rise and aggressive behavior [18].

Increase in rate of criminality and aggression have been observed during the hot summer months, suggesting a relationship between aggressive behavior and temperature; Heartzen, Buxton, Covi & Richards, [19]; Cohn, Rotton, Peterson, & Tarr, [20]. Suicides are also possible to occur especially violent ones with increase in temperature; Maes, De Meyer, Thompson, Peeters, Cosyns; [21]; Linkowski, Martin, De Maertelaer [22]; Lin, Che, Xirasagar, Lee [23]. Scholars have also coined terms such as "Climate anxiety, ecological-anxiety/ threat and ecological grief" to define how individuals feel about climate change and the threat it poses to their well-being [24,25].

Furthermore, climate change may also aggrevate social and economic inequality and contributes to higher levels of poverty, racism and oppression [26,10]. World bank estimated that between 32 to 132 million additional people will be pushed into extreme poverty by 2030 due to climate change (World Bank, 2020). High rate of poverty to the poorer countries led to more activities to integrate adaptation within development and poverty reduction programmes. The injustice of impacts that are greatly felt by the developing country made climate change issue of global importance, hence, integrating equity and human right; [7]; and millennium development goals.

### **3. THE RELATIONSHIP BETWEEN CLIMATE CHANGE, COVOD-19 AND MENTAL HEALTH**

Climate change has significantly caused environmental health hazards to humankind. The planet is undergoing rapid and unprecedented climate change that is creating stress and mental anguish for people around the world [27]. Climate change issues have a significant mental health impact, [28]. Lancet [29] called climate change the biggest threat to global health and mental health in particular of the 21st century. Researchers found that higher temperatures, more rain, and more frequent and intense tropical cyclones which are all effect of climate change correlate to worsen mental health [30]. Hence, these reactions can take the form of anxiety, stress, depression, violence, aggression, and the loss of community identity [31].

The COVID-19 pandemic is a Public Health Emergency of International Concern (PHEIC),

which has claimed lives, and severely disrupted communities. Nonetheless, The World Health Organization (WHO) has stated there is no evidence of a direct link between climate change and the emergence or transmission of COVID-19. However, climate change may indirectly affect the COVID-19 response, as it undermines environmental determinants of health, and places additional stress on health systems [32]. Efforts to control COVID-19 transmission have reduced economic activity and led to temporary improvements in air quality in some areas. The impact of the outbreak of this disease was severe in some countries possibly because of weak institutions, the ineffective response to the pandemic and the lack of social welfare programs that would have catered for majority of the poor and vulnerable citizens who were affected by the crises. In the case of Nigeria, the fear of financial and economic collapse led to panic buying, hoarding of foreign currency by individuals and business mostly for speculative reasons, flight to safety in investment and consumption, household stocking upon essential food and commodity items, with business institutions asking workers to work from home to reduce costs [33]. Though, it appeared the ill-wind has subsided, the psychosocial problems it left behind is better imagined than experienced. People were forced to undergo unprecedeted agony they never expected in their lives. Basic necessities of life which ordinarily were easy to source became difficult. Feeding became a herculean task. Social movement was restricted to avoid close contact among people. Even the air we breathe was tampered with by the imposition of the nose mask. This ugly and unpalatable scenario affected the psychosocial life of everybody.

In contrast, as carbon dioxide and other greenhouse gases that drive climate change persist for a long time in the atmosphere, temporary emissions reductions only have a limited effect on atmospheric concentrations. Carbon dioxide levels at observing stations around the world in the first months of 2020 have been higher than in 2019 [34]. This simply implies that emergence of Covid-19 pandemic strike a balance in the emission of pollutants in the air thereby creating an improved atmosphere. This was possible as result of reduction in the economic activities as those who are involved in it are restricted from such operations. Inversely, environmental improvements resulting from the COVID-19 response may be reversed by a rapid expansion of polluting economic activities once

the measures taken ameliorate or ended, unless there is a clear focus to promote equity, environmental health, around a just transition to a green economy.

Although the COVID-19 pandemic and climate change do not immediately appear similar, upon closer inspection, a number of significant shared factors are revealed. Both crises are attributed to substantial unnecessary loss of lives [30].

COVID-19 is known to impact particularly the elderly and those with underlying health conditions, causing severe respiratory disease, and climate change affects air quality, drinking water, food supply and shelter - all factors that are associated with health. Climate change is expected to cause around 250,000 additional deaths annually between 2030 and 2050. COVID-19 has already claimed the lives of over 2.3 million people worldwide since its outbreak [34]. Climate change may have played a direct causal role in the emergence of the virus responsible for the COVID-19 pandemic, severe acute respiratory syndrome corona virus 2 (SARS-CoV-2) [35]. Climatic change directly fostered a favorable environment for many bat species to thrive, allowing for the emergence of novel corona viruses - including the SARS-CoV-2 strain [36].

The Covid-19 pandemic has indeed influenced behaviour, working conditions and business in many parts of the world, including increased digitalization and decreased physical interactions and mobility, and will have long lasting effects on the built environment and the way cities are organized. In addition to the disease itself, the recovery plans may have their own influence on the environment and on future population physical and mental health (Barouki 2021).

In the light of the above, It can be stated that categorically climate change and emergence of covid-19 has great negative impact on the psycho-social human adjustment, hence need for counselling.

#### **4. COUNSELLORS ROLE IN CLIMATE CHANGE ABATEMENT**

Climate change has continuously posed threat not only to individuals but to the society at large. Climate scientists and health care workers are particularly vulnerable to environmental anxiety and depression "because they are immersed in depressing information they get from the victims

of climate crisis and may face apathy, denial and even hostility from others". Therefore, they also need to adapt to climate change crisis and the distinct threat it poses on them [37]. Counsellors are therefore needed to ameliorate the social and environmental conditions contributing to climate distress through exercising their ethical duty [38,39]. The counselling profession can also promote counselling education professionals to accommodate issues of climate crisis. Counselling profession should use holistic and ecosystem perspective to examine the factors that influence behavior through the above initiative, using their platform to draw attention to the corrections between ecological failure, mental health, and increasing social inequality. This, they can do by addressing it as an intersectional issue of social justice [40], just as Human Rights Council has labelled it an issues of inequality and human rights [7].

Counselling Professionals can make due with counsellors-advocate scholar model (CAS Model) to enhance and sustain climate justice and ecological preservation; counselling professionals should also be mindful of their social status and insight on the best role to address the needs of the clients when applying the CAS model. They can embrace different roles in responding to the climate crisis because climate change has enormous effects on the well-being of the individuals and the society at large. Ratts and Peterson [41] maintain that counselling professionals can play diverse roles in addressing the climate crisis that impedes on the health and overall development of people and environment. The CAS model provides a natural framework for counselling professionals to engage with social issue such as discrimination and oppression (Ratts & Greenleaf, 2018) and which can also be applied to responding to the existential threat of climate change.

Contributing to the above, Gladdings, [42] states that counsellors primarily address mental health and wellness of a client through group and individual counselling process and social advocacy (Advocate Role). Counsellors possess the necessary skills, principles and attributes to assist and direct individual on issues responsible for climate change by educating the populace on the need to reduce human activities that increases climatic crisis.

Moreover, professional standards and competencies demand that counseling

professionals utilize their skills in leadership, collaboration, and advocacy to address systemic barriers, which impinge on the rights and welfare of clients (Lewis et al., 2002); [40]. Climate change is maintained by government inaction to enforce standards that would limit greenhouse gas emissions and curb exploitation of natural resources. The advocate role may enable professional counselors to utilize their insights into the mental health tolls climate change will have on individuals and communities to inspire political action and support the development of alternative energy sources, in addition to climate mitigation technologies (including reforestation) Alexandra, [43]. The advocate role may entail meeting with legislators to advocate for policy change or organizing with community members for local issues of environmental injustice, such as combatting the development of new fossil fuel infrastructure or raising awareness of the impact of climate change. They can also help in developing community-based projects to combat climate change, such as the development of "green" infrastructure including parks, gardens, and other green spaces that may promote mental health [44]. Counseling professionals can also take an intersectional advocacy approach to fight for legislation that calls for a "just transition," when the welfare and needs of disadvantaged communities are prioritized [45]. At the international level, this would mean richer countries paying their "climate debt" to developing nations who face the brunt of climate change, despite contributing the least to it [45]. Counseling professionals could also help advocate for formal recognition and protection of climate refugees under international law [46]. Additionally, a just transition would entail the creation of new jobs in the green energy economy being given to traditionally marginalized communities. The changes can be addressed by counsellors through the following ways:

1. Using advocacy to promote government, corporate, and other systemic changes regarding reductions in CO<sub>2</sub> emissions and taking actions to mitigate the effects of climate change.
2. Using group facilitation to facilitate change in attitudes regarding climate change and making necessary adaptations in regards to living a sustainable lifestyle. Counsellors can assist communities in broadening their knowledge and awareness to climate change literacy, with climate crisis through the use of experts and facilitators (Meteorologist).
3. Assisting individuals (especially young people) with climate related anxiety and grief through active "meaning-based coping" which entails taking actions to reduce climate emissions and advocate for social change [47].
4. Helping individuals and communities living in areas vulnerable to climate change in resiliency efforts and self-advocacy [43]. Counsellors are used to find out their community climate resilience group; counsellors who are unsure of where to start can make due with U.S. climate resilience toolkit, a comprehensive resource that explores community vulnerabilities and climate resilience efforts [48].
5. Helping individuals and communities process through trauma and grief in the aftermath of climate related extreme weather events, in culturally appropriate ways, people can be encouraged to work through their trauma and regain control [43,49].

Based on the importance of mental health awareness, it is pertinent for counsellor to assist clients to better understand the consequences of climate change as regards the negative repercussion, to mental health, and also the positive mental health effects of meaning-based coping in response to environmental stressors [50].

Ratts [40] notes that the aftermath of the extreme weather leads to high increase of PTSD, psychosomatic disorder depression and anxiety. Through the call for social justice and human rights, counselling professionals can synergize in response efforts through Red Cross and MDGs to provide short and long term counselling interventions. In lieu of the aforementioned reasons, counselling professional should engage in special training in disaster and trauma counselling [37]. Subsequently, counselling professional can work together with community leaders and indigenous healers to promote humanly receptive distaster counselling [51]. This practice may lead to integration of every member and different organizations in the community into counselling.

Furthermore, counselling professionals have a role to play in sensitizing the communities, organization and other civil groups through group counselling on the need for building healthy environmental formation and responsibilities.

Climate professionals can also help to foster understanding among community members on the need to welcome refugees and migrants affected by climate change. By inviting resource persons and facilitators who are grounded in meteorological perspective to educate the community on the relationship between climate change, migration and conflict. With the knowledge acquired through counselling practice, sustainable environment can be promoted and encouraged for the climate refugees.

## 5. COUNSELLING FOR PSYCHO-SOCIAL HUMAN ADJUSTMENT

Suffice to say that all living things have some impact on climate change either by contributing to it or mitigating it or both. Therefore, understanding climate change and applying the knowledge plays an important role in professional competence today. Thus, Guidance Counselling as a professional practice can make a difference by helping individuals, communities and organizations to understand the nitty-gritty of climate change and help to build a climate-friendly environment, which will enhance psychosocial human adjustment.

Adjustment is a continual process by which persons vary their behaviour to produce more harmonious relationship between themselves and the environment (Aggrawal, 1998). It implies changes in ones thinking and way of life to the demands of the situation. Operationally, adjustment is the result of psychological, emotional and social equilibrium. Climate change, which can give vent to psychological and social trauma, hence need for psychosocial adjustment.

Psychosocial therefore entails the nature of a study that examines the relationship between a person's fears and how to relate to others in a social and psychological development of the individual in relation to his/her social environment [52]. Psychosocial denotes the mental and the social factors in a person's life, for instance; relationship, education, age and employment that pertain to a person's life history [53].

On the other hand, psychosocial adjustment or adaptation refers to people's capacity to adapt to the environment, which implies that the individual has sufficient mechanisms to feel good, integrate, respond adequately to the demands of the environment, and achieves his or her

objectives [54]. Anderson, Keith & Novark [55] perceive psychosocial adjustment as the accommodation of a person to a life-altering extent or transition. In the context of this study, the psychosocial behavior that gave rise to the need for adjustment is boosted by climate crisis. It is rarely in doubt that many physical illnesses would see increasing trends with climate change. Heat, drought and flood related events are likely to be associated with increased rates of cardiovascular disorders, respiratory, gastrointestinal disorders, and renal problems [56,57].

Environmental determinants such as pollen, smoke, dust, and stagnant water consequent upon heat, drought-related fires, and floods are likely to adversely affect human health and lead to chronic physical disease. Occurrences of chronic physical disorders is likely to affect mental health directly or indirectly due to strain on coping, hence, leads to psychological and emotional problems. Researchers claims that nutritional deficiencies, physical illness as a result of climate crisis are likely to be associated with mental health problems like depression and cognitive decline [58,59]. Moreover, climate change can lead to psychosomatic disorder, also called psychophysiological disorder, condition in which psychological stress adversely affects physiological (somatic) functioning to the point of distress. Thus, the psychosomatic symptom emerges as a physiological concomitant of an emotional stress. Emotional stress is assured to aggravate existing illnesses like cancer, diabetes among others. Scholars note that many patients suffering from chromatic diseases respond to a combination of drug therapy, psychoanalysis, and behavior therapy [58]. In lieu of the above assertion and since climate change is likely to impact human mental health in many ways, it is imperative that some steps are taken to either reduce the global warming with time or develop measures to deal with the challenges posed through adaptation. Thus, this will be farfetched without the inclusion of Counselling services.

counsellors help individuals to become adjusted to the present situation and to plan the future in line with personal interests, abilities and social needs (Hamin and Erickson, 2000). Operationally, counselling is a remedial/learning and supportive approach rendered to a person or group of person for present and possible future adjustment in achievement of maximum goals and new orientation. Counselling emphasizes personal issues, social and emotional in order to

develop and promote students' character and avoid behavioral problems. However, Counselling Services is for all human adjustments. Researchers conclude that counselling services positively help to influence and adjust the life of children, women, the elderly and other vulnerable groups.

Furthermore, studies have suggested that, counsellors provide people with a sense of stewardship and personal investment (emotional and psychological) that can help them overcome feelings of anxiety, stress, and depression among others (Ark, 2011). Gatus, et al. (2013) indicates that counselling services have statistically significant impact on the level of social and emotional adjustments of people. Similarly, Okita [60] reveals that counselling services contribute positively to individuals' psychosocial adjustment. Psychosocial adjustment of individual is paramount to the overall growth and development of individual. Counsellors are needed to provide avenue and strategies to equip individuals in the best way to adjust their emotions. Sheldon and Amies (1999) hold that emotions are central to all aspects of life, including intellectual performance, social behavior and physical health. Waiten (2007) has observed that emotional adjustment among people is the most profound and important experience that culminates to change of behavior. Machania [61] have identified Counselling Professionals as key to influencing people's emotional reactions, which mostly determine the behavior. In the overall context, it is paramount to state that counselling education is vital for total human growth and development.

Scholars indicate that for addressing climate change concerns, Cognitive behavioural therapists can use their knowledge of people's thinking pattern to provide strategies for psychosocial human adjustment [49]. Meanwhile, psychodynamic or depth therapist can help client make deeper connections between themselves, their behavior, and the environment. Also, physical or somatic therapists can encourage people to relax, become more mindful, and reduce stress physiologically in the face of environmental stress. Therefore, Counselling professionals need to be involved and aware of climate change, as Counsellors must broaden and consider structural interventions that target group of people and focus on prevention and remedial factors as it concerns to psychosocial human adjustment.

Counsellors should assist people develop resilience from climate change by boosting and educating them on the causes, effect and need for psychosocial adjustment as regards climate crisis. This could be done by employing the services of experts and facilitators (ecologists) to build and educate the mindset of people towards adjusting and quick recovering from rapid and unprecedented climate change that is creating stress and mental anguish for people around the world.

## 6. CONCLUSION

This paper set out to explore climate change and counselling education: the incontrovertible role of counselling in psycho-social human adjustment. It has been vehemently established that climate change poses serious global threat even though the developing countries are most affected. The urgency of effective and appropriate abatement and mitigation strategies cannot be underestimated, the paper equally stresses on the relationship between climate change and Covid-19.

The study succinctly addressed an area long neglected by both governmental and non-governmental agencies in the effort toward towards mitigation of climate change. The issue of psycho-social human adjustment as projected in this paper is highly consequential in dealing with climate change crises and anxiety.

More importantly, the role of counselling education remains incontrovertible as counselling professionals are considered profoundly equipped to help individuals develop resilience over climate change crisis. Counselling services in the projection of this paper play significant role in enhancing behaviour adjustment and adaptation in Nigeria.

All in all, it should be considered an imperative that Nigeria government and relevant stakeholders should effectively integrate counsellors in the overall international and local frameworks for psycho-social human adjustment to the climate change crisis.

## 7. RECOMMENDATIONS

1. Counselling professionals should utilize critical thinking skills to shift the dominant discourse and create social change in addition to using their privilege in the scholar role; counselling professionals can

- also encourage social change by “using research to inform, practice and using practice to inform research, meaning developing new research and counselling interventions that serve the purpose of showing how counsellors can best address the climate crisis”.
2. Guidance Counsellors and Educational Administrators should provide adequate sensitization training programs to assist people in developing additional skills through innovative online technology so as to help them successfully overcome the psychological adjustment problems of Covid-19.
  3. Counsellors concerned with adjustment counselling and counselling for transitions through developmental stages must direct efforts to explore with elderly persons or on individual basis as regards causes, effect, and psychosocial adjustment of climate change, which if neglected might result in sheer frustration, anxiety and depression.
  4. Counsellors should endeavour to broaden their knowledge towards sensitive challenges, which can affect virtually every area of human existence, both life, growth and overall development of humanity.
  5. Government should pay adequate attention to the training need and welfare of Counsellors because of their sensitive practices.
  6. Government should promote and finance the ecologists, counsellors to deliver continuous workshop/seminar on the cause, effect of climate change and need for total adjustment and adaptation of individual.
- Schools: Unpublished Dissertation. Falls Church Virginia; 1992.
4. Odoh SI, Chhilala FC. Climate change and conflict in Nigeria: A theoretical and empirical examination of the worsening incidence of conflict between Fulani Heardmen and farmers in Northern Nigeria; 2012.
  5. Watts N, Adger W, Agnolucci P, Blackstock J, Byass P, Cai W, Costello A. Health and climate change: Policy responses to protect public health. Lancet. 2015;386:1861.
  6. Intergovernmental Panel on Climate Change Global Warming of 1.5°C; 2018. Available:<http://www.ipcc.ch/report/sr15/>
  7. Human Rights Council. Climate change and poverty; 2019. Available:[https://www.ohchr.org/Documents/Issues/Poverty/A\\_HRC\\_41\\_39.pdf](https://www.ohchr.org/Documents/Issues/Poverty/A_HRC_41_39.pdf)
  8. Manstrandrea M, Schneider SH. Integrated assessment of abrupt climate change. Climate Policy. 2009;9:1-17.
  9. Ezirim GE, Onuoha FC. Climate change and national security: Exploring the Theoretical and Empirical Connections in Nigeria, Journal of International Politics and Development. 2008;4(1&2).
  10. Levy BS, Patz JA. Climate change, human rights, and social justice. Annals of Global Health. 2015;81:310-322. DOI: 10.1016/j.aogh.2015.08.008
  11. Black R, Bennett SR, Thomas SM, Beddington JR. Climate change: Migration as adaptation. Nature. 2011;478:447–9. [PubMed] [Google Scholar]
  12. Bhugra D, Jones P. Migration and mental illness. Adv Psychiatr Treat. 2001;7:216–22. [Google Scholar]
  13. Kulp SA, Strauss BH. New elevation data triple estimates of global vulnerability to sea-level rise and coastal flooding. Nature Communication. 2019;10(1):1-2.
  14. World Health Organization Climate change and health fact sheet; 2017. Available:[https://www.who.int/health-topics/climate-change#tab=tab\\_1](https://www.who.int/health-topics/climate-change#tab=tab_1)
  15. Adejuwa G. Chronic Environmental Change: Emerging ‘Psychoterratic’ Syndromes. In: Climate Change and Human Well-being. New York: Springer. 2012;43–56.
  16. Glem A. Pan: Philosophy, Activism, Nature. 2005;3.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

## REFERENCES

1. Dryafol NJ. Stress Management: The Quickest Way to Relax and Ease Anxiety. Mumbai: Magna Publishing Co. Ltd; 2002.
2. Conger JJ, Peterson AC. Adolescence and Youth Psychological Development in changing World (3rd Ed) New York: Herper and Row Publishers; 1984.
3. Sindabi AM. An Analysis of Guidance and Counselling Programme in Selected Kenya Schools: Unpublished Dissertation. Falls Church Virginia; 1992.
4. Odoh SI, Chhilala FC. Climate change and conflict in Nigeria: A theoretical and empirical examination of the worsening incidence of conflict between Fulani Heardmen and farmers in Northern Nigeria; 2012.
5. Watts N, Adger W, Agnolucci P, Blackstock J, Byass P, Cai W, Costello A. Health and climate change: Policy responses to protect public health. Lancet. 2015;386:1861.
6. Intergovernmental Panel on Climate Change Global Warming of 1.5°C; 2018. Available:<http://www.ipcc.ch/report/sr15/>
7. Human Rights Council. Climate change and poverty; 2019. Available:[https://www.ohchr.org/Documents/Issues/Poverty/A\\_HRC\\_41\\_39.pdf](https://www.ohchr.org/Documents/Issues/Poverty/A_HRC_41_39.pdf)
8. Manstrandrea M, Schneider SH. Integrated assessment of abrupt climate change. Climate Policy. 2009;9:1-17.
9. Ezirim GE, Onuoha FC. Climate change and national security: Exploring the Theoretical and Empirical Connections in Nigeria, Journal of International Politics and Development. 2008;4(1&2).
10. Levy BS, Patz JA. Climate change, human rights, and social justice. Annals of Global Health. 2015;81:310-322. DOI: 10.1016/j.aogh.2015.08.008
11. Black R, Bennett SR, Thomas SM, Beddington JR. Climate change: Migration as adaptation. Nature. 2011;478:447–9. [PubMed] [Google Scholar]
12. Bhugra D, Jones P. Migration and mental illness. Adv Psychiatr Treat. 2001;7:216–22. [Google Scholar]
13. Kulp SA, Strauss BH. New elevation data triple estimates of global vulnerability to sea-level rise and coastal flooding. Nature Communication. 2019;10(1):1-2.
14. World Health Organization Climate change and health fact sheet; 2017. Available:[https://www.who.int/health-topics/climate-change#tab=tab\\_1](https://www.who.int/health-topics/climate-change#tab=tab_1)
15. Adejuwa G. Chronic Environmental Change: Emerging ‘Psychoterratic’ Syndromes. In: Climate Change and Human Well-being. New York: Springer. 2012;43–56.
16. Glem A. Pan: Philosophy, Activism, Nature. 2005;3.

17. Amy FH. Climate change impacts on global food security. *Science*. 2013;341:508-13.
18. Anderson CA. Heat and violence. *Curr Dir Psychol Sci*. 2001;10:33–8. [Google Scholar]
19. Haertzen C, Buxton K, Covi L, Richards H. Seasonal changes in rule infractions among prisoners: A preliminary test of the temperature-aggression hypothesis. *Psychol Rep*. 2000;72:195–200. [PubMed] [Google Scholar]
20. Cohn EG, Rotton J, Peterson AG, Tarr DB. Temperature, city size, and the southern subculture of violence: Support for Social Escape/Avoidance (SEA) theory. *J Appl Soc Psychol*. 2004;34:1652–74. [Google Scholar]
21. Maes M, De Meyer F, Thompson P, Peeters D, Cosyns P. Synchronized annual rhythms in violent suicide rate, ambient temperature and the light-dark span. *Acta Psychiatr Scand*. 1994;90:391–6. [PubMed] [Google Scholar]
22. Linkowski P, Martin F, De Maertelaer V. Effect of some climatic factors on violent and non-violent suicides in Belgium. *J Affect Disord*. 1992;25:161–6. [PubMed] [Google Scholar]
23. Lin HC, Chen CS, Xirasagar S, Lee HC. Seasonality and climatic associations with violent and nonviolent suicide: A population-based study. *Neuropsychobiology*. 2008;57:32–7. [PubMed] [Google Scholar]
24. Buzzel L, Chalquist C. *Ecotherapy*. Berkeley, CA: Counterpoint; 2009.
25. Cunsolo A, Ellis NR. Ecological grief as a mental health response to climate-related loss. *Nature Climate Change*. 2018;275–281.  
DOI: 10.1038/s41558-018-0092-2
26. Harlan SL, Pellow DN, Roberts JT, Bell SE, Holt WG, Nagel J. Climate justice and inequality. In R. E. Dunlap & R. J. Brulle (Eds.), *Climate change and society: Sociological Perspective*; 2015.  
DOI: 10.1093/acprof:oso/9780199356102.003.0005
27. Schreiber B. Climate change concerns in Addressing practice, journal of Human science. 2021;23(3).
28. Piotrowski NN. Nature Climate Change, journal of Social Science. 2013;8(4).
29. Lancet ET. Climate and COVID-19: converging crises. *The Lancet*. 2009;397(10269):71.  
Available:[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)32579-4/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)32579-4/fulltext)
30. Obradovich N, et al. *Proceedings of the National Academy of Sciences*. These reactions can take the form of anxiety, stress, depression, violence, aggression, and the loss of community identity; other researchers have found of Vocational Behaviour. 2020;115(43):117.  
Available:doi:10.1016/j.jvb.2019.103324
31. Trombley J, et al. *Human anxiety; American Journal of Nursing*. 2017;117(4):2017.
32. Deccan H. Coronavirus outbreak has increased racial attacks on people from the Northeast: Ngo report; 2020.  
Available:<https://www.deccanherald.com/national/east-and-northeast/coronavirus-outbreak-has-increased-racial-attacks-on-people-from-the-northeast-ngo-report-817899html>
33. Bird D. Planning your post covid-19 return: 8 kinds of attitudes about risk enterprisers projects; 2020.  
Available:<https://enterprisesproject.com/article/2020/6/covid-19-return-planning-8-risk-personalities>
34. Jauregui JP. What is the effect of COVID-19 on Climate Change?; 2021.  
Available:<https://www.covid123.454>
35. Beyer R, Manica A, Mora C. Shifts in global bat diversity suggest a possible role of climate change in the emergence of SARS-CoV-1 and SARS-CoV-2. *Science of the Total Environment*. 2021;767:145413.  
Available:<https://www.sciencedirect.com/science/article/pii/S0048969721004812?via%3Dihub>
36. Bresson D. Climate Change Could Have Played A Role In The Covid-19 Outbreak.. *Forbes*; 2021.  
Available:<https://www.forbes.com/sites/davidbressan/2021/02/08/climate-change-could-have-played-a-role-in-the-covid-19-outbreak/?sh=3c4240b611ef>
37. Fritze JG, Blashki GA, Burke S, Wiseman J. Hope, despair and transformation: Climate change and the promotion of mental health and wellbeing. *International Journal of Mental Health Systems*. 2008;2.

38. DOI: 10.1186/1752-4458-2-13  
Conforth SC. Life's span, global warming and ethics: Do counsellors have a part to play in averting a potential catastrophe? International Journal for the Advancement of Counselling. 2008;30:145-154.  
DOI: 10.1007/s10447-008-9052-2
39. Lee CC, Eun Na G. The global context of counseling in the 21st century. Journal of Asia Pacific Counseling. 2013;3:1-7.
40. Ratts MJ, Singh AA, Nassar-McMillan S, Butler SK, McCullough JR. Multicultural and social justice counseling competencies: Guidelines for the counseling profession. Journal of Multicultural Counseling & Development. 2016;44:28-48.  
DOI: 10.1002/jmcd.12035
41. Ratts MJ, Peterson PB. Counselling for multiculturalism and social justice: integration, theory, and application (4<sup>th</sup> ed.). American Counselling Association; 2014.
42. Gladding ST. Counseling: A comprehensive profession. Upper Saddle River, NJ: Pearson; 2009.
43. Alexandra J Hilert. Climate change and the international context of counselling. Journal of Asian Pacific counselling: The Korea counselling association of Nigeria. 2020;10(1):27-36.
44. Van den Berg A. From green space to green prescriptions: Challenges and opportunities for research and practice. Frontiers in Psychology. 2017; 27.  
DOI: 10.3389/fpsyg.2017.00268
45. Robinson M, Shine T. Achieving a climate justice pathway to 1.5C. Nature Climate Change. 2018;8:564-569.  
DOI: 10.1038/s41558-018-0189-7
46. Gatua DM, Sindabi AM, Chepchieng MC. Impact of guidance and counselling services on students' behaviour modification between selected public urban and rural secondary schools in rift valley province, Kenya. Res Hum Soc Sci. 2015;5(19):28-40.
47. Burke SE, Sanson AV, Hoorn JV. The psychological effects of climate change on children. Current Psychiatry Reports. 2018;20:1-8.  
DOI: 10.1007/s11920-018-0896-9
48. Laure G. The climate changes before your eyes. Retrieved from <https://museumspecialsection.com>; 2020.
49. Melody S. Addressing Climate change concerns in practice. International Journal of Science and Education. 2021;52(2):30-34.
50. Burke M, González F, Baylis P, Heft-Neal S, Baysan C, Basu S, Hsiang S. Higher temperatures increase suicide rates in the United States and Mexico. Nature Climate Change. 2018;8:723-729.
51. West-Olatunji C, West-Olatunji C, Goodman R. Entering communities: Social justice oriented disaster response counseling. Journal of Humanistic Counseling. 2011;50:172-182.
52. Oxford English Dictionary, Oxford Dictionaries. Amazon.com. The definition record of the English Language (OED) University press; 2012.
53. Purgh J. Environmental planning in the Caribbean progress in Human Journal Geography. 2004;26:219-30.
54. Madariage JM, Arribillaga A, Zulaika LM. Components and relationships of a structural model of psychosocial adjustment in adolescence.int.j.Dev.Educ.Psycho1.6. 2014;303-310.
55. Anderson DM, Keith J, Nova K. Mosby's medical dictionary (6<sup>th</sup> ed.). St. Louis, mo: mosby, a Harcourt Health Science company; 2002.
56. Bosello F, Roson R, Tol RS. Economy-wide estimates of the implications of climate change: Human health. Ecol Econ. 2006;58:579-91. [Google Scholar]
57. D'Amato G, Cecchi L. Effects of climate change on environmental factors in respiratory allergic diseases. Clin Exp Allergy. 2008;38:1264-74. [PubMed] [Google Scholar].
58. Penninx BW, Guralnik JM, Ferrucci L, Fried LP, Allen RH, Stabler SP. Vitamin B (12) (2000) deficiency and depression in physically disabled older women: Epidemiologic evidence from the Women's Health and Aging Study. Am J Psychiatry. 2000;157:715-21. [PubMed] [Google Scholar]
59. Gauthier S, Reisberg B, Zaudig M, Petersen RC, Ritchie K, Broich K, et al. Mild cognitive impairment. Lancet. 2006;367:1262-70. [PubMed] [Google Scholar]
60. Okita DO. Influence of guidance and counselling on academic performance of students in selected public secondary

- schools in molo sub county, nakuru county, kenya. Int J Sci Res (Ahmedabad). 2014;3(12):2131-6. [IJSR].
61. Macharia M. Access to Success in School and Beyond. Nairobi: Sage Educational Media; 2007.

© 2021 Francisca et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

*Peer-review history:*

*The peer review history for this paper can be accessed here:*

<https://www.sdiarticle5.com/review-history/74519>