

## Mental Health

According to the burden of disease assessments conducted by the World Health Organization (WHO), **mental** illness, also known as neuropsychiatric conditions, account for the largest human burden of noncommunicable diseases at the global level, representing approximately 14 percent of disease burden in all categories. **Mental** health is a complex concept to define precisely. It generally refers to a person's state of emotional **well-being** and an absence/presence of neuroses or other psychiatric conditions. A holistic view includes a wider range of factors: multiple interacting biological, environmental, social, and psychological variables. For example, WHO defines good **mental** health as a state of **well-being** that signifies the ability to recognize individual abilities, cope with life's normal stresses, work productively, and contribute positively to society.

In addition to established definitions, an emerging body of research shows that an environmentally aware lifestyle, and a healthy interaction with nature, nurtures **mental well-being**. See, for example, the Biophilia Hypothesis that was proposed and developed by Edward O. Wilson, Stephen R. Kellert, and Oladele A. Ogunseitan's study on the association of topophilia with quality of life. Indeed, nature-based therapies and opportunities to participate in green projects are being recognized as possible complementary approaches to the prevention and management of health problems. The need for effective approaches to understanding and promoting good **mental** health has never been greater. The number of people worldwide affected by a **mental** health problem is increasing, and a large number of people are likely to experience an illness at some point in their lifetime. This entry explores the role that green living can play in **mental well-being**, beginning with a brief overview of the relationships between **mental** health and encounters with nature; ecofriendly lifestyles; the use of green care as a complementary therapy; and healthcare systems. This article also considers the future of green health in terms of health policy and increasing acceptance by health professionals.

### Natural Landscapes and Well-Being

Natural landscapes promote a sense of emotional **well-being**. Contact with the environment, sometimes even minimally, has been associated with positive changes in physical and **mental** health. Studies have linked broad active and passive exposure to nature to a number of **mental** health variables, including reduced levels of stress, improved mood, increased social behavior, decreased levels of depression, and improvement in cognitive functioning. Encounters with the natural world may also be important for children's physical, emotional, and intellectual development.

Classic examples of this relationship include greater postoperative recovery in hospital rooms with views of a natural setting; less sickness among prisoners in cells that overlook farmland and trees; greater life satisfaction among workers who have window views of nature; reducing stress by spending time in the wilderness; and relationships between health complaints and exposure to green space in urban areas. Caring for pets has also been shown to have beneficial effects.

Several biologists and psychologists have suggested that the human affiliation with nature may be a product of evolution, refined via experience and culture. This implies an instinctive emotional bond between humans and habitats, activities, and objects in the natural surroundings; and could explain human response and social and cultural connection to the natural world.

The innate relationship between the planet's ecological health and human health has important implications. Current styles of modern living, especially urban living, are often disconnected from nature. Today's widespread environmental destruction might stem from such disconnection, in which people do not acknowledge relationships between their lifestyles and ecological destruction, a situation in dire need of change. Emotional and spiritual values—the foundations of a functioning, happy society—are intricately linked to nature, and could be jeopardized by the current ecological crisis. This calls for urgent action to protect natural resources, promote pro-environmental behavior, and conduct research into how people develop a more positive relationship with the environment.

## **Green Lifestyles and Mental Well-Being**

Healthy lifestyles based on green living are important for **mental well-being**. Certain foods and nutrients are known to impact on short- and long-term **mental** health. A lack of certain vitamins and minerals is linked to problems such as Alzheimer's disease, attention deficit hyperactivity disorder (ADHD), depression, and schizophrenia. It has been suggested that dietary interventions can help people to manage their moods and feelings, although further research is needed on this topic.

The relationship between food and **mental** health hinges on farming methods and food processing. Since World War II, a drive to increase agricultural production has led to increased use of chemical fertilizers and pesticides. This has been linked to the development of cognition in babies and to **mental** health disorders in older people. For example, reviews of the literature suggest a possible association between exposure to pesticides and Parkinson's disease and other disorders. Modern-day farming methods such as intensive farming have other consequences, particularly, decreased nutritional profile of meat, environmental pollution, and low animal welfare standards. This is in contrast to sustainable agriculture and organic farming, which focus on maintaining long-term ecological health.

Nowadays, attitudes toward food are based more on convenience than on green health. In developed, and increasingly in developing, countries, intake of nutritious food like fresh fruit and vegetables has declined, whereas intake of fast and processed food has increased. Processed foods are high in calories, fat, salt, chemical additives, and are more devoid of nutritional elements. Some researchers have suggested that these changes in nutrition may be a contributing factor to the increasing prevalence of specific **mental** health problems in society, particularly among children and adolescents.

Ecofriendly lifestyles as well as ethical living in a broader sense are gaining popularity. More people are taking positive action to improve both their health and the health of the environment when making daily decisions. These include responsible shopping and green consumerism; organic food and goods; energy efficiency and recycling; ecological footprints; green home improvements and holidays; as well other social and environmental considerations. There are many guidebooks on the market to help people consider their daily behavior in relation to the environment, health, and ethics.

## **Green Care Therapy**

In the 21st century, the prevailing treatment for a **mental** health issue is an integrative approach that often involves medication and psychotherapeutic interventions, such as counseling and cognitive behavioral therapy, sometimes alongside complementary methods. An increasing number of healthcare organizations and professionals have suggested that nature-based methods and opportunities to participate in green projects—known as green care therapy—could be used as a complementary way for psychological healing. Preliminary research indicates that green care therapy might promote **mental well-being** by broadening people's relationships with the natural world, offering a spectrum of cheap, safe, and immediately available alternatives.

An example of green care therapy is green care farming, also known as social and therapeutic horticulture. Care farms provide opportunities for people to access agricultural landscapes, participate in farm work, and interact

with animals. They are provided as a service to people with **mental** health difficulties, disabilities (intellectual or physical), drug/alcohol rehabilitation services, and prisoner and rehabilitation services. In addition to health benefits, social farming benefits farmers by providing rural business and development to maintain the economic viability of their farms. Care farms are new concepts in some countries, although in some European countries (e.g., the Netherlands and Norway), they are more developed and are integrated into the healthcare system.

Animal-assisted therapy (ATT) involves the use of an animal in therapy, either as a treatment by itself or as part of a patient's therapy program, and in institutional settings such as schools, hospitals, residential homes, and prisons. Many kinds of animals are used in ATT, including birds, cats, dogs, fish, guinea pigs, pigs, horses, and, perhaps best known of all, dolphins. AAT is used in treatments for anxiety disorders, clinical depression, eating disorders, ADHD, autism, schizophrenia, and others. Studies have associated ATT programs with changes in physical, social, emotional, and cognitive functioning and with improved outcomes in behavioral problems and emotional **well-being**.

There are, of course, many other ways to experience nature. For example, Mind, a UK-based charity, recently launched an ecotherapy campaign to offer opportunities to access green space and participate in green projects. Examples include fishing, horseback riding, canal boating, walking, gardening, and local nature conservation work. Preliminary research indicates that exercising in green environments, such as taking regular walks in the countryside or parks, might improve psychological **well-being** to a greater extent than exercise alone, or than exercise while viewing images of rural or urban environments.

Mind also argues for a new green agenda to increase awareness of and to promote green **mental** health. Their recommendations include increased recognition of green therapy as a possible treatment for **mental** distress; incorporation of referrals to green care projects into health and social care referral systems; funding for complementary therapies; recognition by architects and town planners of the necessity of access to green space; tackling inequality of access to green space; and promoting the benefits of green exercise via public health campaigns.

## **Mental Healthcare Systems**

Like many other business sectors, the healthcare industry has begun to pay more attention to its impact on the environment. Healthcare institutions are in a good position to join the green movement because they have purchasing power to switch to greener practices and a large number of employees who can participate in corporate and individual social responsibility. Furthermore, the important symbolic significance of hospitals, as powerful symbols of community health, puts healthcare professionals at the forefront of the green movement as suitable advocates to take a lead role in the adoption of green health initiatives.

Healthcare systems adopt six main green approaches: the reduction or elimination of medical waste incineration (which produces dioxin pollutants) by using alternatives; use of safer chemicals, for example, not using mercury products; adoption of green working practices such as resource conservation and pollution; green purchasing; sustainable design and construction of the healthcare industry; and effective environmental management. As mentioned earlier, naturalistic environments in hospitals, including nature images and sounds, have been found to be supportive of patient recovery, and studies of subjective responses to healthcare environments indicate high levels of approval for such designs.

Numerous entities have been established to promote green healthcare. For example, Health Care Without Harm is a global coalition of several hundred organizations around the globe, including **mental** health providers, working to reduce pollution. The coalition aims to transform the worldwide healthcare sector so that it is ecologically sustainable. Their strategies include the creation of markets for safer and alternative healthcare products; use of safer waste treatment practices; design of healthcare facilities to minimize environmental impact; and provision of healthy food and sustainable food production/distribution. These activities will help the

healthcare industry to reduce its ecological footprint and to build holistically centered **mental** healthcare systems.

## Limitations

A myriad of challenges hinder the development of green **mental** health, both theoretically and practically. The important role that nature plays in **mental** health has yet to be fully understood and embraced. One problem is the lack of rigor of current research. Some claims in the literature, particularly earlier research, are anecdotal or based on preliminary research. Studies are remarkably sparse and raise many questions, suggesting caution in accepting some arguments. Although research to date indicates that green activities might improve **mental** health and **well-being**, research is limited and preliminary. More studies are needed to investigate and evaluate whether environmentally based **mental** health treatments can benefit people with **mental** distress. In particular, there is a need for more research, such as projects comparing green therapy to traditional and complementary therapies and well-articulated theoretical formulations.

Despite the huge potential of green **mental** health therapy, it is currently not widely regarded by healthcare professionals as a serious treatment option. Some people regard it as a money making gimmick. It is rarely acknowledged by mainstream medicine or psychology. How many doctors, for example, would consider a local conservation project or care farming as a complementary treatment option for people with a **mental** health difficulty? The profession is either unaware of the evidence or skeptical of its quality.

It should also be noted that **mental** health, and its connection to green living, is complex. The factors discussed above are only some of a large number of factors affecting **mental** health. Social, cultural, physical, and educational factors are all important. Meanings of health and **well-being** differ across cultures, disciplines, and theoretical positions, and not everyone agrees that green living is important for **well-being**. What is provided in this article is general information that is presented as an introduction to the topic and may not apply to individual cases.

Nonetheless, **mental** health academics and professionals are exhibiting a growing interest in green **mental** health. Also, new cognate fields are emerging, such as eco-psychology, which adds an ecological dimension to assumptions of Western psychology to help initiate healthy environmental behavior; environmental psychology, which examines the interplay between people, their environment, and behavioral systems; conservation psychology, which focuses on how to encourage conservation of the natural world; and arts for health, a broad movement that utilizes environmental art and design in a number of ways in **mental** health settings. These growing fields will help to tackle modern society's estrangement from its natural origins.

## The Future

The concept of green **mental** health has far-reaching implications. That green living is a necessary condition for the functioning of individuals and communities shows clearly that people are inseparable from the rest of nature. The examples discussed in this article signify the beginning of a new movement in daily living, academia, and in the health and **mental** health industries.

The next step is official recognition of the links between green living and **mental** health, as part of national frameworks and health policies. Access to good quality green space can be an effective strategy to promote health, **well-being**, and quality of life. Policies that promote green health can complement and share the goals and traditions of other types of health promotion. They can include, for example, promotion methods centered on public information and education; creation of environments to promote healthy lifestyles and **mental well-being**; and access to green space by making opportunities available, affordable, and attractive.

Taken together, **mental** health and **well-being** is a complex combination of variables and factors, including the

involvement of green living. The consistent message in the literature is that while the status of green **mental** health is relatively new, at a preliminary stage, and more research is needed, its potential impact is significant. Tentative findings suggest that direct and indirect exposure to nature does seem to be a critical component for **mental well-being** and could be a complementary approach to more traditional and conventional approaches.

Given that the world has finally realized that the environmental degradation of our planet poses a serious challenge to humankind, there is a great need to promote psychologically healthy societies that fully integrate nature. More studies are needed to give proper credence to the role that nature plays in the maintenance of good health, prevention of problems, and a functioning society. This also implies that there are health benefits from joining together to mitigate the effects of environmental mismanagement and modern-day lifestyles.

—Gareth Davey

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## Further Readings

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