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# COVID-19 Disruptions in Learning of Critical Mathematics Content

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## Abstract

Having better knowledge of fractions is causally related to the ability to learn algebra, so what happens when teaching and learning about fractions is disrupted, as was the case during the COVID-19 pandemic? In this study, we examine how educational disruption caused by a pandemic differentially impacted students' fraction learning relative to students who were learning other mathematics content during that time. This study provides results from a cross-sequential project examining various facets of mathematics knowledge for students in 4th-10th grades over three years (2021, 2022, 2023; N=903 students). We investigate differences in fractions and algebra knowledge based on students' grade levels across cohorts to determine if there are particular periods at which students' learning was differentially affected by the disruption. Individual differences in students' self-regulation, self-efficacy, and personality will also be explored as potential buffers.