



Removing Obstacles to Learning

DesBois Tutoring & Enrichment

Why should educators be concerned with health?

What is the problem?

We are living in an age of childhood chronic illness. According to a 2007 national survey, 54% of U.S. children suffer from at least one chronic health condition, including developmental disorders, autism, ADD/ADHD, allergies, asthma, autoimmune diseases, obesity, cancer, anxiety, and depression.¹ A 2010 national study found that from 1994 to 2006, the prevalence in American children of four types of chronic conditions (obesity, asthma, behavior/learning problems and “other” physical conditions) doubled, increasing from 12.8% to 26.6%.² At the same time, academic proficiency is declining. The National Assessment of Educational Progress has reported a gradual decrease in reading and mathematics performance scores since 2012, with more significant declines since 2020.³ As educators, we have observed that a large percentage of our students present with difficulty focusing, processing information, and communicating using both written and oral language. We can no longer ignore the fact that the poor state of students’ health is interfering with their learning.

Diagnostic labels indicating learning differences may provide useful information, but they do not in themselves address the need for a healthful learning environment and effective study practices. Lowering academic standards is not the solution. Introducing digital technologies into the classroom does not improve the situation, but rather exacerbates the problem. **To us, the first step in a renaissance of education requires identifying and removing obstacles to learning.**

Educators are introduced to psychologist Abraham Maslow’s hierarchy of needs pyramid that underlies human functioning and behavior.⁴ The foundational levels of this hierarchy comprise physiological and safety needs. These **primary needs** must first be met before the higher needs of love and belonging, esteem, and self-actualization can be fulfilled. Therefore, the **primary needs** are prerequisites to learning.

¹ Bethell, C.D., Kogan, M.D., Strickland, B.B., Schor, E.L., Robertson, J., and Newacheck, P.W. “A National and State Profile of Leading Health Problems and Health Care Quality for US Children: Key Insurance Disparities and Across-State Variations.” *Academic Pediatrics*. 2011. 11(3): S22-S33. <https://doi.org/10.1016/j.acap.2010.08.011>.

² Van Cleave, J., Gortmaker, S.L., and Perrin, J.M. “Dynamics of Obesity and Chronic Health Conditions Among Children and Youth.” *JAMA*. 2010. 303(7):623–630. <https://doi.org/10.1001/jama.2010.104>.

³ U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1971–2023 Long-Term Trend Reading and Mathematics Assessments. <https://www.nationsreportcard.gov/ltt/?age=9>

⁴ See page 7.

Primary needs include:

- Need for food, water, clean air, and shelter
- Need for sleep
- Need for physical comfort (ambient temperature, body position)
- Need for safety
- Need for physical, emotional, and mental health

Anything that interferes with these primary needs constitutes an **obstacle to learning**.

While it is easy to identify many factors that influence our primary needs, life in the 21st century offers hidden and overlooked environmental factors that prevent us from meeting our primary needs and therefore impair our ability to learn. It follows, then, that in order for learning to take place, we must first remove these environmental **obstacles to learning**.

Environmental Illness and the Barrel Analogy

It is important to recognize that each person responds differently to harmful environmental exposures. In order to explain this concept, our doctors have used an analogy comparing the immune system to a barrel, which becomes filled with the various factors that contribute to illness. These include infections, allergens, environmental toxins, and physical stress. A healthy, symptom-free person starts with an empty barrel. Each damaging environmental factor adds to the level within the barrel. It is when the barrel fills to overflowing that the person outwardly manifests symptoms. Someone with underlying chronic disease continuously has a partially filled barrel. His or her immune system is constantly under stress. A relatively small degree of exposure may trigger severe illness in a person whose barrel is nearly full while producing no noticeable effect in a person with a relatively empty barrel. However, regardless of the severity of the symptomology, these environmental factors *always* stress the immune system, increase the barrel's burden, and bring a person closer to ill health.

Environmental Obstacles to Learning

No single person will experience every symptom included on the following lists. Also, an individual may respond to the same exposure in different ways at different times, depending on other factors affecting his or her health. These harmful exposures are cumulative and synergistic. They can lead to or exacerbate chronic illness.

Chemical Fragrances

Volatile synthetic and natural fragrance compounds found in:

- personal care products: perfumes, colognes, soaps, shampoos, hair sprays and gels, lotions, deodorants, cosmetics, nail polish
- household products: cleaners, hand sanitizers, air fresheners, scented candles, laundry detergents, fabric softeners, dryer sheets
- concentrated plant compounds: essential oils, incense

These chemicals are inhaled, ingested, and absorbed through the skin and eyes. They disrupt the nervous, endocrine, immune, respiratory, gastrointestinal, liver, urinary, and rheumatic systems, causing headaches, cognitive impairment, focus and concentration difficulties, dizziness, nausea, weakness, breathing problems, vision problems, insomnia, fatigue, skin irritation, and mood problems. Replacing fragranced products with unfragranced alternatives and avoiding exposure reduces these effects.

Food Sensitivities

Allergies and sensitivities to foods generate both acute and chronic physical and cognitive symptoms, from fatigue to headaches to psychiatric symptoms.

Common reactive foods include:

- wheat, cow dairy, soy, corn, canola, peanuts
- genetically modified organisms (GMOs)
- processed and chemically-adulterated foods
- generally, foods that an individual craves and eats frequently

Eating whole, unprocessed, certified organic foods maximizes nutritional value, removes GMOs and many toxic pesticides and herbicides, and reduces other harmful additives.

Electromagnetic Fields

Man-made electromagnetic fields (EMFs) generated by microwave/radiofrequency radiation disrupt biological processes. Sources include:

- WiFi routers, smartphones and other wireless devices, smart meters, electrical appliances, and cell towers

Cellular damage from EMF exposure causes:

- nervous system disruption, cardiac changes, endocrine system malfunction, reproductive system damage, behavioral changes, and symptoms of headache, fatigue, cognitive impairment, focus and concentration difficulties, insomnia, and tinnitus.
- cumulative exposure leads to chronic illnesses such as cancer and autoimmune conditions.

Using a wired internet connection and decreasing all wireless device usage, as well as storing wireless devices away from the body, reduces EMF exposure.

Other Environmental Toxins

Toxins from indoor and outdoor environments, food, and water include:

- mold and other fungi
- heavy metals (lead, mercury, arsenic, cadmium, nickel) and aluminum
- petrochemical products (automobile exhaust, gas stove fumes, formaldehyde, solvents, adhesives, plastics)
- cigarette smoke
- pesticides
- fluorine, chlorine
- synthetic drugs

Exposures cause a wide range of symptoms from fatigue, to cognitive dysfunction, to psychiatric symptoms, and exacerbate chronic illness.

Tick-borne Illnesses: Endemic to New England

Ixodes ticks transmit pathogens including the bacteria *Borrelia burgdorferi* (the causative agent of Lyme disease), *Ehrlichia*, *Anaplasma*, *Mycoplasma*, and *Bartonella*, and the blood parasite protozoan *Babesia*. These infectious agents trigger acute and chronic symptoms in all body systems and immune system dysregulation.

Symptoms of Lyme disease and tick-borne co-infections include:

- acute: rash, flu-like symptoms (fever, headache, vertigo, fatigue, muscle and joint pain)

(Tick-borne Illnesses: continued from previous page)

- chronic (long-standing, fully-disseminated): fatigue, headaches, vertigo, muscle and joint pain, arthritis, numbness and/or tingling, nerve pain, weakness, cachexia, heart problems, cognitive impairment (difficulty with thinking, memory, speaking, processing information), psychiatric symptoms (anxiety, depression, irritability, psychosis), sleep disturbance, vision and hearing problems

Ticks range in size from smaller than poppy-seed sized nymphs to sesame-seed sized adults and are found in tall grass, leaf litter, and brushy and wooded areas.

Mask-wearing

Wearing a face mask covering the nose and mouth for prolonged periods of time is harmful to both physical and psychological health:

- Mechanically restricting breathing causes hypoxia (low oxygen) and hypercapnia (high carbon dioxide), leading to blood and cell pH imbalance, oxidative stress, inflammation, stress hormone increase, immunosuppression, heart and brain dysfunction, and symptoms of headaches, fatigue, cognitive difficulties, and mood problems.
- Rebreathing bacteria, other microorganisms, and toxins accumulated on the mask increases susceptibility to infection and disease.
- exacerbates chronic illnesses
- inhibits communication
- promotes fear and anxiety

Resources

Find this document on the “Reflections” page of our website to follow the links.

Chemical Fragrances

- American Academy of Environmental Medicine: <https://www.aemonline.org/chemical-sensitivity/>
- The Chemical Sensitivity Foundation: <http://www.chemicalsensitivityfoundation.org/index.html>
- Children’s Environmental Health Network: <https://cehn.org/our-work/eco-healthy-child-care/ehcc-faqs/fragrances/>
- Invisible Disabilities Association: <https://invisibledisabilities.org/publications/chemicalsensitivities/whyofragrancefree/>
- Health Brochures: <https://healthbrochures.info/>

Food Sensitivities

- Randolph, T.G. and Moss, R.W. (1989). *An Alternative Approach to Allergies: The New Field of Clinical Ecology Unravels the Environmental Causes of Mental and Physical Ills*. New York, NY: Harper & Row.
- American Academy of Environmental Medicine: <https://www.aemonline.org/genetically-modified-foods/>
- Organic Consumer’s Association: <https://www.organicconsumers.org/>
- Institute for Responsible Technology: <https://www.responsibletechnology.org/the-basics/>

Electromagnetic Fields

- Firstenberg, A. (2020). *The Invisible Rainbow: A History of Electricity and Life*. White River Junction, VT: Chelsea Green Publishing. (<https://www.chelseagreen.com/product/the-invisible-rainbow/>)
- American Academy of Environmental Medicine: <https://www.aemonline.org/electromagnetic-and-radiofrequency-fields-effect-on-human-health/>; <https://www.aemonline.org/recommendations-regarding-electromagnetic-radiofrequency-exposure/>; <https://www.aemonline.org/wireless-radiofrequency-radiation-schools/>
- Cellular Phone Task Force: <https://www.cellphonetaskforce.org/>
- Massachusetts for Safe Technology: <https://www.ma4safetech.org/>
- Physicians for Safe Technology: <https://midsafetech.org/>
- BioInitiative Report: <https://bioinitiative.org/conclusions/>
- Building Biology Institute: <https://buildingbiologyinstitute.org/free-articles/1969-2/>
- Environmental Health Trust: <https://ehtrust.org/>
- EMF Safety Network: <http://emfsafetynetwork.org/safety-precautions/>
- Children's Health Defense: Electromagnetic Radiation & Wireless: <https://childrenshealthdefense.org/electromagnetic-radiation-wireless/>

Other Environmental Toxins

- Randolph, T.G. and Moss, R.W. (1989). *An Alternative Approach to Allergies: The New Field of Clinical Ecology Unravels the Environmental Causes of Mental and Physical Ills*. New York, NY: Harper & Row.
- Rapp, D. (1996). *Is This Your Child's World? How You Can Fix the Schools and Homes that are Making Your Children Sick*. Bantam.
- Rapp, D. (2003). *Our Toxic World: A Wake Up Call*. Environmental Research Foundation.
- Environmental Working Group: <https://www.ewg.org/>
- The Detox Project: <https://detoxproject.org/>
- American Academy of Environmental Medicine: <https://www.aemonline.org/fluoride-resolution/>; <https://www.aemonline.org/mercury-resolution/>; <https://www.aemonline.org/molds-and-mycotoxins-toxic-molds-in-human-health/>
- Building Biology Institute: <https://buildingbiologyinstitute.org/>
- Fluoride Action Network: <https://fluoridealert.org/>

Tick-borne Illnesses

- International Lyme and Associated Disease Society: <https://iladef.org/education/lyme-disease-faq/>
- Lyme Basics: <https://www.lymebasics.org/>
- Lyme Disease Association: <https://lymediseaseassociation.org/>

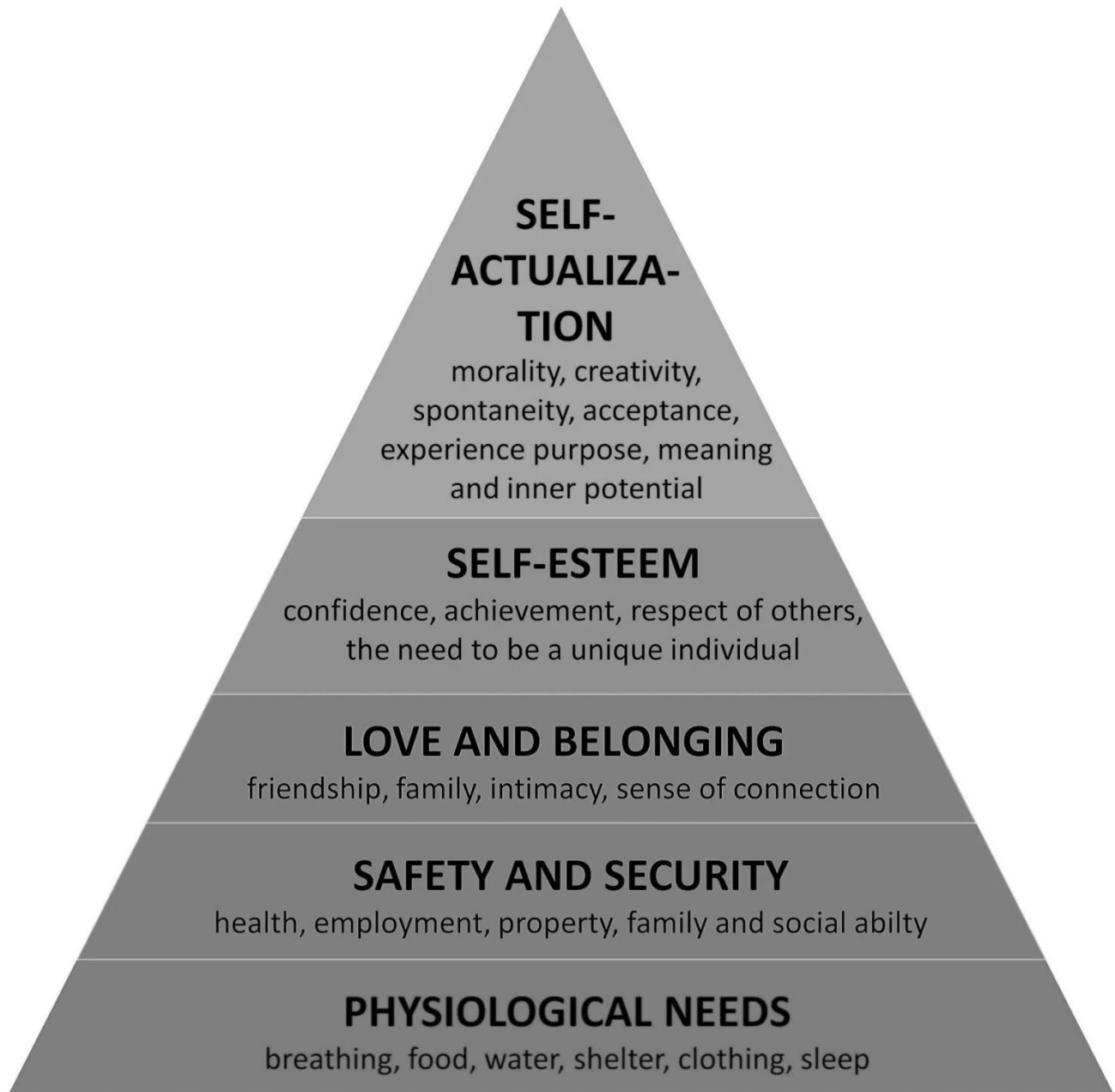
Mask-wearing

- America's Frontline Doctors: <https://americasfrontlinedoctors.org/index/library/pedia/masks-the-science-is-not-settled/>
- Pandemics Data & Analytics (PANDA): <https://www.pandata.org/infobank-masks/>
- Dr. Paul Alexander, M.D. for Brownstone Institute: <https://brownstone.org/articles/more-than-150-comparative-studies-and-articles-on-mask-ineffectiveness-and-harms/>
- Sood, N., Heick, S., Stevenson, J., & Høeg, T. (2022, July 1). "Association between School Mask Mandates and SARS-CoV-2 Student Infections: Evidence from a Natural Experiment of Neighboring K-12 Districts in North Dakota," PREPRINT (Version 1) available at Research Square [<https://doi.org/10.21203/rs.3.rs-1773983/v1>].

- Kisielinski, K., Giboni, P., Prescher, A., Klosterhalfen, B., Graessel, D., Funken, S., Kempfski, O., Hirsch, O. “Is a Mask That Covers the Mouth and Nose Free from Undesirable Side Effects in Everyday Use and Free of Potential Hazards?” (2021). *International Journal of Environmental Research and Public Health*. 18(8):4344. <https://doi.org/10.3390/ijerph18084344>.
- Dr. Lee Merritt, M.D., presentation at 2021 Doctors for Disaster Preparedness conference: “SARS-CoV2 and the Rise of Medical Technocracy.” Video: <https://rumble.com/veek4f-dr.-lee-merritt-sars-cov2-and-the-rise-of-medical-technocracy.html>.

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Maslow's Hierarchy of Needs



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McLeod, Saul. "Maslow's Hierarchy of Needs." *Simply Psychology*.
<https://www.simplypsychology.org/maslow.html>. Accessed 10 April 2024.