Abby Leighton

Rutherford

Oxford Scholars

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The Generation of Vegetables

On March 13th, 2020, Cardinal Newman students were advised to come to school later in the day in order for teachers to prepare themselves for what they thought, to only be a two week online school format. This new formatting was due to the coronavirus, a global virus that was spreading through the country like wildfire. What the faculty didn't know is that they would be using this online class setup almost 10 months later. The video platform, Zoom, has aided schools around the world as the virus is ever persisting.

After 10 months of online schooling, screen times have increased across the globe. Using Cardinal Newman as an example, the students are chained to their computers five hours out of the day. Most of these students are increasing their screen times even by playing video games, spending time on social media, watching tv on streaming platforms, or even video chatting with their friends: "teens average 7 hours and 22 minutes — not including time spent using screens for school or homework." (Siegal, washingtonpost.com). The amount of screen time this amounts to is a little over 12 hours each day. The average teenager's day is spent looking at a screen. This data poses the question, how does this new way of living affect a person's brain? Not just their mental health, but their physical brain chemistry. The results of different brain analysis done by credible researchers, show that online classes alter how a person's brain looks

and functions due to the disengaging and isolating, learning environment that the “zoom life” enforces.

The biggest part of online school is the screen time. Students are obligated to be on their computers five to six hours a day while trying to absorb the material being taught to them. With the amount of time students spend on a screen every day, it’s hard to ask if all this screen time is healthy for the developing human? Well, researchers have found that there might be a connection to screen time and how it physically alters a person’s brain. Researchers apart of the Adolescent Brain Cognitive Development (ABCD) Study, have studied brain scans of young adults who engaged in more, around seven hours of day, and less screen time per day. Scans revealed that “the outer layer of the brain that processes information from the five senses, was thinner in kids who spent a lot of time on screens, than it was in kids who didn’t.” (teens.drugabuse.org). A person’s five senses helps a person process what is happening around them. When the part of the brain that processes the five senses, such as the temporal and parietal lobes, becomes altered, this can lead to a person’s brain to function less over time. Research has found that people with thinner temporal and parietal lobes are more likely to develop dementia (sciencedirect.com). As screen time increases, the likeliness of brain diseases later in life also increases.

So what is it about screen time that increases a person’s chance of having dementia? Using online school as a tether to this discussion, it can be observed that zoom is actually increasing the likeness for brain disease in the entire generation participating in the “zoom life”. When taking in person classes, the learning environment that is setup is meant to create an atmosphere where a student is most likely to succeed. The environment is more competitive due to other classmates pushing each other to excel in school and teachers have set up rules in which

students are forced to focus in class. In online school, both of these factors are taken away. Students become less motivated due to the increased distractions in the home and less oversight (Loeb, edweek.org). The lack of motivation in students encourages them to disengage from learning, taking easier shortcuts such as looking answers up online instead of critically thinking about them. This disengagement actually affects the way a person's brain looks. When learning a new concept, skill, or ability, a person's brain grows and develops in order to remember that new information, this is called neuroplasticity. When a person is actively disengaged in learning, their brain is not growing anymore. Just like any muscle, when a person stops working out their brain, it starts to deteriorate (Mercola, brainhq.com). This active disengagement along with the effects of screen time to the brain can result in a faster decline in brain structure.

Not only does screen time affect a person's brain development, being withheld from social interaction can also create the same affect. Going to school five days a week allowed students to interact with the people around them. Whether it be their closest friends or an assigned partner for a project, a person's daily dose of social interaction was met. Switching to online school immediately changes these interactions. Instead of sitting next to a familiar face, students are left sitting in their work spaces alone. Scientists have tested mice in order to simulate the effects of the isolation of online school. What scientists have found is that when mice are put into isolation during a crucial period of development, which is compared to an adolescent's brain, the mice's brain doesn't develop effective neuroplasticity. Impaired cognitive development such as this can actually alter how the mice develop physically and behaviorally when entering into adulthood (Rozenbaum, understandinganimalresearch.org). Actually, when studying the rat's brains, researches found an increase in aggressiveness and shrinkage in the part

of the brain that controls sensory and motor skills up to 20% (Rozenbaum, understandinganimalresearch.org). This study reveals that another component of zoom, social deprivation, also decreases brain functionality… a common theme when it comes to the effects of zoom.

Looking at the research presented, zoom can cause health risks. Even though zoom has become a way for students to still have access to education during a global pandemic, it doesn't hurt to start wondering if the "zoom life" is even worth it. Over the past two decades, technology has made an exponential impact on our society. Since these new technologies are fairly new, scientists can't create a definitive answer as to how they affect the human brain. By gathering information from different studies and scientists, a plausible hypothesis can be created. This generation of students will be the generation with the most exposed to brain disease, such as dementia, and it will have a great impact on our society. As brain functionality begins to decrease within our generation, the quality of work will also decrease as the generation of zoomers enter the workforce will decrease. It wouldn't come as a surprise if there was an increase in unemployment rates, as students will become burnt out from the amount of screen time zoom creates. This generation has already been set up for the worst possible outcome because of one computer application.

Of course, this is only a hypothesis. As it has been revealed, zoom can increase the risk of brain deterioration in numerous ways. Through screen time, certain parts of the brain are subject to the thin over time. Through the unengaging environment zoom creates, students are shrinking their brains by disengaging in learning. Finally, students' brains could also be deteriorating by having to isolate themselves while using zoom. These findings are frightening to think about.

But, if these studies were advertised more to the general public, maybe the way we do zoom could change. Instead of having the kids on the screen the whole time, shortening classes will allow kids to get off of their screens. Encouraging students to do online school in small cohorts could increase social interaction without posing risk to the global crisis around us. Even sharing these results of the studies and informing people on how they can increase their brain functionality again can lead this generation in the right direction.

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