

Children's Eyesight Worsened Twice as Fast During COVID Lockdowns

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The rate of [myopia progression among Chicago-area kids](#) more than doubled during the COVID-19 lockdowns when compared to the same kids during the year before the lockdowns, according to a new peer-reviewed study.

[Myopia, or nearsightedness](#), is growing more common among children, according to the [American Academy of Ophthalmology](#). Though estimates vary, nearly half of the world's population is expected to have myopia by 2050.

The study authors — who published their findings on Nov. 18 in the [British Journal of Ophthalmology](#)— looked at eye exam results of 2,064 Chicago-area kids ages 2-17 from January 2019 through March 2021.

They compared the differences in exam results from 2019 to 2020 — before the [COVID-19](#) lockdowns — with the differences in exam results from 2020 to 2021 when COVID-19 lockdowns were in effect.

Through statistical analyses, they found “a substantial worsening” of myopia progression “during the period of home confinement and online learning during the COVID-19 pandemic.”

Specifically, the change in myopia progression rates from 2020 to 2021 was more than double (2.2 times greater) the change from 2019 to 2020.

“The greatest increase in myopia prevalence was seen in younger elementary school-aged children, particularly in 8-year-olds, and also in 17-year-olds,” they said.

The authors said their findings align with prior research showing that kids who spend lots of time indoors [reading and looking at screens](#) tend to have worsening eyesight. They also cited prior research showing that [spending time outdoors](#) typically prevents and mitigates myopia.

The researchers concluded that COVID-19 pandemic policies — including school closures and cancellation of outdoor group sports — likely played a role in the uptick in myopia progression.

Online learning methods — and increased screen time and less outdoor time — have persisted despite the end of COVID-19 lockdowns, they said. Their evidence suggests that may be a problem when it comes to kids' eye [health](#).

The authors of the study called for a reduction in kids' online learning because of its associated screen time and lack of outdoor activity.

8-year-olds and 17-year-olds Saw Biggest Jump

The new research adds weight to the argument that lockdowns harmed kids and teens. In September, University of Washington researchers found that COVID-19 lockdowns accelerated the [aging of teenagers' brains](#).

For this new [study](#), researchers with Northwestern University Feinberg School of Medicine and the Ann & Robert H. Lurie Children's Hospital of Chicago examined how lockdowns affected the eyesight of children and teens.

They looked at data from Chicago-area kids and teens who completed a [cycloplegic refraction](#) — a vision test using eye drops to relax the eye muscles — at a tertiary children's hospital in 2019, 2020 and 2021.

They compared the differences in exam results between these years as a way of examining whether there was a heightened increase in the progression of myopia among children during the lockdowns.

They explained:

“Exams performed in January, February, and March of 2021 took place after the pediatric population experienced remote learning since city-wide public school closures began March 17, 2020.

“Exams from January, February, and March of 2019 and 2020 reflect data before the major lifestyle changes of the COVID-19 pandemic.

“Thus, patients seen in the early months of 2019 and 2020 serve as ‘control’ patients, and patients seen in the same early months of 2021 serve as ‘behavior change experiment’ patients.”

They found that the rate of increased myopia from 2020 to 2021 was more than double that of the rate from 2019 to 2020.

From 2020 to 2021, kids ages 8 and 17 saw the greatest increase (25%).

The uptick stood in stark contrast to the year before the COVID-19 lockdowns during which both ages saw a decrease in myopia, they said. From 2019 to 2020, 8-year-olds saw a 1% decrease and 17-year-olds saw a 24% decrease.

Moreover, kids who were already myopic in 2019 were typically the ones who reported the greatest worsening of their eyesight.

The study authors also compared the kids' exam results by education level. They looked at the myopia prevalence among elementary-level kids versus middle schoolers versus high schoolers.

Elementary-level kids had the greatest increase (10%) in prevalence during the COVID-19 lockdowns.

However, the authors noted that it's not just young kids who are at risk. "The notable increase in myopia prevalence in 17-year-olds in 2021 is an unexpected finding," they said, "as older children are thought to be less plastic."

Their data suggest it's important to reduce screen time and increase outdoor activity not only for younger children but older kids and adolescents, too.

They also called for more [research](#) on the long-term impact of increased screen time and decreased outdoor activities on kids' vision.

The study authors noted a limitation of the study is that it lacked exact measurements of screen time hours and outdoor activity hours.

Instead, the authors used the timeline of official education guidelines to infer the extent to which kids shifted from in-person learning and normal outdoor activities to online learning and restricted outdoor activities.

"Given the lack of direct measurements, our interpretations and conclusions are made with caution," they said.

The study was funded by a grant from the nonprofit [Research to Prevent Blindness](#).

The Defender reached out to the study's corresponding author but did not receive a response by the deadline.

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