Students’ screen-centered studies damage optic health resulting in increasing rates of myopia

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Technology is integral to the college lifestyle. From typing lecture notes, crafting essays on Google docs, to checking grades on the Blackboard App—modern education revolves around screens. However, dependence on technology has impacted student eye health for the worse.

College students are especially prone to adult myopia, or the progression of nearsightedness. Due to the elongation of the eyeball, nearsighted individuals have difficulty viewing objects far away.

According to the International Myopia Prevention Association, engaging in near work with computers or books for a prolonged period of time causes the ciliary muscles of the eye to lock up in a close-up focusing position. As a result, the eyeball stretches and light focuses in front of the retina instead of directly on it, producing a blurry image when looking into the distance.

Worldwide, the prevalence of nearsightedness has risen rapidly. In China, four out of five students leaving high school have myopia. Myopia is increasing in the U.S. population as well, with the proportion of Americans ages 12-54 needing corrective lenses for distance sight at almost 42%.

While being nearsighted may not seem dangerous, high myopia has serious health risks due to eyeball elongation causing the stretching of retinal layers. High myopia carries the risk of glaucoma and cataract development as well.

“If you think about the retina like a piece of cellophane, if you stretch those layers enough, there can be areas of the retina that become thin, and those areas are more at risk for retinal breaks or tears,” said Dr. Veronica Isozaki, Assistant Professor of Clinical Ophthalmology at the USC Roski Eye Institute. “This can be an entryway for the fluid inside the eyeball to get under the retina, separate the layers, and cause a retinal detachment,” Isozaki added.

What impact does technology have on deteriorating eye health? Prolonged use of smartphones, tablets, and laptops contributes to Computer Vision Syndrome (CVS). Individuals who spend two or more continuous hours at a computer or digital device per day are at greatest risk for developing CVS.

Staring at screens for hours on end can cause eyestrain, irritated dry eyes, headaches, and even body fatigue. In addition, digital devices with LED light contain blue-violet light, the wavelength closest to UV light.

“[Blue light] penetrates deeper into the eye and can cause damage to the retina, possibly contributing to the development of diseases such as age-related macular degeneration” said Isozaki.

The vast majority of college students are guilty of straining their eyes when they continuously stare at screens and textbooks. Of course, this does not mean you should give up studying.

To combat eye strain, many ophthalmologists suggest the 20/20/20 rule: every 20 minutes, you should take a 20 second break from your near work and look at an object 20 feet away.

“Looking at the distance relaxes your accommodation so that your eyes are in their normal relaxed state,” said Isozaki. Furthermore, Isozaki said it is beneficial to “add a blue-blocking anti-reflective coating to glasses to block the blue light,” when working with digital devices.

Ultimately, minimizing the impact of the college workload on the eye is critical to maintaining optic health. It is important for every university student to pay attention to how they overwork the eye and take the necessary precautions to achieve a healthier and sharper world.