

1. Mark your confusion.
2. Show evidence of a close reading.
3. Write a 1+ page reflection.

What We Know About Schoolkids and Coronavirus

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As schools and parents struggle with the decision to reopen in-person classes, what do we know about kids' vulnerability? Here's everything you need to know:

Can children get COVID-19?

Yes, but the evidence strongly suggests that children are less prone to infection by the coronavirus than adults. Those under 18 account for about 6 percent of confirmed cases in the U.S., despite constituting some 22 percent of the population, according to data from the Centers for Disease Control and Prevention. That figure is somewhat higher than numbers from China, where children and teens accounted for 2.2 percent of confirmed cases, Italy (1.2 percent), and Spain (0.8 percent). A study published in *Nature* in June found that children and teenagers were about half as likely as adults to get infected by the virus. "It seems, consistently, children do have lower rates of infection than adults," said Alison Tribble, a pediatric infectious disease expert at the University of Michigan. Some doctors, however, believe pediatric infections are significantly undercounted because they're often asymptomatic. New data from hard-hit states, including Arizona and Mississippi, have shown children accounting for some 10 percent of cases.

Can children get seriously ill?

In rare cases. But the *Nature* study found that among those between 10 and 19, only 21 percent showed any symptoms at all. Hospitalizations are rare among the young, and deaths rarer still; as of July 22, the COVKID Project, which tracks pediatric figures in the U.S., counted 77 deaths among the young from a total of more than 144,000 deaths overall, and just over 800 intensive-care admissions. Over a three-month period ending in May, one study found only 44 deaths among children and teenagers across France, Germany, Italy, South Korea, Spain, the U.K., and the U.S.; during that period there were 13,000 pediatric deaths from normal causes. A small number of children who've contracted COVID have been afflicted with multisystem inflammatory syndrome in children, or MIS-C, an immune response that causes severe inflammation throughout the body, attacking the blood vessels, heart, kidneys, and other organs. The *New England Journal of Medicine* counted approximately 1,000 victims worldwide, with a median age of 8.

Why are children less vulnerable?

It's "a huge puzzle," said Nicholas Davies, an epidemiologist at the London School of Hygiene and Tropical Medicine. But there are several theories. One is that children's cells have fewer of the ACE2 receptors the coronavirus latches on to in order to launch an infection. Another theory is that since kids are frequently infected with the relatively benign coronaviruses that cause common colds, those infections generate a level of "cross-immunity" to the new coronavirus. The many immunizations children get may have a similar spillover protective effect. Yet another possibility is that children's immune systems are simply stronger and better suited to fighting the virus, in ways that aren't clear. And some hypothesize that children are better equipped to fight off novel pathogens, as they're constantly called on to do it. "Everything an infant sees, or a young child sees, is new," said Donna Farber, an immunologist at Columbia University.

Can children infect others?

This is the million-dollar question. Numerous studies from Europe and Asia have suggested children pass the disease on to others at a lower rate than adults. In a study of 39 Swiss households infected with COVID, children were suspected of having been the source in only three. In a French study, an infected boy exposed more than 80 classmates to the virus — and none contracted it. "The data are striking," pediatric disease specialist William Raszka wrote in the journal *Pediatrics* in July, citing these studies and three others. "The key takeaway is that children are not driving the pandemic." But age seems to be a key factor: A new, large-scale study from South Korea found a significant difference between children under 10 and teens.

What is the difference?

The study confirmed that younger children are significantly less likely to spread the virus — but found those between 10 and 19 transmit the virus at similar rates to adults. That lines up with evidence offered by reopened schools in Israel, New Zealand, and France, where the largest outbreaks have been in middle and high schools. A study of French schools by a scientist at the Pasteur Institute in Paris found that the risk of infection was much greater in high schools than in elementary schools. "We need to make sure to differentiate between young and older children," said Alyssa Bilinski, a Harvard doctoral student who's studying school outbreaks. "By the time you reach high school, the risk of infection is pretty indistinguishable from young adults." And even if young children have a much lower risk of infection and transmission, experts warn, there will inevitably be some outbreaks in schools. Kids aren't a "bubbled population," said Michael Osterholm, an infectious-disease expert at the University of Minnesota. "There will be transmission" in schools, and "we have to include that in our plans."

The school experience abroad

Schools offer the best opportunity to study transmission among the young — and there the evidence is mixed. A number of European countries, including Germany, Norway, and Denmark, have reopened schools without incident; researchers in Australia, Ireland, and Finland have also found no evidence of school spread in those countries. Most of these schools adopted some social-distancing approaches. But schools have had to close after outbreaks in China, South Korea, and most notably Israel, where more than 100 schools were shut in early June due to outbreaks that infected over 2,000 students and staff members. Experts say that many factors affect school spread, including class size and whether kids wear masks and socially distance. The rate of infection in the community can also play a major role. No country with rates anywhere near those of say, Los Angeles, Phoenix, or Miami has attempted school reopenings, so there's no model for what might result in places where classroom learning returns this fall. "Schools will now be the experiment," said Aaron Carroll, a pediatrician at the Indiana University School of Medicine. "We will see what happens."

Possible Response Questions:

- What are your thoughts about re-opening schools? Explain.
- Pick a word/line/passage from the article and respond to it.
- Discuss a "move" made by the writer in this piece that you think is good/interesting. Explain.