ADVANCED WELLNESS & SPORTS REHAB
We're Here for You Every Step of the Way

From the office of:
Dr. Diane K. Smith, DC, CCSP
Advanced Wellness & Sports Rehab
11132 Commerce Ln N - Champlin, MN 55316
763-291-0202

Chiropractic - Acupuncture - Massage - Nutrition

NATURE'S ROLE IN LOWERING STRESS

Dr. Smith's 30-second interpretation of this article:

This is a great time of year to get out in *nature* and stop to *smell the flowers.* The study referred to in this article sheds light on the connection between our ability to find peace and resolve stress through nature and even just the smells of nature. So, get outside and ENJOY!

ARTICLE:

How does viewing a nature landscape affect our stress response? How about the smell of grass? The sound of birds singing?

Recently, a paper was published by the Swedish University of Agricultural Sciences in which they studied people's stress levels and how they were affected by both virtual reality scenes of nature and scents from nature.

In total, 154 participants took part in the study. Each person visited three separate virtual reality environments; a forest, a city and a park.

Most previous studies that evaluated human's response to stress and nature were done by self-assessment, leaving a lot of room for reporting errors, bias and many other things that could cloud the data. However, the results of those previous studies often still came up with the same or similar results...that nature scenes can lower heart rate and restore mental focus and clarity.

The current study was headed by Marcus Hedblom, an ecologist at the Swedish University of Agricultural Sciences. This study was designed to identify physiological mechanisms and sensory stimuli that could tangibly reduce stress when participants were exposed to natural environments.

ADVANCED WELLNESS & SPORTS REHAB
We're Here for You Every Step of the Way

From the office of:
Dr. Diane K. Smith, DC, CCSP
Advanced Wellness & Sports Rehab
11132 Commerce Ln N - Champlin, MN 55316
763-291-0202

Chiropractic - Acupuncture - Massage - Nutrition

Each virtual location was built with sights, sounds and smells in mind. The virtual "city" was built with virtual buildings, the sound of traffic and busy streets and the scent of diesel, tar and gunpowder. The virtual "park" was made up of trees and buildings, combined with the sound of a willow warbler bird and the smell of grass. The third virtual reality scene was the "forest" and consisted of images of many different trees and shrubs, the scent was a combination of mushroom and fir and the sound was a compilation of nine birds singing simultaneously.

To provide a stressor, a small electric shock was given to the participants to stimulate a physiological stress response. The stress response was measured by a rise in electrical conductance of their skin.

The team of researchers showed the participants the virtual scenes with the virtual reality headsets. Each participant wore headphones to hear the scenescapes' sounds and the scents were pumped directly into the participant's nostrils via Teflon tubing and custom-made nose pieces.

Each person was then to rate how pleasant they found each of these stimuli on a scale from 1 to 100. Researchers also monitored how fast the participant's conductance rose and fell when exposed to each of the three environments. As could be expected given the outcomes from previous studies, the city scene with associated sounds and scents resulted in faster skin conductance, indicating a higher stress response. While the forest and park scenes, sounds and scents resulted in faster stress reduction.

Of great interest was the fact that the researchers found that *smell, in particular*, had a powerful effect on reducing stress.

Hedblom stated that smell signals travel directly to the hypothalamus. The hypothalamus plays key roles in emotions, regulating body temperature, regulating blood pressure and the body's response to stress.

Further research is needed but the current research suggests that certain chemicals put off by certain plants might have an influence on stress hormone regulation via the immune system. If so, this could be an important factor to consider in the designing of parks and green spaces.