

Nature's Effect on Human Health

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Historically, writers, painters, philosophers have articulated nature's effects on humans and have detailed its restorative qualities. However, scientific studies making direct connections between nature and human wellness didn't begin until the American researcher Roger Ulrich in 1980 conducted an experiment examining his patient's recovery time based on window access to nature. He took 23 patients that were recovering from the same surgical procedure and divided them into two identical rooms. Then he tested his hypothesis and had half the patients' windows overlook a landscape with trees and the other half with a view of a brick wall. His method was to observe the patient's behavior, observe their medical recovery, and interview the nurses to collect data. Results were as expected "He found that those patients with the tree view spent less time in hospital post-operation, elicited fewer negative comments about their progress from nurses and took fewer moderate and strong analgesics, compared with patients who had a view of a brick wall." (Dose of Nature, 2020). One of the first experiments conducted in this category showed us nature has a positive effect on mental and physical health. This study can help many people in the future to recover by allowing access to nature.

Humans and nature have always had a relationship, as far back as the indigenous people with their land. Culturally, indigenous people view nature, themselves, and their ancestors as one. Each culture has traditions involving the environment like the Māori people of New Zealand. According to the UN Environmental Program "The Māori word 'kaitiakitanga', which means guarding and protecting the environment to respect the ancestors and secure the future." (2024). Connecting with nature to the Māori people is deep rooted in their traditions, beliefs, and society. Our habitats determine a lot about us and have more than just an effect on us, it is a part of the human experience. Nature is intertwined across cultures, economic class, region and a part

of our everyday lives. Focusing on the benefits of nature's positive influence on human health should be a higher priority.

As the human population grows, the metropolitan areas we live in expand and nature decreases. The lack of nature in our environment influences our health and wellbeing but it is not something that is easily identifiable. A healthy relationship with our environment is crucial according to the Substance Abuse and Mental Health Services Administration's (SAMHSA) eight dimensions of wellness model. A balanced environment amongst emotional, financial, intellectual, occupational, physical, spiritual, and social aspects covers the basics for overall well-being.

It became very clear during Covid-19 lockdown that being outside and interacting with nature boosts our wellness. A study published in the International Journal of Environmental Research and Public Health examines the level of nature deprecation across individuals during Covid-19. The methods included taking surveys in four major metropolises consisting of Boston, Atlanta, San Diego, and Phoenix as well as across all ages, races, and genders. The results tell us that most individuals struggled with the lack of nature in their environment to some degree, however, some struggled in different areas than others. The study concluded that

“Individuals who identified as black or Hispanic lived within zip codes of on-average lower NDVI levels and higher poverty rates. Nature affinity scores rose with age, consistent with findings of higher nature connectedness at progressive age.” (Tomasso, L. P et al, 2021).

These results were expected to show some level of deprecation, however, based on socioeconomic class lack of interactions with nature tends to negatively affect individuals from poor neighborhoods more. Furthermore, individuals in a higher age range felt just as connected

or more connected to nature during this time. Nature's effect on human wellness is profound and its profoundness ranges based on demographics, cultural practices, socioeconomic class, age, and race.

A target audience that struggles to connect with nature more than others is the urban working adult. Living a predominantly "grey" city or a city lacking greenspaces negatively affects mental health; individuals tend to have elevated stress and depleted moods. Nature-based therapies have been used in the past to help children overcome trauma and this method of therapy is usually used in trauma patients. This led researchers to question the effects of nature-based therapy on the group of individuals who experience an over-emphasis of analytical thinking on a daily basis, the urban working adult. A study published in the *Journal of Creativity in Mental Health* experimented with this concept and brought together nine participants to engage in a nature art therapy session. In this session participants created two pieces of art, one with art supplies like crayons and paint, and the other natural materials like leaves and moss. Then feedback was collected through interviews and reflective writings to determine the following results.

"Researchers observed an overarching theme of transformative changes in mindset, defined by participants' recognition of changes in perception and attitudes, as indicated through their self-awareness following their exploration of natural materials." (Chang, M., & Netzer, D., 2019).

Such a small exposure to nature led to significant health results in the participants. They showed a boost in sensory experiences, imagination and playfulness, intuitive insight, cognition, and symbolic expression. The power nature has on our well-being is so important for the individual but can also have an effect on society. Individuals living in urban areas and lower

socioeconomic class lack interactions with nature and have a greater negative effect on human well-being than those who aren't. Nature is a necessity across all individuals, societies, cultures, and it connects us all.

Nature is our environment, and we heavily rely on nature to provide in all areas of life. We source physical items like goods, food, and medicine from nature which create jobs and a market boosting the economy. Additionally, we benefit socially and emotionally through interacting with nature and those around us. The significance of nature in human health is quite impactful throughout our life especially in childhood, our experiences shape what we value later in life. Nature in education transforms traditional learning into a learning experience. We all know a child's excitement to play outside or have recess and we can see the emotional benefit from this but what about in a learning environment? A study conducted surveying the benefits of nature school field trips with children found significant results in their well-being. A group of sixth graders were interviewed one month after going on a field trip to see what they had taken from the experience. When collecting the children's feedback there was a notable positive emotional tie to the experience. Even when the children experienced distress or discomfort such as tiredness after a long walk or scratches by plants during the journey they remained engaged and excited. (Heras, 2020). The children socially excelled as well, with participation high and effective group cohesion. The takeaway for the participants weren't exactly the facts that were taught to them on the field trip, but the concept and connection of the information presented. The study further concluded that when positive experiences with nature happen during childhood it leaves a significant positive impact on attitudes toward the environment. Assuring all children have these experiences presents challenges to the school system especially with funding. Funding for education mainly derives from state aid and local tax revenue, as well as federal

sources (Lieberman, 2023). U.S. Federal funding for education is quite low and this leaves each state to their own devices. Changes to this budget can be difficult to make and do not happen quickly. Despite the challenges in funding the positive impact nature has on human wellness is profound. Bringing learning outdoors should be a regular occurrence for children to further their emotional and social wellness as well as create positive experiences for future environmental attitudes.

One aspect of nature's positive effect on human well-being is the preservation and conservation of nature. Maintaining a healthy sustainable relationship with nature benefits our health in many ways. Our assumptions and values of our natural environment are shaped by societal opinions. These societal opinions change as the world around us changes. In the mid-19th century began a time when natural resources like mining and logging were heavily exploited. Our assumptions of nature being boundless at this time was so concerning it called for federal management.

“Alarmed by the public's attitude toward natural resources as well as the exploitation of natural resources for private gain, conservationists called for federal supervision of the nation's resources and the preservation of those resources for future generations.”

(Library of Congress, n.d.)

The preservation and conservation of nature was not important because we view nature as expendable leading to lower the value of nature. These two factors play a significant role in nature's effect on human well-being. How we treat our surrounding environment has a positive or negative impact depending on our assumptions, values, and overall relationship with nature.

The 20th century began the age of wellness in society and finding methods to achieve wellness became a factor to human health. This period in time societal opinions of wellness

began to change and created the fundamentals to build the industry of wellness. The constant need to be at the forefront of the latest trends promotes the need to overconsume.

Overconsumption is a societal standard that has become an obstacle in changing our relationship with nature improving human well-being. The constant need to have the newest technology, follow the best beauty standards, etc. has created a wasteful attitude.

“We directly waste or mismanage around 78% of the total water withdrawn, 49% of the food produced, 31% of the energy produced, 85% of ores and 26% of non-metallic minerals extracted, respectively.” (Marín-Beltrán, et.al, 2022).

Attempting to change societal attitudes is difficult and changing our overcoming quality will take a lot of influence. Scientists are taking a different approach to change the societal behavior of waste instead of just addressing waste disposal strategies. One of the first strategies in preserving our environment was to instill the importance of recycling in everyday life. This recycling movement changed our mindset by getting us to view certain goods as reusable and understanding that nature is not expendable. Another recent strategy to change societal behaviors was to promote a “green” or “sustainable” way of living. For example, eating clean food free from preservatives, composting, using electric vehicles and solar panels, etc. With all this change and the use of technology our environmental health is not rebounding as we thought it would. There is a growing concern because all the conservation efforts have not shown effective change. We have embraced new attitudes toward nature and what that means for our health and future, but it may not be enough to preserve nature's positive effect on human health.

Recently, my perception of nature's effect on my health has changed and I've realized the importance that nature has for stress. Being a full-time student and a mom of two small children, the lack of time outdoors really affected my mental health and emotions. I found assignments

very difficult, overwhelming, and took twice as long to complete. Reconnecting with nature this summer has really improved my motivation and ability to cope with life's obstacles. Having the opportunity to go outside and mentally unwind while exercise strengthens my mind. In a study done on the effects of time in nature for college students showed a significant decrease in mental load and emotional stability. In the result they found

“Nature helps students in reflecting on their lives and even gaining a stronger sense of self.” (Puhakka, 2021).

Critically analyzing the results one can conclude that nature has a positive effect on emotional, intellectual, and social areas of wellness. With this new information and a better understanding my perception of stress changed. I need to remain calm when stressed and reconnect with nature, no need to fret over things I cannot change!

Knowledge has power and learning about ones perceptions and biases can bring about positive change. One element of biases depends on if the basis is intentional or not and draws a fine line difference between judgment and ignorance. Dr. Ingram explanation of the elements of bias perceptions helps us better understand these key differences.

“An implicit bias is a prejudice that turns into an action that is unconscious. Explicit bias is a conscious bias and are aware of your bias.” (2022).

Understanding the difference in basis perceptions helps in understanding my own perspective about nature's effects on my health. Are there behaviors that are occurring unintentionally negatively affecting my connection with nature? It has made me take a look at myself from a different angle and reevaluate my actions.

My field of study is directly involved with nature and technology since I am aspiring to be a GIS Analyst and eventually a GIS software engineer. Understanding Earth's natural systems is imperative to our health, using technology to map and predict our natural habitat and environment protects us. We can plan for emergency geohazards situations, monitor biodiversity to preserve the richness of our environment, or urban planning and traffic control. Our relationship with nature should be a high priority. Not only do we need to maintain our personal relationship with nature, but we must protect those resources that benefit our health as well. The main way we achieve this today is through technology.

“In the age of technological advancement, with the never-ending stream of data and information available at our fingertips, there is a renewed interest in wellness as a method for stepping back from the overload of external information and focusing on the “inner self.” (Pomputius, 2018).

Technology is a tool that can benefit our relationship with nature, but it can cost us as well. The constant use of technology in our lives leads to all kinds of negative emotions that lead to negative situations like procrastination, overstimulation, lack of social battery, emotional instability, etc. In summary, when analyzing nature effect on our wellbeing one aspect is certain, balancing all elements in life should take precedence.

My analysis of nature's effect on human wellness would have been focused differently if I used a historical lens instead of the social lens. Analyzing this topic from a historical perspective I would have categorized my supportive details by periods in human history. Essentially creating a timeline of how nature has affected human wellness over time and analyzing how it has changed. Using this lens the focus of my topic would be concepts like how

nature's effected human wellness has changed over time instead of focusing on the different types of people in the community and how nature affects them. Utilizing different educational lenses can highlight different aspects of my topic and ultimately emphasize a whole different argument.

Wellness is a topic that benefits all life regardless of class, gender, viewpoints, cultures, or perspectives. Opening up the conversation in society about wellness became a trendy yet important topic in the 21st century. When we share our experience with our own personal wellness, we connect with others in our community, and learn about other perspectives and experiences we all get stronger. We all can fall prey to believing in stereotypes and I caught myself doing the same. I often think that when I make more money or get into my career life will be easier and happier but that is not always the case and quite naive. Yet, I still believe to some degree that statement is true. However, through broadening my perspective I have gained some new knowledge that has resonated with me. A study that was conducted to determine economic stress and how it affects well-being, and the findings were not what I expected.

“Results indicate that higher income- and employment-related economic stress were significantly related to poorer well-being.” (Probst et. al, 2018).

Surprisingly, the higher the income class resulted in worse overall well-being, but it made me further analyze the topic to come to some possibilities. The increased economic stress of workplace responsibility could have been so extreme it began to affect other areas of wellness. Prioritizing ones workplace responsibilities over other aspects of life like spending time with family, going to the gym, or participating in hobbies negatively affected the balance of wellness we all need. A great take away from this is that each area of one's wellness cannot have priority over another and needs to maintain a balance.

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