

Turn Around: Don't Drown

How to survive the digital tide
and embrace the outdoors.



THE SMART ZONE

MONTHLY NEWSLETTER

NURTURED BY NATURE

“What would our lives be like if our days and nights were as immersed in nature as they are in technology?”

– Richard Louv, *The Nature Principle*

Young people who spend time in nature are smarter, happier, calmer, healthier, and less anxious than those who spend most of their time indoors. They're more confident, more resilient, more curious, and more creative. They're better at problem-solving, critical thinking, and leadership. But research tells us that children today are getting less time outside than maximum security prisoners. We believe in the power and right to be outdoors so strongly that in many prisons it is mandated that inmates receive a minimum of two hours outside each day. **Sadly, many children spend less than an hour a day outside, and 30% of children nationally get less than 15 minutes of recess a day.**

Spending time outdoors:

- Reduces stress and anxiety.
- Enhances focus.
- Decreases the risk of obesity.
- Encourages the production of Vitamin D, benefiting various health issues.
- Lowers the incidence of heart disease, osteoporosis, multiple sclerosis, and certain cancers.
- Improves mental health by reducing emotional issues and alleviating issues with hyperactivity/inattention.
- Boosts cognitive functioning, including enhanced attention and working memory.
- Improves academic performance in subjects like language arts and mathematics.

Yet, despite a growing evidence-base for the wide-reaching beneficial effects of nature on child development, the amount of time children are spending outdoors is in rapid decline. On average, 8- to 12-year-olds in the US spend nearly five hours per day on screen media for entertainment, while an average 13- to 18-year-old spends almost seven hours per day.

There is little doubt that what author Richard Louv described as “**nature deficit disorder**” in his landmark book ‘Last Child in the Woods’ is not only relevant in the present, but the deficit is also growing at an alarming rate. Nature deficit is not merely a shift of the location of play; rather, the severe lack of exposure to nature in contemporary children has serious developmental and health consequences. Today, children and adults who work and learn in a dominantly digital environment **expend enormous energy blocking out many of the human senses** in order to focus narrowly on the screen in front of the eyes. One could argue that that is the very definition of being less alive. What parent would want that for their child to experience?

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SWIPED AWAY

SCREEN TIME VS GREEN TIME

A study released in 2022 reported that for many, nature experiences have been replaced by 'vicarious, often distorted, dual sensory (vision and sound only), one-way experience of television and other electronic media'. While modern interactive media like virtual reality offers interactive experiences and can simulate nature using various senses, they often limit users to pre-set sensory inputs. Kids learn by exploring the world through their senses, taking in information and processing it both cognitively and emotionally.

Yet, nowadays, many kids spend their days engrossed in digital experiences, which might dull the developmental benefits that direct contact with nature could provide. This digital saturation can also influence how these children come to view and value nature as they grow into adults.



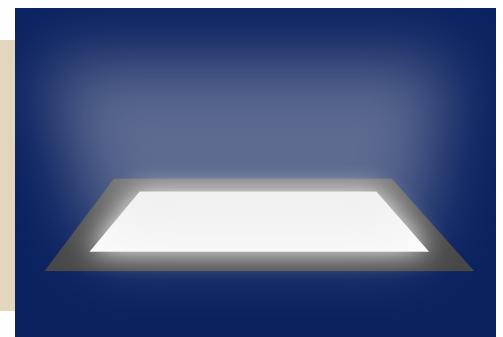
According to research by the Harvard School of Public Health, American adults spend less time outdoors than they do inside vehicles—less than 5 percent of their day.



Nature may seem less stimulating than a violent video game, but in reality, it activates more senses—you can see, hear, smell, and touch outdoor environments. Author Richard Louv cautions "As the young spend less and less of their lives in natural surroundings, their senses narrow and this reduces the richness of human experience"

Moreover, our circadian rhythms and the production of melatonin, the hormone that helps us sleep, naturally trigger as the sun goes down. However, the blue light emitted by screens can suppress melatonin production, leading to delayed sleep onset. Engaging in activities like watching TV or playing video games can also keep our minds and bodies in a heightened state of alertness, making it harder to wind down for sleep. This effect is even more pronounced with tablets and smartphones, as the screens—and their blue light—are held closer to our faces, further inhibiting melatonin.

"Exposure to blue light can cause eyestrain and disturb your sleep cycle, impacting overall health." - The Vision Council



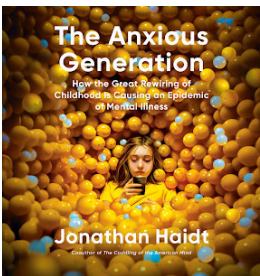
PARENTAL FEAR

In addition to the role of technology, other barriers to children playing outdoors are also present, such as overly protective parents. In surveys, a large percentage of parents cite fears for their child's safety as a top concern. This is often related to parenting, indicating they have a lack of time to supervise children outdoors.

This notion is based on the perception that the outdoors (e.g., parks and playgrounds) are unsafe for children (even older children) to play unsupervised. Crime statistics, however, do not completely bear out these fears. Rates of crime in general and specifically stranger abductions of children, in particular, have both declined since 1997.

For example, of all the missing children cases in the U.S., only 0.3% were abducted by strangers. Most missing children are cases of runaways or family abductions.

While parents' safety concerns regarding their children playing outdoors are understandable, they may be largely the result of social media portrayals rather than actual crime rates.



The Anxious Generation

“How the Great Rewiring of Childhood is Causing an Epidemic of Mental Illness” by Jonathan Haidt. The newly released book highlights his four pillars: no smartphones until after 8th grade, no social media until 16 years of age, no smartphones in schools and a return to a play-based childhood.

ONLINE DANGERS VS. IN-LIFE DANGERS



Less than 2 percent of all violent crimes against juveniles reported to police involve kidnapping.

According to the United States Department of Justice

65% of trafficking recruitment occurred on the internet.

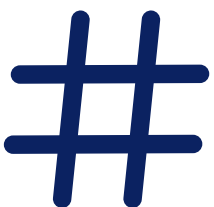


1% of trafficking recruitment occurred at elementary school.

0% of trafficking recruitment occurred at middle school.

2% of trafficking recruitment occurred at high school.

Data from the 2021 National Trafficking Hotline



Roughly 6 in 10 pills sold online as “prescriptions” contain a potentially deadly dose of fentanyl.

Overdose deaths involving illicit fentanyl among kids aged 10-19 increased 182% between 2019 and 2021.

<https://harder.house.gov/media/press-releases/harder-sounds-alarm-on-deadly-fentanyl-laced-pills-being-sold-to-kids-on-social-media#:~:text=Drug%20dealers%20are%20targeting%20kids,potentially%20deadly%20dose%20of%20fentanyl>

SCIENCE OF AWE AND WONDER

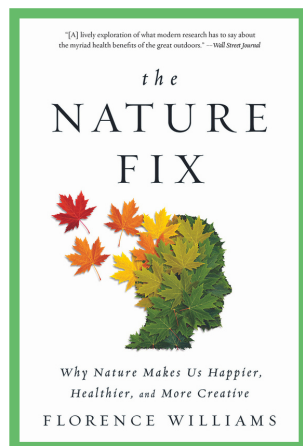
Moments of awe can range from an expansive mountaintop view to the tiny movement of a toddler's first step. **Current research suggests that awe is critical to our well-being – just like joy, contentment, and love.** Dr. Dacher Keltner, author and consultant to Pixar's *Inside Out*, shares that experiencing moments of awe has tremendous **health benefits that include calming down our nervous system and triggering the release of oxytocin, the "love" hormone that promotes trust and bonding.**

Further, our bodies even respond differently when we are experiencing awe than when we are feeling joy, contentment, or fear; we make a different sound and show a different facial expression. Dr. Keltner found that awe activates the vagal nerves, clusters of neurons in the spinal cord that **regulate various bodily functions and slows our heart rate, relieves digestion, and deepens breathing.**

Beyond the physical benefits, awe holds significant psychological advantages. Many people struggle with a persistent inner critical voice that undermines their self-esteem with thoughts of inadequacy. Awe, however, appears to mute this negative internal dialogue. According to Dr. Keltner, experiencing awe deactivates the default mode network, a part of the brain's cortex that plays a crucial role in how we perceive ourselves.



In today's environment, children are constantly exposed to social media efforts that foster a culture of comparison, encouraging them to measure their worth against that of others through persuasive and manipulative content. In response to this, providing children with opportunities to experience awe in the natural world around them can be a powerful antidote. Activities such as admiring vast fields of bluebonnets, observing the awe-inspiring spectacle of a solar eclipse, or watching the graceful migration of hummingbirds through Houston, serve to counterbalance the stress and anxiety fueled by technological pitfalls. These moments of wonder not only divert attention from negative comparisons but also enrich children's lives with the beauty and marvel of the world, promoting a healthier, more balanced perspective.



The Nature Fix

"The Nature Fix: Why Nature Makes Us Happier, Healthier, and More Creative" by Florence Williams examines the health benefits of spending time in nature. The book combines science, journalism, and personal stories to demonstrate how nature positively impacts our mental and physical health. Williams explores global research, from forest trails in Korea to the groves of California, showcasing evidence that exposure to nature reduces stress, enhances creativity, and improves overall well-being.

FASCINATION

Echoing the research on awe, environmental psychologists at the University of Michigan have explored how observing and being in nature can **reduce stress and restore our cognitive abilities**. They share their research on fascination explaining there are two types of fascination that people can experience. Hard fascination captures our attention forcefully, while soft fascination gently invites us to unwind and recharge. Visual elements in natural environments—sunsets, streams, butterflies—are fascinating but not too demanding. Such stimuli promote a gentle, soft focus that allows our brains to wander, rest, and recover from what is called the “nervous irritation”.

Unfortunately, for many young people, the pandemic has swept away previously routine occasions for soft fascination. Indeed, many of us have come to appreciate how much mental housekeeping we used to do as we made our daily commute or walked along a familiar route to work or school. Teenagers might now have to go out of their way to seek low-key activities when their minds feel cluttered. And they may need adults’ encouragement to do so, because simply going for a stroll or looking out a window can seem boring compared to the allure of online catching up or consuming distractions.

CHANGING LANDSCAPE OF CURIOSITY

Curiosity is one of the purist fundamental human traits, defined as the urge to explore and understand new, uncertain, and ambiguous events. It's the natural instinct that drives children to ask questions and learn through observation. Encouraging children to explore nature can significantly enhance their learning at any age, as curiosity has been linked to pleasure and learning in neuroscientific studies. For instance, a study at the University of California observed that when curiosity was stimulated, there was notable brain activity in areas associated with reward.

The role of parents is also crucial in nurturing a child's connection with nature. **Data shows that children are more likely to visit natural spaces if their parents do so frequently**; 82% of children whose parents regularly visited green spaces followed suit, compared to only 39% where parents did not. Yet, challenges vary by location—from busy roads in rural areas to safety concerns in inner cities, and even parental priorities in suburban areas.

Natalie Johnson of the Wild Network, a non-for-profit organization, said: **“The problems are fear, space, tech, and time.** In the countryside, the biggest barrier is busy country roads. Inner city kids have genuine gang problems. In middle class suburbia, it’s the parents – how do you tell parents that the time children play freely outside is as important as their French lesson, their ballet lesson, and their Mandarin lesson?”

Findlay Wilde, a 13-year-old wildlife blogger, said “Once children hit middle school, they become more independent and might think being interested in the natural world is uncool,” he said. “If they can, parents need to keep their connection with their children and continue to take them outdoors.”



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SENSORY DEFICIT DISORDER

While moderate screen time is sometimes perceived as harmless or even beneficial, it carries significant risks. Excessive screen time can stop children from getting enough physical activity, engaging in important risky play, and using their imagination. **Mounting research indicates that excessive screen use could hinder the development of essential skills, such as emotional self-regulation, by limiting experiences critical for learning these skills.**

Additionally, the system responsible for processing sensory input and mood – the vestibular system – is inactive in front of screens, meaning children may be unable to practice controlling and responding to emotional changes. Simply put, children do not move or experience things like they used to. Many experiences that helped children to build strong vestibular systems are not happening.

An underdeveloped vestibular system in children can lead to challenges with balance, coordination, and spatial orientation. It might also affect their ability to process sensory information efficiently, which can impact learning and social interactions. Additionally, difficulties in regulating motion and understanding their body's position in space could lead to increased anxiety and trouble with attention and emotional regulation. When your child has an underdeveloped vestibular system, their brain is not getting the correct information from their eyes, ears, sense of gravity, or movement in their bodies. This, in turn, makes their brain and body feel unsafe. When they do not feel safe, their arousal level, attention, and survival mode responses kick in.



What Sensory Deficit Disorder can look like in a classroom:

fidgety, poor attention, difficulty sitting still, poor handwriting, difficulty copying from the board to paper, falling off their chair, clumsiness.



The compelling evidence that digital kids are being starved of sensory experiences:

When pediatric occupational therapist Angela Hanscom did a small pilot study of American fifth graders, she was stunned to learn that less than ten percent had the core strength and balance skills of the average child 30 years prior.

Recent findings in JAMA Pediatrics reveal a concerning link between early screen exposure and sensory processing difficulties in children.

This groundbreaking study highlights how early and excessive digital media use may alter children's sensory perception mechanisms. As digital device use increases among young children, this shift prompts questions about its implications on their developmental processes, particularly sensory integration—a key component for effective daily functioning and overall well-being. This research underscores the potential negative impact of prolonged screen time on children's ability to process sensory information. Children who spent more time watching TV or other videos before age 2 were more likely to develop these atypical behaviors before age 3, the study's authors report, and the likelihood seems to increase with more screen time per day.

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