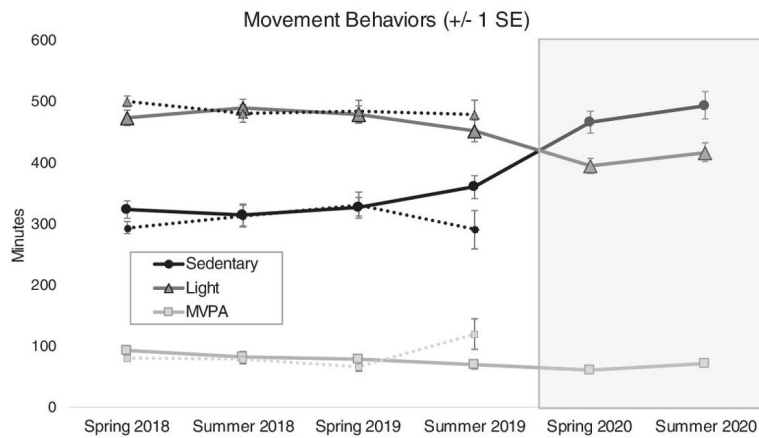


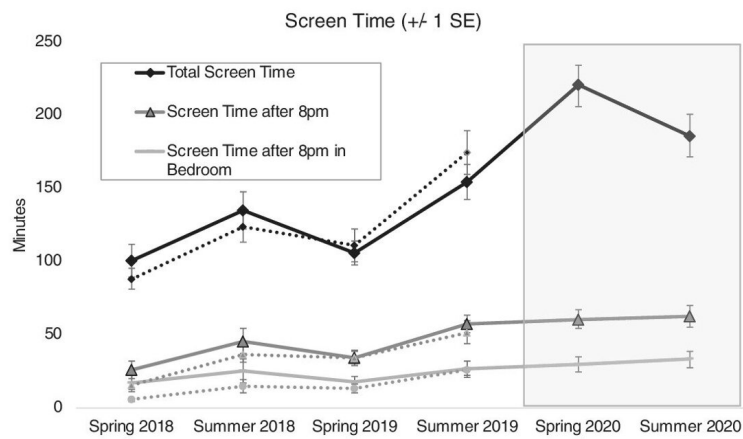
Children's health-related behaviors negatively impacted by COVID-19 pandemic

September 16 2021, by Erin Bluvas

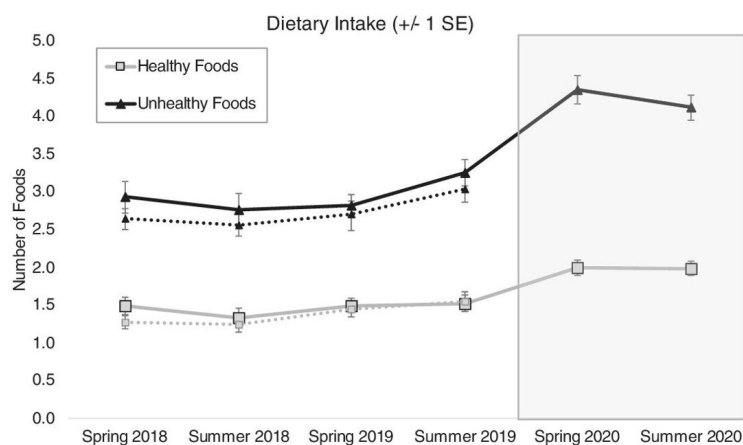
(a)



(b)



(c)



Dotted lines indicate the trajectory for children who only provided data in 2018 and/or 2019. Solid lines indicate the trajectory for children who participated in the 2020 subsample. Raw means and standard deviations are presented in Table 3.

Mean estimates of (A) physical activity and sedentary behavior, (B) screen time, and (C) dietary intake. Dotted lines indicate the trajectory for children who only provided data in 2018 and/or 2019. Solid lines indicate the trajectory for children who participated in the 2020 subsample. Credit: DOI: 10.1111/ijpo.12846

Researchers from the Department of Exercise Science have illuminated additional ways that the COVID-19 pandemic has impacted children's health. A recent study by members of the Arnold Childhood Obesity Initiative research group has already revealed accelerated increases in children's BMI and weight gain since the pandemic began. Now the team has published findings from a study on the impacts of the pandemic on children's health-related behaviors (e.g., physical activity, diet, screen time, sedentary behavior, sleep).

"Compared to pre-pandemic measures, children's physical activity, sleep timing, screen time, and diet have significantly worsened during the COVID-19 pandemic," says Bridget Armstrong, assistant professor of exercise science and lead researcher on the study published in *Pediatric Obesity*. "While any one of these [behavioral changes](#) might be concerning, their confluence for such an extended period of time may have significant health impacts, including dramatic increases in childhood obesity."

Prior to the pandemic, the authors and other scientists had already shown that pre-planned, structured activities provided by adults have a positive impact on children's sleep, diet, physical activity, and screen time behaviors. In this type of environment, children are more likely to consume nutritious meals, have a more regular sleep schedule, and

engage in more physical activity/less screen time. Their research has also established that the absence of these organized routines (e.g., summer break) results in less healthy behaviors, often leading to accelerated weight gain.

An estimated 1.5 billion children (ages 5–12) worldwide were impacted by school closures and virtual learning in March and April 2020. Many [extracurricular activities](#), which provide similar healthy behavior opportunities found in the structured programming offered at school, were canceled as well.

Collecting data using fitness trackers (physical activity, sleep) and parent surveys (screen time, [dietary intake](#)), the researchers compared the health behaviors of 231 children (ages 7–12) during and prior to the pandemic. They found that health behaviors worsened at a greater rate after the pandemic onset compared to pre-pandemic trends.

For example, [sedentary behavior](#) increased by 79 minutes/day, [physical activity](#) decreased by 10 minutes/day, sleeping time shifted later by 124 minutes/day, and unhealthy food consumption increased. Further, they observed that increased screentime during the springtime continued into the summer, even in the absence of virtual school.

"COVID-19-related closures and mitigation strategies may inadvertently alter [children's health](#) behaviors by mimicking an 'extended summer vacation' environment, largely devoid of external structure that school or extracurricular activities provide," Armstrong says. "While high levels of sedentary behavior and [screen time](#) along with reduced physical activities levels could be attributed to continued pandemic restrictions and potential relaxed parental rules to allow children to connect with friends virtually, our concern is that they might reflect new entrenched behavior patterns that persist even in the absence of pandemic restrictions."

More information: Sarah Burkart et al, Impact of the COVID -19 pandemic on elementary schoolers' physical activity, sleep, screen time and diet: A quasi-experimental interrupted time series study, *Pediatric Obesity* (2021). [DOI: 10.1111/ijpo.12846](https://doi.org/10.1111/ijpo.12846)

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