IMPACT OF ENVIRONMENTAL FACTORS ON MENTAL HEALTH AND WELL-BEING: A REVIEW

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Abstract
Peoples' mental health and quality of life are usually dependent on the environment one lives. On the other hand, environment can negatively or positively impact ones' mental health and well being. This paper, examined the environmental factors that constrain the mental health and well-being of individuals. The paper focused on the impact of physical and social environment that poses threat to the mental health of an individual. The mentioned environmental factors were extensively reviewed and discussed in relation to its negative effect on mental health and well-being. The paper further discussed environment factors that improve mental health and well-being like having access to green spaces like parks, forests, or gardens. Moreover, interacting with natural environments has been shown to reduce stress, improve mood, increase feelings of calmness and relaxation, and enhance overall well-being. It also improves cognitive function, attention, and creativity while reducing symptoms of anxiety and depression. The paper underscores the need to embrace environmental protective factors as mentioned for positive mental health and wellness.

Introduction
A person's environment plays a significant role in mental health and overall quality of life. Mental health is a state of well-being that enables people to cope with the stresses of life, learn well, realize their potentials, and be a contributing member of the community and society at large (WHO, 2022). It is further conceptualized as an integral component of health and well-being that underpins individual and collective abilities to make decisions and build relationships (WHO 2022). Research has revealed that every human mental health emerges from a complex interplay between genetic, psychological, lifestyle, and environment (Reuben, et al. 2022).

Research has shown that exposure to nature and natural environment has positive and negative impacts on mental health. For instance natural surroundings like parks, forests and bodies of water has positive impact on mental health such as stress reduction, mood improvement, cognitive function enhancement, and increasing overall well-being of an individual (Helbich, 2018; Reuben, et al. 2022). Further, neighbourhood green space, social cohesion and safety have been associated with lower anxiety, depression, boredom and stress (Generaal et al., 2019). Moreover, when an individual spends more time in an enabling environment and natural habitats/green spaces like parks, forests, or gardens, he feels comfortable, conducive, secure, and mentally stable thereby improving mental health outcomes (van de Weijer et al., 2022). The current low level of literacy and socio-economic

situation that affects all spheres of lives of Nigerians have made most environmental health education programmes targeted at people yield little or no result. Lack of willingness on the part of people to seek environmental health information and wrong information sources has increase environmental health problems and its attendant consequences which include but not limited to mental health issues (Adigun, Iyanda and Iyanda, 2023).

Nevertheless, the negative impact of environment like noise pollution, air pollution, overcrowding, and lack of privacy can contribute to increased stress, irritability, psychological distress and other mental health problems. Studies have revealed numerous environmental factors that trigger mental health issues leading to anxiety and depressive symptoms among individuals in a population (Dzhambov, et al., 2018). For instance, in several epidemiological studies, quality of housing in an environment has been associated with depressive symptoms among youth (Shah et al., 2018). Noise annoyance and traffic noise have also been linked to anxiety and depressive symptoms (Beutel et al., 2020). Air pollution was as well linked to the increased risk of mental disorders among individuals (Bakolis et al., 2021). Moreover, crime levels, insecurity, kidnapping, and fear of crime in the immediate living environment have been associated to mental health issues leading to anxiety, depression and risk of suicide among of people (Lorenc et al., 2012).

The mentioned environmental factors exist where we live, work and spend our time daily and socially. Thus, our mental health is intrinsically connected to the environment we live. For instance, the places where we spend a lot of time like home, workplace or school, and even socially can have a significant impact on our mental well-being (Lindberg, 2023). Identifying the environmental factors that can affect individual well-being can shed light on whether the locations we frequent are contributing to or detracting from our mental wellness. It can also help an individual recognize if changes are needed to start feeling better mentally and emotionally.

In some cases, environmental factors impact mental wellness by changing brain structure and function. A cross-sectional survey research on children revealed that children raised in adverse environments tend to have hindered brain development, increasing their risk of memory issues, learning difficulties, and behavioral problems (Bick and Nelson, 2016). Environmental factors can affect mental health of an individual especially the psychological health (Helbich 2018). Research has documented that mental health disorders are leading contributors to disabilities and morbidity and have considerable negative social, professional, personal, and economic consequences (Reuben et al. 2022). It is also revealed by Schaefer et al. (2017) that the lifetime prevalence of mental disorder diagnoses is approximately 70%. World Health Organization has further reported that more than 10% of adolescents, children and youth have been affected by mental health problems worldwide (WHO 2022). It is also reported that several factors in the environment can impact the mental health, either directly or indirectly (Burke, 2020).

This is evidence as environment can raise or lower the stress levels of individuals, for instance it can change the overall mental wellness, either serving to protect the psychological health or opening the door for mental illness (Helbich 2018). However, little research has assessed the interplay of environmental factors with the mental health outcome. Therefore, there is need for more research to understanding how environmental

factors impact mental health and wellbeing of people. The current review focused on the impact of physical and social environment that poses threat to the mental health of an individual. The physical environment includes climate change,air quality,noise pollution, water pollution, housing and living conditions, exposure to toxins, sleep disturbances and access to green spaces. The social environment includes family environment, social isolation, economic instability, workplace stress, social stigma and discrimination and exposure to violence and crime. The mentioned environmental factors and its impact on mental health and well-being of people are further discussed in the succeeding subheadings.

Physical environment and mental health
Climate change: Climate change refers to relatively stable changes in the meteorological parameters like precipitation and temperature over a period of time in a given region. Climate change has significant and multifaceted impacts on mental health, ranging from direct effects of rising temperatures, extreme weather events, and natural disasters associated with climate change which can negatively impact mental health, causing stress, anxiety, and PTSD. The psychological toll of climate change is increasingly recognized as a critical public health issue, with a growing body of research highlighting the mental health risks associated with both acute climate-related disasters and the longer-term impacts of environmental degradation (Padhy et al., 2015). Moreover, climate change related stress and anxiety such as eco-anxiety or climate anxiety can arise from concerns about the future, ecosystem loss, and the perceived lack of action to address environmental challenges. Additionally, climate change-related events, such as extreme weather events and environmental displacement, can lead to adverse mental health outcomes in affected individuals and communities (Institute of Health Metrics and Evaluation 2022). The general temperatures where one live, the amount of sunlight one get, and exposure to natural disasters can impact mental health of an individual. Further, the rising temperatures has been associated with higher rates of aggression, depression, adjustment disorder, post-traumatic stress disorder and violent suicides among adolescence and adult population (Padhy et al., 2015).

Air Quality: Air pollution, including particulate matter and nitrogen dioxide is increasingly recognized as a significant contributor to mental health problems, with studies linking it to increased risks of depression, anxiety, and other psychiatric disorders. Exposure to air pollutants, particularly particulate matter (PM2.5 and PM10), has been associated with higher rates of depression, anxiety, and stress. Children and young people, with their developing brains, are particularly vulnerable to the impacts of air pollution on mental health (Bhui et al.2023)

Noise Pollution: Noise pollution has a significant impact on mental health. It increases the risk of anxiety, depression, cognitive impairments, and sleep disturbances. Chronic exposure to loud noises can trigger the body's stress response, leading to elevated cortisol levels and contributing to mental health issues. Moreover, noise pollution can disrupt social

interactions, can lead to stress, sleep disturbances, and other mental health problems. Exposure to excessive noise can also impact cognitive function, all of which are crucial for maintaining good mental health (Hahad et al. 2025).

Water Pollution: Exposure to contaminated water, especially during critical developmental periods, can disrupt brain development and function, potentially leading to long-term mental health issues. This is evidence in a study conducted byZhou, et al., (2024) among 24,285 individuals between 2016 and 2021 at Yinzhou district of India. The study found that exposure to aluminum in drinking water was more commonly reported in individuals diagnosed with depression, whereas exposure to manganese, iron, and aluminum in drinking water was higher in individuals with anxiety. Individuals with anxiety were also exposed to lower levels of zinc as compared to healthy participants. Therefore, contaminated water sources can increase stress levels and contribute to anxiety and depression.

Housing and Living Conditions: Housing conditions have a significant impact on mental health. Poor housing, including issues like dampness, overcrowding, or instability, can lead to stress, anxiety, and depression. Conversely, stable, safe, and affordable housing provides a foundation for good mental well-being, offering a sense of security and control (Lindberg, 2023).Living conditions which is also regarded as home environment is a combination of both physical dwelling and the people around the environment. This can have a significant impact on mental health due to some factors like:

i.   *Crime*: If you live in an area with a lot of crime, you may feel the impacts mentally. Crime levels tend to affect females more strongly, increasing their risk of depression and anxiety (Dustmann, 2014).

ii. *Presence of toxins inside the home*: The presence of toxins inside the home refers to the existence of harmful substances or conditions that can negatively impact the health and well-being of occupants. These toxins can originate from various sources, including indoor air pollution, contaminated water, and the presence of toxic chemicals in building materials or household products.

iii. *Poverty*: The social stress, stigma, and trauma of living in poverty can negatively impact the mental health of both children and adults which, in turn, can lead to employment issues and fragmented relationships (Knifton, 2020). This creates a cycle that, for some, can be difficult to escape.

iv. *Natural disasters and trauma:* Environmental events, such as natural disasters (e.g., hurricanes, earthquakes, floods) or human-made disasters (e.g., industrial accidents), can cause trauma, loss, and disruption in communities. These events can have significant psychological impacts, including post-traumatic stress disorder (PTSD), depression, anxiety, and other mental health disorders (WHO, 2022).

Social environment and mental health

The social environment refers to the sum total of the social conditions that influence people's lives and interactions. It encompasses the immediate physical surroundings, social relationships, and cultural contexts within which individuals live and interact. This includes everything from the built environment and social structures to cultural practices and personal relationships. Social environment can influence either positively or negatively in a individual's mental well-being. A recent study showed how the idea of living in the midst of the climate crisis was affecting Greenlanders' anxiety and depression (Milovanska-Farrington and Farrington, 2022). The study further revealed that the effects of climate change, economic uncertainty, job insecurity, extreme and volatile weather patterns, and population displacement impact mental health of the victims (Milovanska-Farrington and Farrington 2022).

Social environments are complex and critical especially to the older adults' health. Older adults are vulnerable to lack of social connectedness, social engagement and social contribution (Atami et al., 2020). The social environment plays a big role in mental health of all age demographics (Scott et al., 2007). Research indicates that lack of relationships can lead to loneliness causes depression and anxiety while tumultuous and disturbing relationships can lead to chronic stress and lower mood and higher anxiety (United Nations, 2019). It is also reported that relationships with people who abuse substances increase the likelihood of substance abuse, and growing up in a home with exposure to domestic violence, emotional or physical abuse which will trigger mental health problems (United Nations, 2019).

A healthy school climate can foster a sense of belonging, reduce anxiety and depression, and improve academic performance. Conversely, an unhealthy school climate can negatively impact students' mental health, leading to increased stress, anxiety, and other mental health problems. This is because children, adolescents, and college students often spend a lot of their days learning in class, studying, or completing homework assignments. The social environment in which they do these activities can impact their mental health (Schulte-Körne, 2016). Research conducted by Schulte-Körne (2016), on health problems in a school setting among children and adolescents in India, revealed several environmental factors that can positively affect a student's mental well-being, that include: Having a sense of belonging,feeling connected to the school (e.g., "I am happy to be a part of this school!") ,feeling safe at school, both emotionally and physically and presence of a school-based support system, including teachers, school social workers, and school psychologists.

Factors that can have a negative effect on a student's mental health according to Schulte-Körne (2016) included: being bullied, lack of access to instruction manuals,teachers not understanding how to deal with students who have mental health issues due to poor instruction or training and unclear or unfocused academic objectives.

Protective factors of mental health
World Health Organization (WHO) clearly indicated the Action Plan to promote community-based mental health and social support services. This Plan emphasized the promotion of human rights, such as employment, housing, educational opportunities, and participation in

community activities, for individuals with mental disorders and psycho-social disabilities, ultimately supporting them to achieve their aspirations and goals. One of the actions to be put in place to achieve this ambitious goal isto shift the place where care is provided from mental hospitals towards non-specialized health settings, using "a network of linked community-based mental health services"(WHO, 2013).

Recently, there has been a surge of interest in the potential for natural environments and nature-based interventions in contributing to the prevention and mitigation of mental disorders or states. City life is well known for its negative influence on mental health, challenging the capacity of vulnerable individuals to cope with complex psychosocial stressors, such as the disintegration of family networks and discrimination. Psychiatric disorders are indeed highly frequent in urban areas, and this evidence is of particular relevance considering that more than half of the world's population currently lives in an urban environment. By contrast, access to the natural environment and outdoor spaces has begun to be considered vitally important for mental health and is increasingly recognized as a protective factor that may promote resilience and adaptation to stress and negative events. Exposure to natural landscapes has indeed been found to have beneficial effects on stress, anxiety, and depression and to promote physical activity, with cascading effects on immune functioning and general physical health. Natural environments – including urban green spaces – also provide an opportunity for social engagement, contrasting isolation and loneliness and promoting social integration, all factors playing a beneficial role in the maintenance of physical and mental health (WHO 2020).

Promoting mental health through social and employment opportunities

The term Social agriculture is based on the concepts of multifunctional agriculture and community-based social and health care. It describes any use of agricultural activities (such as horticulture, food processing, selling of products, animal care, and management of the farm-restaurant)to address specific social needs. Social agriculture initiatives provide rehabilitation, sheltered employment, and life-long education to vulnerable/disadvantaged target groups (e.g., people with physical or mental disabilities, long-term unemployed, homeless people, former inmates, youth at risk of alcohol and drug dependency, refugees and asylum seekers), to increase their social and/or professional skills, thus promoting employability and social inclusion (Marta et al., 2019).

We strongly believe that, by providing de-institutionalized care, Social agriculture initiatives may represent an innovative way to respond to the cultural shift from institutional psychiatry to community-based mental health care, in line with the recommendations of the WHO's Mental Health Action Plan (WHO, 2013). At the same time, being mostly carried out in outdoor spaces and natural environments, Social agriculture activities can be viewed as an "open-air" laboratory to further explore evidence of an association between contact with nature and mental health. Several components of social agriculture may help to explain its potential to improve the mental (and physical) health of vulnerable members of the society benefiting from these initiatives (Marta, et al., 2019).

These include the promotion of physical activity, exposure to the natural world, the opportunity to undertake tasks as part of daily and seasonal cycles, to be engaged in

meaningful activities for the development of new personal and/ or work skills, as well as positive social relationships and interaction with animals. Moreover, the small scale of many social farms allows participants to work alongside the farmer and other members of the farm, thus representing a model of "socially embedded care" in which people are integrated into communities and avoid the stigma of care services (Marta, et al., 2019).

Moreover, the promotion and strengthening of bottom-up approaches able to create social and economic networks of local communities have both been pointed out as essential elements capable to contrast vulnerability and fighting poverty in rural areas. Rural exodus and youth drain, geographical isolation, low educational attainments, scarcity of public resources, and workforce shortages, all represent considerable challenges to deliver appropriate health and social services for rural residents and to foster entrepreneurship in traditional rural domains. Social agriculture may help in diversifying the rural economy with new job creation and income generation opportunities, ultimately increasing economic sustainability. EU policies in the context of the rural development programmes (RDP) have indeed recognized the importance of multifunctional agriculture, also offering different options for funding these initiatives (Marta, et al., 2019).

Social agriculture is based on the creation of **hybrid governance models** in which public bodies, local communities, and economic actors work together to co-produce social services. An increasing body of evidence is showing the potential for Social agriculture to provide innovative solutions to buffer the financial (and organizational) challenges faced by the national health systems, at the same time helping to foster the farming sector and strengthening the economic and social viability of rural areas (Marta, et al., 2019).

Establishing a support network

Nature and green spaces: Spending time in nature or having access to green spaces, such as parks, forests, or gardens, has been consistently associated with positive mental health outcomes. Interacting with nature has been shown to reduce stress, improve mood, increase feelings of calmness and relaxation, and enhance overall well-being. Exposure to natural environments can also improve cognitive function, attention, and creativity while reducing symptoms of anxiety and depression (WHO, 2022).

Counselling therapy: Seeking counselling is beneficial for both individual with mental illness and other family members. A mental health professional suggest ways to cope and better understand the loved one's illness. Thus, an array of outpatient and intensive in-home programs for children, teens, and adults to treat depression, anxiety as well as other behavioral health issues is another protective factor for prevention of mental health problems (WHO, 2022).

Conclusion

This paper highlighted and discussed several environmental factors and its impact on mental health and well-being. The paper highlighted and revealed various ways by which environmental factors were linked to mental health leading to, anxiety, depression, stressful conditions, suicide, and depressive symptoms. The paper focused on the impact of physical environment and social environment and its threat to the mental health of an individual, community and society at large. The paper further revealed protective factors to mental health like spending time in nature or having access to green spaces, such as parks, forests, or gardens. Moreover, interacting with nature has been shown to reduce stress, improve mood, increase feelings of calmness and relaxation, and enhance overall well-being. It also improves cognitive function, attention, and creativity while reducing symptoms of anxiety and depression.

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