OCTOBER 2, 2020

CHOATE PUBLIC HEALTH

VOLUME 4 | ISSUE 1

LETTER FROM THE EDITORS

Dear readers,

Wherever you are in the world, we hope you and your loved ones are staying safe.

To new and returning students alike, whether this is your first or twentieth time opening an issue of Choate Public Health, we would like to introduce ourselves. Our names are Claire and Elaine, and we are the Editors-in-Chief of Choate Public Health, a publication dedicated to raising health awareness within the Choate community. Despite the changing circumstances, we will continue publishing regularly in hopes of keeping our community informed and connected.

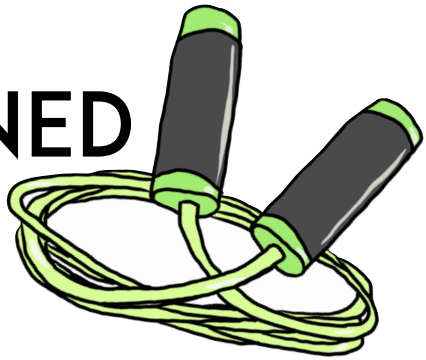
We hope that this first mini issue serves both as a reprieve from the media onslaught of COVID-19 reporting and as a pertinent source of health-related information during this Zoom-dominated time. On page 10, writer Brooke Edwards '22 discusses the underlying factors behind motivation to help us stay driven during remote learning. And on page 14, Sofia Muñoz '23 talks about Zoom fatigue, which many of us have felt the strains of during these past few weeks. With tips on managing virtual classes, we hope these articles help make quarantine a little less taxing.

Though this year will present unforeseen challenges, we have no doubt that the Choate community will continue to stay strong and support each other. Along with looking out for members of our community, don't forget to take some time for your own wellbeing: set down your screens and go outside, experiment with new hobbies, or spend time with family. We hope to see you on campus soon.

Stay healthy,
Claire and Elaine

CONTENTS

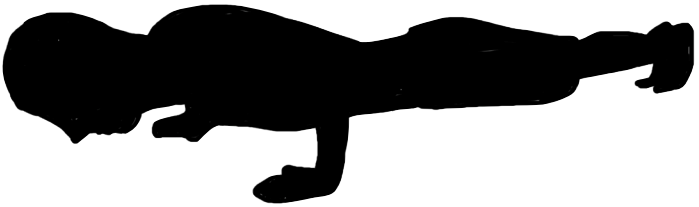
AT HOME WORKOUTS FOR THE QUARANTINED



By Lara Prakash '22

When the New England League announced that there would be no interscholastic competitions this fall, Choate student-athletes were disappointed yet also optimistic — ready to make the best of the challenging year. With the decision to delay the opening of school, it is important to begin preparing now for future practices and competitions.

Regardless of your experience with sports, everyone can benefit from improving their fitness. For the benefit not only of competitive athletes looking to get out of a monotonous routine but also the entire Choate community, here are three workouts to improve overall fitness and get you game ready while still remote. Whether you consider yourself as an athlete or not, it is paramount to stay healthy and exercise after hours spent in front of the screen each day. The first is a dedicated HIIT exercise. The second allows you to fit a workout into your busy day by doing a couple exercises at the fridge, while doing your homework, and more. Pick whichever works best for you, or maybe go out on a limb and try both!

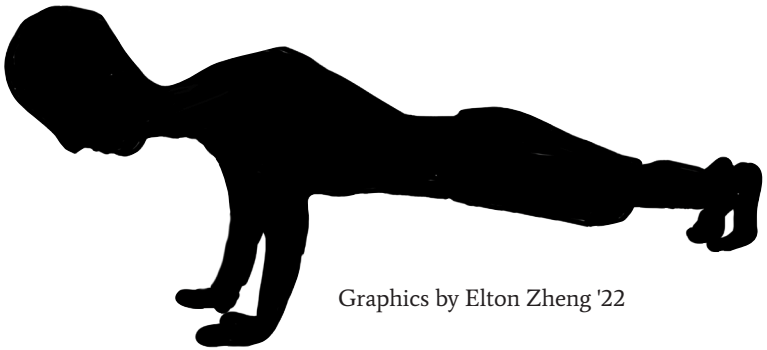


Everyday exercises to do while going about your business.[2]

- Side lunges as you wait for your coffee to brew
- Standing bicycle crunches
- Calf raises as you do chores
- Do lunges as you sweep or vacuum the house
- Use household items to do kettlebell swings
- Wall sit as you do homework or between classes
- Countertop plank on available surfaces, add in push-ups if desired

HIIT Workout: Do these exercises 30 seconds on, 30 seconds off for 10 minutes at a time.[1]

- 15 air squats
- 20 lateral bounds
- 5 bear crawls to each side
- Alternating reverse lunges
- Squat jumps
- Elbow planks while reaching out with each arm
- Hold bear crawl position
- Wall sit
- Wall sit with reach
- Hollow body hold
- Hold superman position



Graphics by Elton Zheng '22

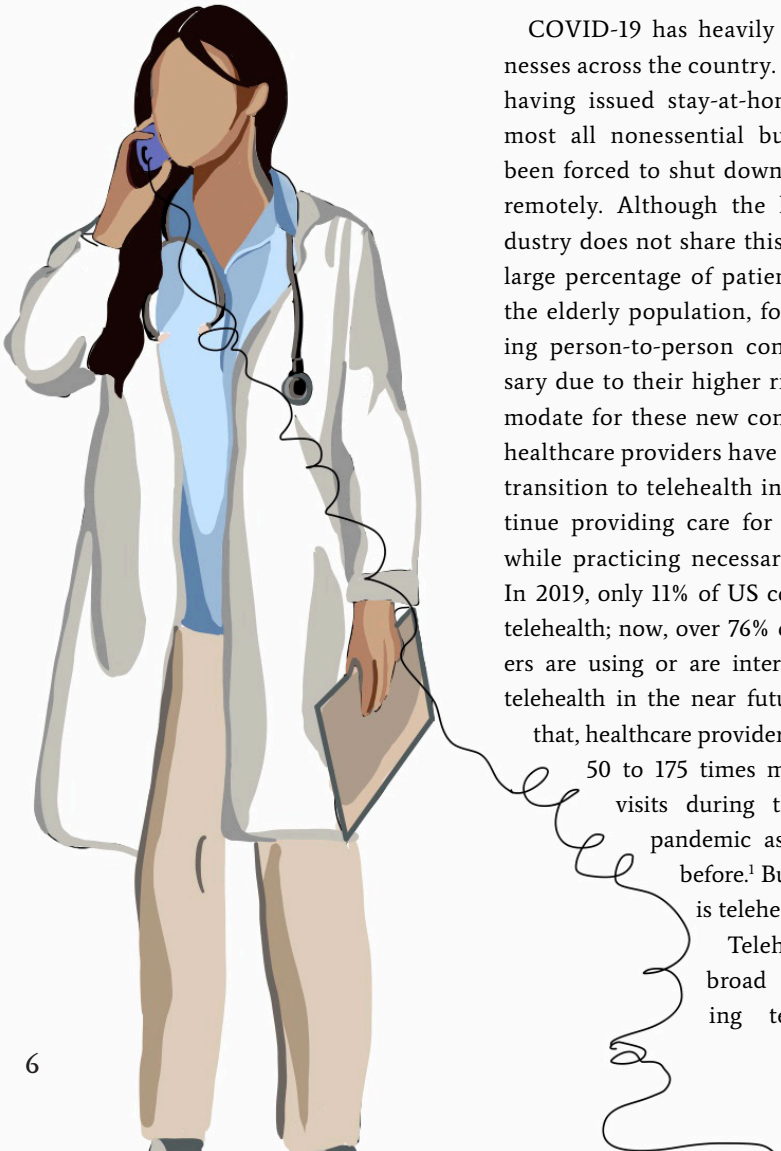
Sources

1. Malinsky G. 5 free workouts to do at home during coronavirus that can instantly lower stress—and make you feel happy. CNBC Make It. Published April 6, 2020.

2. DiNardo K. Sneak In Some Exercise. *The New York Times*. Published August 15, 2020.

HEALTH REIMAGINED IN THE REMOTE WORLD OF COVID-19

By Deven Huang '23



COVID-19 has heavily affected businesses across the country. With 45 states having issued stay-at-home orders, almost all nonessential businesses have been forced to shut down or to operate remotely. Although the healthcare industry does not share this misfortune, a large percentage of patients are part of the elderly population, for whom limiting person-to-person contact is necessary due to their higher risk. To accommodate for these new conditions, many healthcare providers have thus made the transition to telehealth in order to continue providing care for their patients while practicing necessary precautions. In 2019, only 11% of US consumers used telehealth; now, over 76% of US consumers are using or are interested in using telehealth in the near future. On top of that, healthcare providers are reporting 50 to 175 times more telehealth visits during the COVID-19 pandemic as compared to before.[1] But what exactly is telehealth?

Telehealth is a broad term for using technology to

provide healthcare, health education, and health information remotely. This not only encompasses online visits and checkups, but also "store and forward" technologies and remote patient monitoring (RPM).[2] These services account for the three different types of telehealth: synchronous, asynchronous, and RPM. Synchronous telehealth is the most well known of the three kinds; it refers to real time telephone or video calls between patient and provider, where both parties usually use a smartphone, tablet, or computer to communicate. Asynchronous telehealth is the storing and sharing of patient information between doctors, patients, and pharmacies. Unlike synchronous telehealth, communications within asynchronous telehealth are not in real time, often utilizing a secure email, fax, or other messaging system to share information. For RPM, on the other hand, information is only shared from the patient to their provider. This transmission is often, but not always, real time data of a patient's clinical measurements, such as heart rate, blood pressure, and blood sugar. These different telehealth services enable healthcare providers to assess patients from within the comfort of their own homes, which can be very convenient for elderly people and patients with mental conditions.[3]

COVID-19 has forced everyone to adapt to new surroundings. Thankfully, most healthcare providers have been able to make the transition to telehealth, allowing people to continue receiving the medical assistance needed while keeping communities safe.

Sources

1. Bestsennyy O, Gilbert G, Harris A. Telehealth: A quarter-trillion-dollar post-COVID-19 reality?. McKinsey & Company. Published May 29, 2020.

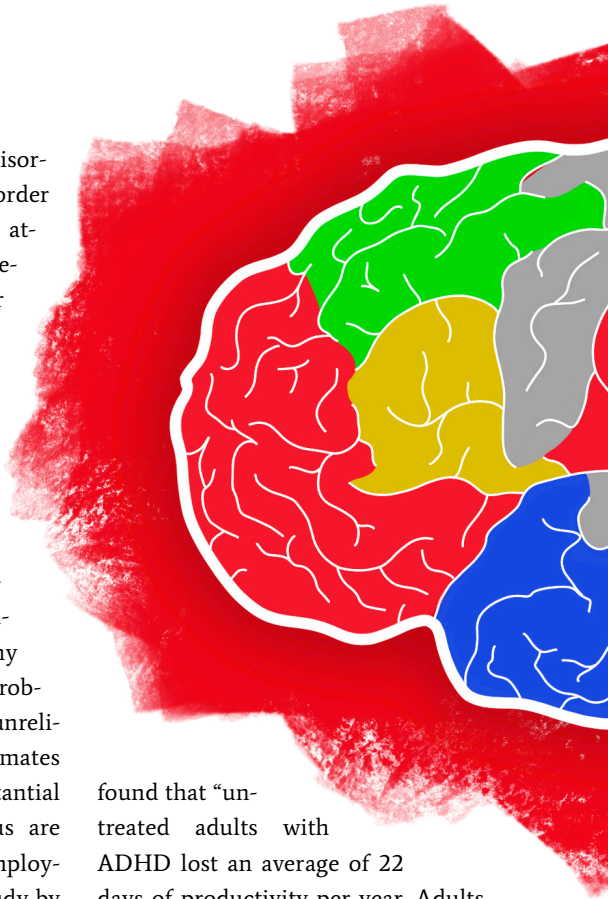
2. What is Telehealth?. NEJM Catalyst. Published February 1, 2018.

3. Using Telehealth to Expand Access to Essential Health Services during the COVID-19 Pandemic. Centers for Disease Control and Prevention. Updated June 10, 2020.

Graphics by Senching Hsia '21

MISJUDGED AND UNADDRESSED: ADHD IN THE WORKPLACE

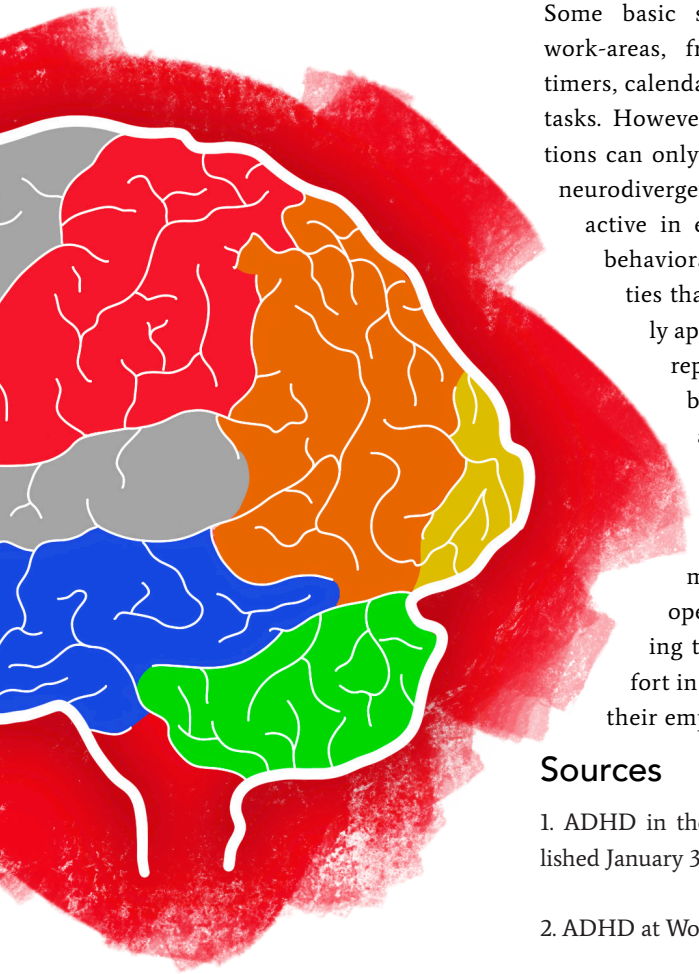
By Kenadi Waymire '22



Attention deficit hyperactivity disorder, or ADHD, is a neurological disorder that can cause difficulty in paying attention, hyperactivity, and impulsiveness. While each individual has their own individualized experience with ADHD and different strengths and weaknesses, the majority feels one common pain: struggling in professional environments.

According to the CEO of Children and Adults with Attention-Deficit/Hyperactivity Disorder (CHADD), Bob Cattoi, employees with ADHD may face many issues in the workplace, including problems with deadlines, teamwork, unreliability, and absenteeism.[1] He estimates that employers lose out on substantial revenue because of this and thus are more likely to reprimand or fire employees with ADHD. In fact, a 2006 study by the World Health Organization (WHO) found that "untreated adults with ADHD lost an average of 22 days of productivity per year. Adults with ADHD are eighteen times more

likely to be disciplined at work for perceived "behavior problems" and are 60% more likely to lose their jobs."[2] Colleen McManus, an HR executive from Arizona, asserts that managers and co-workers of employees with ADHD do not truly understand the disorder's symptoms, accommodations, and treatments. He explains an instance in which, following the disclosure of a patient's diagnosis with ADHD, a manager told him, "I suppose I'll have to provide her with a private office and treat her with kid gloves now."[1]



Graphic by Sesame Gaetsaloe '21

Companies frequently fail to properly accommodate their neurodivergent workers, causing those affected employees to suffer in silence.

Given this troubling reality, how can companies help their employees with ADHD achieve their full potential? Some basic solutions include silent work-areas, frequent activity breaks, timers, calendars, and more fragmented tasks. However, these temporary solutions can only go so far. Higher-ups of neurodivergent workers should be proactive in educating themselves on behavioral and learning disabilities that may not be immediately apparent. Managers and HR representatives should also be clear with employees about their expectations and frequently touch base to ensure effective communication.[2] Ultimately, they need to be open to critique and be willing to change to ensure comfort in their workplace for all of their employees.

Sources

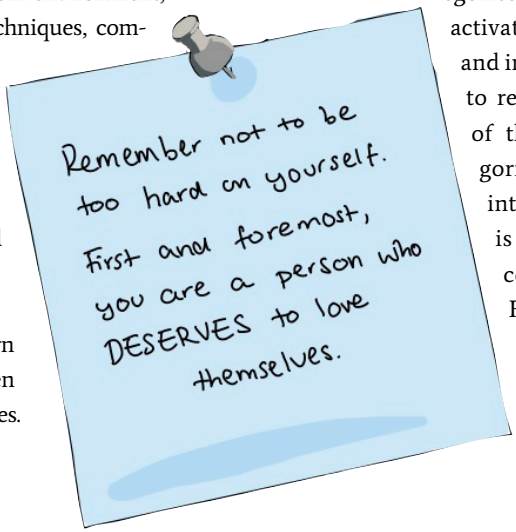
1. ADHD in the Workplace. SHRM. Published January 30, 2020.

2. ADHD at Work by the Numbers. ADDA.

FINDING MOTIVATION FOR THE VIRTUAL GRIND

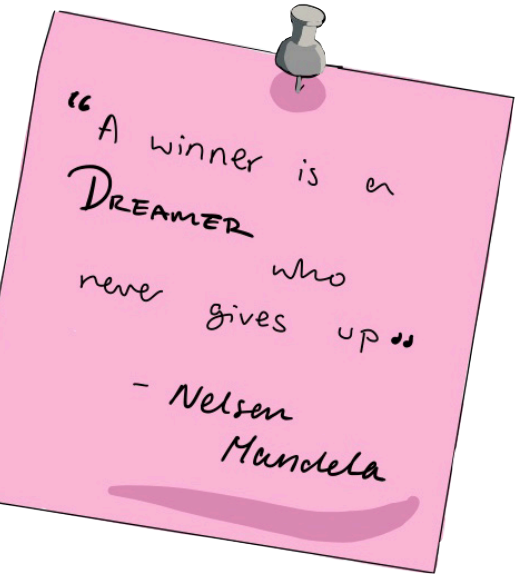
By Brooke Edwards '22

Staring at the same four walls day after day in quarantine, many students have found themselves in desperate need of more motivation. Motivation is the process that initiates, guides, and maintains goal-oriented behaviors. With the recent introduction of remote learning due to COVID-19, pushing oneself in schoolwork has been difficult for many students. Whether it is due to technical difficulties in online platforms, the lack of a classroom environment, or new learning techniques, completing work from home can be a challenge. Nonetheless, with an understanding of the physical and emotional factors behind motivation, students can learn how to stay driven during remote classes.



There are two types of motivation: extrinsic and intrinsic. While external factors such as compliments and financial incentives drive extrinsic motivation, a sense of accomplishment or enjoyment propels intrinsic motivation. A common example of this is feeling can be seen in athletes who feel accomplished after a workout or competition.

Additionally, there are three main categories of motivation: activation, persistence, and intensity. In order to reach a goal, each of these three categories must be put into use. Activation is the decision to complete a task. For example, a student decides that they want to study



for their upcoming chemistry test. Persistence is dedicating continued effort towards a goal in spite of difficulties encountered during the process. This is especially necessary in online learning, as students and teachers alike continue trying to make the best of a new environment. Lastly, intensity is the focus that goes into a goal. In the context of online learning, this intensity is reflected in students' persistence and focus. Each of these three components are used at varying degrees that ultimately decide how quickly and accurately a task is completed.

While many people hope to accomplish their goals easily and rapidly, it is likely that they will run into setbacks along the way. These apparent steps backward may lead to the loss of motivation that prevents one from achieving their goals, so it is important to prevent such a situation from happening. One way to avoid this problem is for students to work on their confidence and divide larger goals into smaller, more manageable tasks.

Overall, students can stay motivated over virtual class by understanding the steps to reach their goals and the factors behind motivation. It may be tough, but utilizing methods of activation, persistence, and intensity will help lead to success in the virtual world.

Graphics by Senching Hsia '21

Sources

1. Cherry K. What is motivation? verywellmind. Updated April 27, 2020.

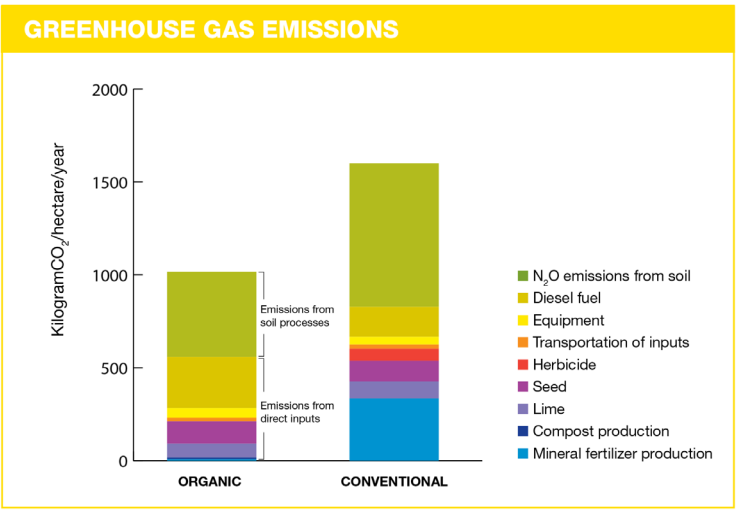
REGENERATIVE AGRICULTURE: THE ANSWER BURIED IN OUR SOIL

By Jayden Khuu '21

To be brutally honest, the climate crisis is escalating at a scale we may no longer be able to control. Despite small successes such as the vegan movement, the innovation of electric cars, and an increased recognition of climate change, nature simply cannot keep up with humanity's massive carbon footprint. In the U.S., the agricultural industry accounts for 10% of all carbon emissions, an issue stemming from unsustainable systems such as monocropping practices and fertilizer production.[1]

Approximately 75% of terrestrial carbon is found in soil, the complex structure absorbing up to 11 gigatons of carbon emissions annually.[2] Centuries of intensive industrial agriculture practices have stripped Earth's natural soil — the planet's greatest carbon sink — bare of its nutrients. For instance, cash crop farmers often maintain the same crops for several seasons for economic reasons. This strips the soil of nutrients and structure, leading to soil degradation and erosion. Soil is incredibly complex and can take a long time to develop, so land cannot be planted on for years at a time unless the soil is recovered.

In addition, current industrial agriculture relies heavily on fertilizers, which have a devastating impact on the environment. A bulk of fertilizers used on crops can run off into waterways, leading to eutrophication. Nutrient runoff leads to excessive algae growth in a body of water and depletes the



(Note: In both organic and conventional systems, the highest overall GHG emissions were caused by soil processes fueled by nitrogen in mineral fertilizer, compost and crop residues).

Source: *Food fix: How to Save our Health, our Economy, our Communities, and our Planet–One Bite at a Time* by Mark Hyman


Graphic by Elton Zheng '22

dissolved oxygen levels, killing marine life in the area. Moreover, production of artificial fertilizer is not only extremely energy intensive, but also releases harmful greenhouse gases such as nitrous oxides.

Thankfully, there is a way to alleviate this crisis and make hefty carbon goals feasible: regenerative farming. Regenerative agriculture promises to maintain the natural order of things, restoring nature and ecosystems back to their original, free-flowing cycle. One possibility is that farmers can integrate grass species into wheat-legume cultivation with the grass serving as a cover crop to ensure sustained protection of the soil.[3] As an alternative to excessive fertilizer usage, agriculturalists can introduce natural grazing by integrating different types of livestock into their fields; the animals' saliva, manure, and urea are all natural sources of nitrogen that can stimulate plant growth.[4] Cows, for example, can be extremely effective in carbon sequestration. Though the animal is often vilified for releasing methane, regeneratively-farmed cows that do not rely on industrially-grown grain can actually help turn dirt into soil through manure, putting more carbon back into the soil than it releases.

Regenerative agriculture isn't merely a concept — it's proven. When the White Oak Pastures adopted regenerative agriculture in the 1990s, they were met with immediate commercial success.[5] The farm incorporates regenerative farming with the same methods used by humans since the dawn of civilization, following nature's cycle with wisdom and intuition. Given this reality, how can regenerative agriculture increase in traction? On the national level, governments can incentivize corporations and farms to adopt regenerative agriculturing through nitrogen and carbon tax-credit rewards. On a more individual level, remember to purchase produce with the Regenerative Organic Certified (ROC) label next time you're at the grocery store!

Sources

1. Sources of Greenhouse Gas Emissions. Environmental Protection Agency. Published September 9, 2020.

2. Ecological Society of America. Carbon Sequestration in Soils. esa.org. Published 2000.

3. Rodale Institute. Regenerative Organic Agriculture and Climate Change. Rodale Institute.

4. Hyman M. *Food fix: How to Save our Health, our Economy, our Communities, and our Planet--One Bite at a Time.* Little, Brown and Company. Published 2020.

5. Land Regeneration. White Oak Pastures. Updated 2020.

ASLEEP AT THE SCREEN: THE REALITIES OF ZOOM FATIGUE

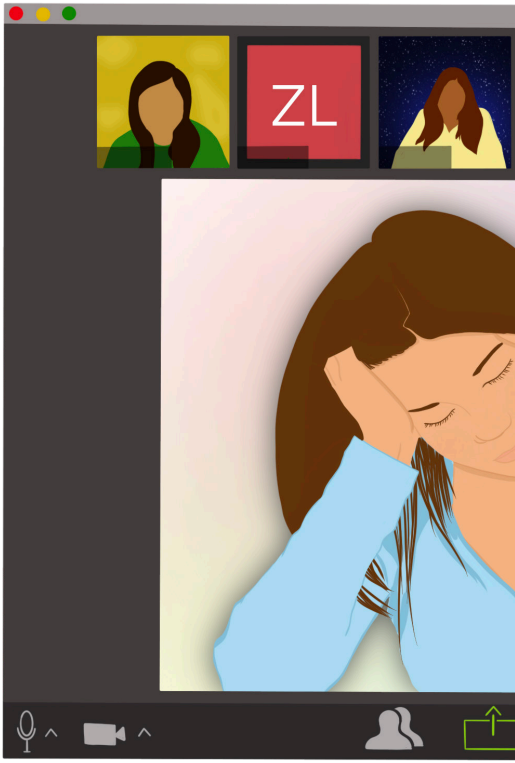
By Sofia Muñoz '23

When the coronavirus burst into the global scene in March 2020, many schools, universities, and jobs transitioned to virtual activity. With approximately three billion people quarantining in lockdown, families have turned to electronic devices as a means to connect with the outside world.[1] As a result of the long hours spent on glowing screens, many have noticed increased fatigue, lack of social interaction, and demotivation.

Throughout the past few months, video communication apps like Zoom and Google Meets have certainly been helpful in enabling meetings, classes, and other gatherings to continue as normally as possible. While there have been benefits, people have also been experiencing a serious side effect known as "Zoom Fatigue." According to Laura Dudley, a behavioral analyst at Northeastern University, an increasing number of people have reported feeling "exhausted" after using such apps.[2] Dudley explains that in day-to-day conversations, we rely on non-verbal cues, such as eye contact and body language, to communicate effectively. With meetings over video, eye contact in particular is difficult.

"You might find yourself toggling back and forth between your webcam and the other person, but this is not the same as sustained, joint eye contact between two people," Dudley says. "And keep in mind that the other person is probably doing the same toggling."

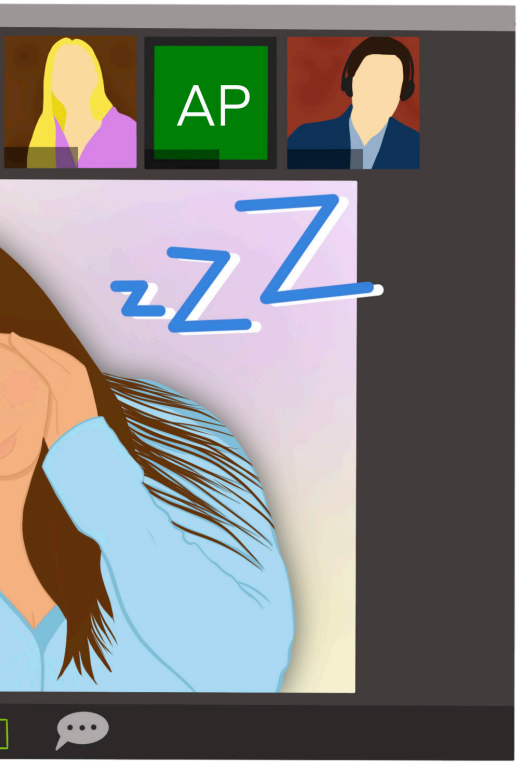
Other factors can contribute to the feeling of fatigue as well. On video calls, many people might talk at the same time



Graphic by Sesame Gaetsaloe '21

and interrupt each other. Even one's own video could be distracting. Dudley mentions that it is like "putting a giant mirror in front of you during a meeting." The meeting time ends up being dedicated to people looking at themselves and fussing over their appearances rather than focusing on the topic at hand.

In a more casual setting, video communication apps are also used to talk to friends and family. However, many people feel so fatigued after meetings that they often no longer want to talk to their loved ones on these same platforms. Dudley states that this can be explained by a behavioral principle called satiation, which means having needs and desires that are not only being satisfied but satisfied in excess.[3] Thus, if Zoom is correlated with stressful situations, people will use it less.



Fortunately, there are ways to overcome this issue. Brenda Wiedhold, president of the Virtual Reality Medical Center and a licensed clinical psychologist, suggests that people go outside and pursue an activity unrelated to technology in between meetings.[4] When in meetings, she suggests looking directly at your camera to recreate the feeling of eye-contact. Lastly, while communicating with friends and family over a platform may not be ideal, it is still important to stay in touch and check up on them from time to time. To keep mental health a priority, Wiedhold also suggests participating in virtual mediation or workout activities with friends.

It is vital not to ignore these feelings of fatigue — your mental and physical health always comes first!

Sources

1. Rethinking Screen-time In the Time of Covid-19. UNICEF. Published April 7, 2020.

2. Callahan, M. 'Zoom Fatigue' Is Real. Here's Why You're Feeling It, and What You Can Do About It. *News@Northeastern.* Published May 11, 2020.

3. Satiation. APA Dictionary of Psychology.

4. Wiederhold, B. Connecting Through Technology During the Coronavirus Disease 2019 Pandemic: Avoiding 'Zoom Fatigue'. *Cyberpsychology, Behaviour, and Social Networking.* 2020: Volume 23.

CPH BOARD

Editors-in-Chief
Claire Yuan ’21
Elaine Zhang ’21

Design Team
Head of Design
Laura Jiang ’21
Layout Editors
Evrim Almaz ’21
Berk Gokmen ’21
Ami Hoq ’21
Andrew Lee ’21
Nathan Lang ’22
Linda Phan ’22
Graphics Editors
Sesame Gaetsaloe ’21
Senching Hsia ’21
Elton Zheng ’22

Copy Editors
Head Copy Editor
Allison Kleinstein ’21
Copy Editors
Aarthi Katakam ’21
Lara Selçuker ’21
Joy Bang ’22
Renee Jiang ’22
Anika Midha ’22

Follow @choatepublichealth

Outreach Team

Head of Outreach
Celine Pirard ’21
Outreach Managers
Natarsha Yan ’21
Audrey Kaye ’22
Andrew Robertson ’22
Social Media Coordinators
Charlotte Myers-Elkins ’22
Tigo Ponce de Leon ’22
Website Managers
Amanda Li ’21
Kenadi Waymire ’22

Faculty Adviser

Dr. Edrik Lopez

COVER GRAPHIC BY SESAME GAETSALOE ‘21