

ONLINE APPENDIX

“The COVID-19 Pandemic Disrupted Both School Bullying and Cyberbullying”

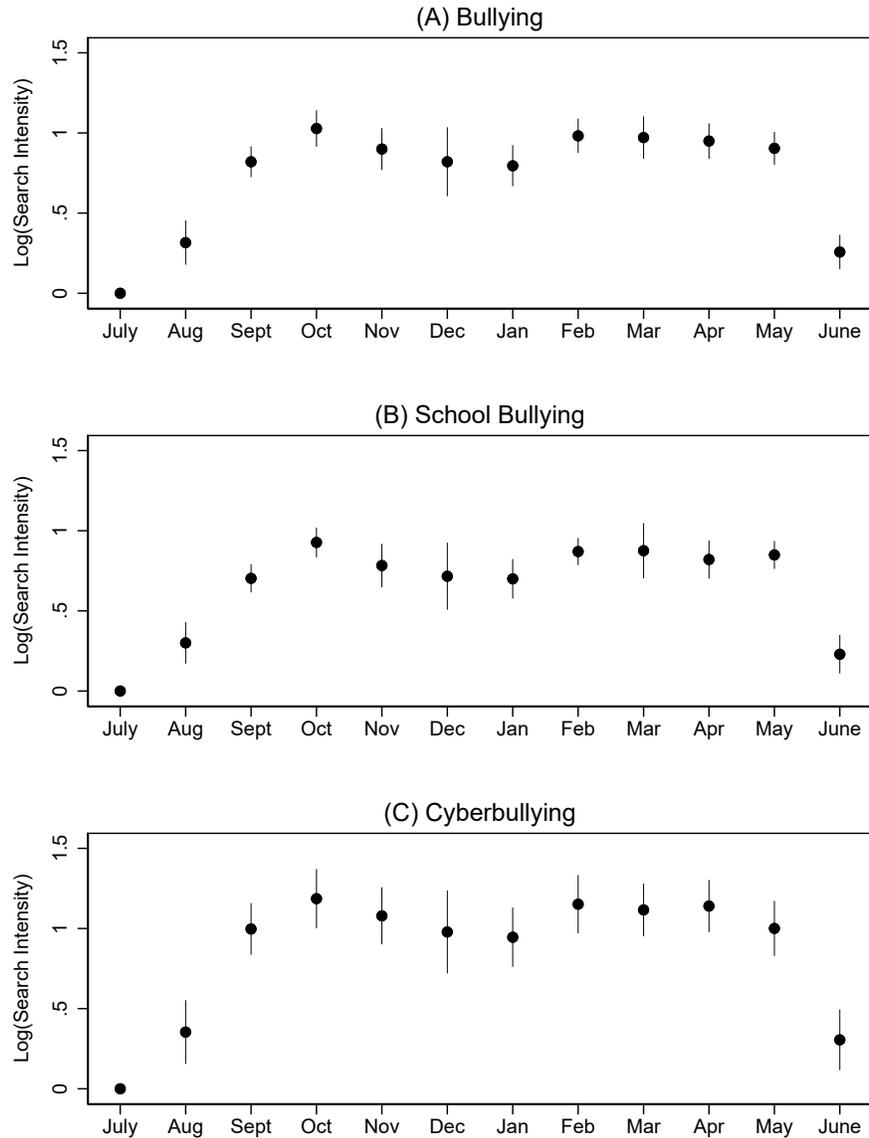
Andrew Bacher-Hicks

Joshua Goodman

Jennifer Greif Green

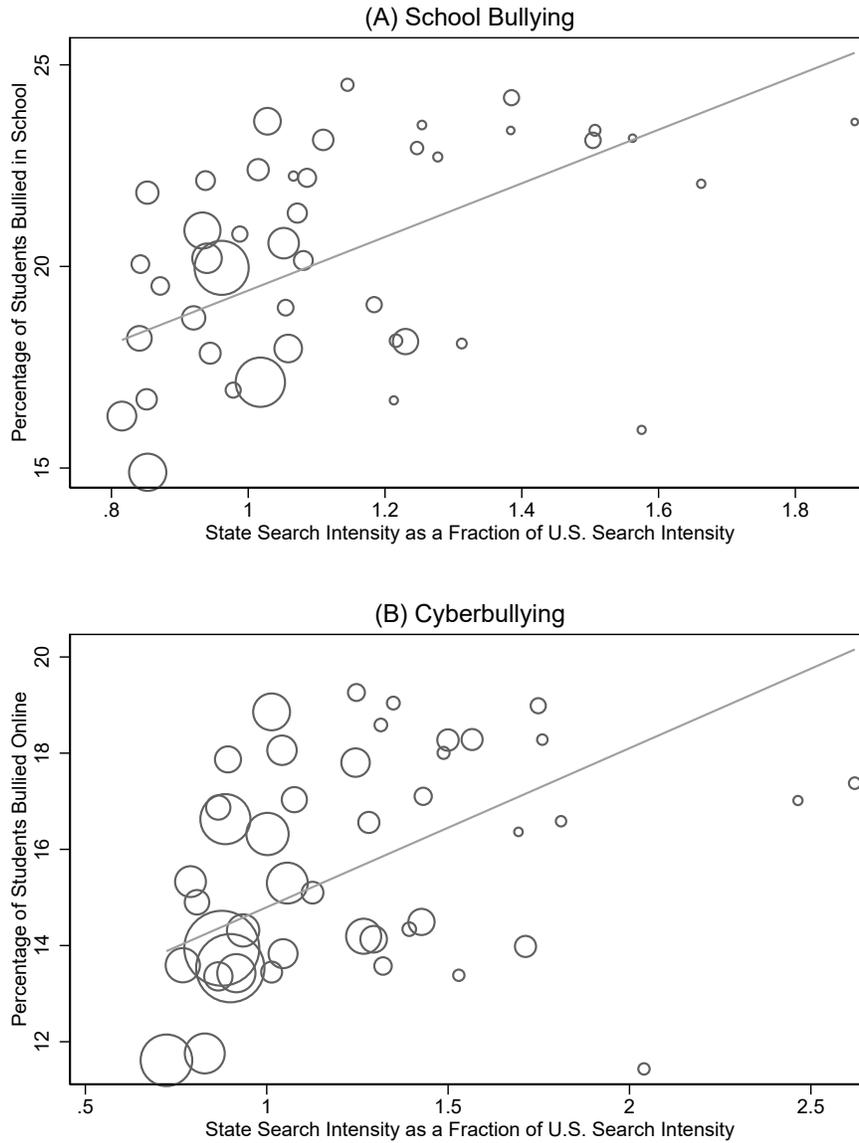
Melissa K. Holt

Figure A1. : Seasonality in Monthly Trends in Nationwide Search Intensity for School Bullying (Pre-COVID)



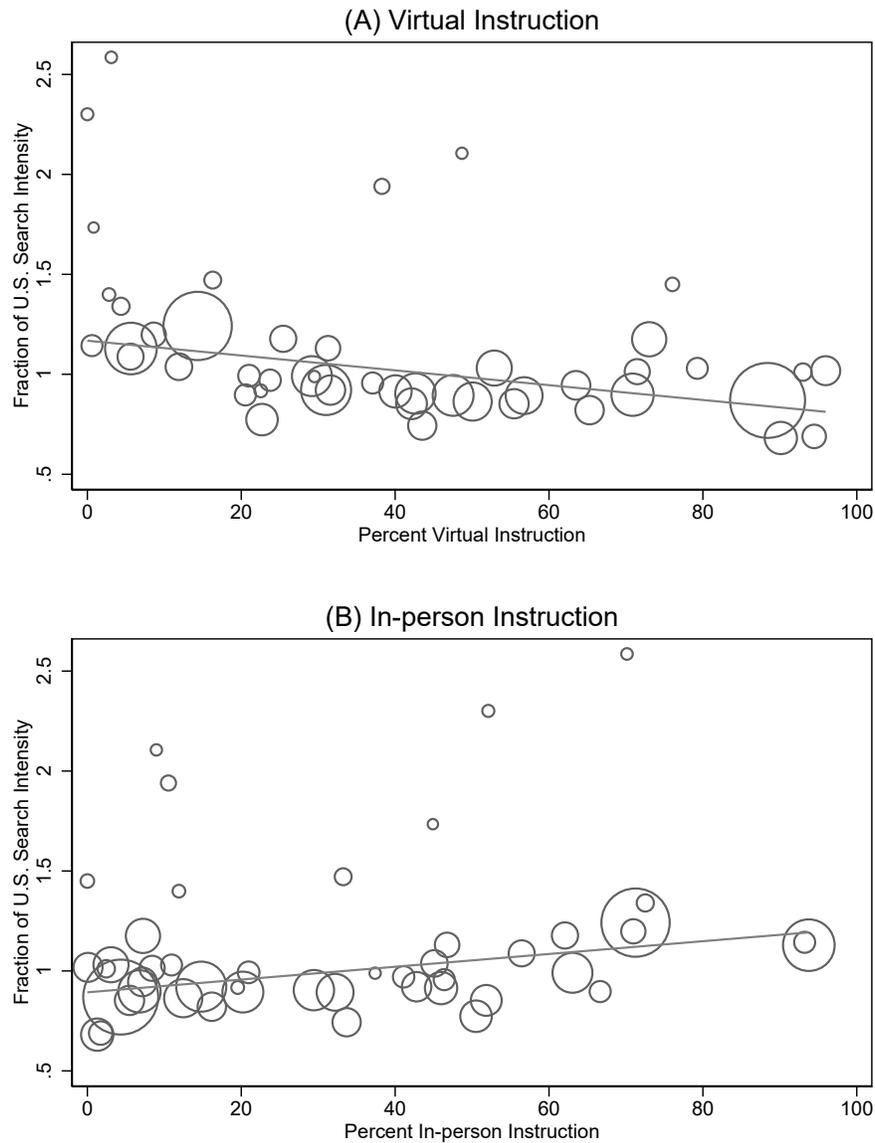
*Notes:* The figure above shows regression coefficients based on Equation 1 that estimate the difference in the logarithm of monthly search intensity between July and the other 11 calendar months. Panel A shows search intensity for a composite measure that includes “School Bullying” and “Cyberbullying”. Panel B shows search intensity for “School Bullying” and panel C shows search intensity for “Cyberbullying.” The regressions include fixed effects for month (2-12) and a linear trend for year (2016-2019). Also shown are 95 percent confidence intervals calculated with heteroskedasticity robust standard errors. The sample contains search data from January 2016 through December 2019.

Figure A2. : Relationship Between Survey Results and Internet Searches for Bullying (Pre-COVID)



Notes: The figure above presents the relationship between the percentage of students who were bullied and search intensity in Google Trends for a composite measure that includes “School Bullying” and “Cyberbullying”. Each circle represents a state, which is weighted by its 2019 population. The search intensity for each state is presented as a fraction of the national average search intensity for the same composite search term. Data include the 2013 through 2019 responses from the Youth Risk Behavior Survey and Google search intensity from the same time period. The population-weighted correlation coefficients are 0.42 for school bullying (Panel A) and 0.42 for cyberbullying (Panel B).

Figure A3. : Relationship Between Searches for Bullying and School Instructional Modes (2020-21)



*Notes:* The figure above presents the relationship between school instructional modes and search intensity in Google Trends for a composite measure that includes “School Bullying” and “Cyberbullying”. Panel A presents this relationship based on the percentage of schools offering only virtual instruction. Panel B presents this relationship based on the percentage of schools offering only in-person instruction. Each circle represents a state, which is weighted by its 2019 population. Google searches and data from Burbio on school instructional modes spans September 2020 to February 2021.

Table A1—: School Closure Dates by State

State	Legal status	State closure start date	Date closed for the year	Public school enrollment
Alabama	Ordered	March 19	April 6	744,930
Alaska	Ordered	March 16	April 9	132,737
Arizona	Ordered	March 16	March 30	1,123,137
Arkansas	Ordered	March 17	April 6	493,447
California	Recommended	March 19	April 1	6,309,138
Colorado	Ordered	March 23	April 20	905,019
Connecticut	Ordered	March 17	May 5	535,118
Delaware	Ordered	March 16	April 24	136,264
District of Columbia	Ordered	March 16	April 17	85,850
Florida	Recommended	March 16	April 18	2,816,791
Georgia	Ordered	March 18	April 1	1,764,346
Hawaii	Ordered	March 23	April 17	181,550
Idaho	Recommended	March 24	April 6	297,200
Illinois	Ordered	March 17	April 17	2,026,718
Indiana	Ordered	March 20	April 2	1,049,547
Iowa	Ordered	March 16	April 17	509,831
Kansas	Ordered	March 18	March 17	494,347
Kentucky	Recommended	March 16	April 20	684,017
Louisiana	Ordered	March 16	April 15	716,293
Maine	Recommended	March 16	March 31	180,512
Maryland	Ordered	March 16	May 6	886,221
Massachusetts	Ordered	March 17	April 21	964,514
Michigan	Ordered	March 16	April 2	1,528,666
Minnesota	Ordered	March 18	April 23	875,021
Mississippi	Ordered	March 20	April 14	483,150
Missouri	Ordered	March 23	April 9	915,040
Montana	Closure expired	March 16	n/a	146,375
Nebraska	Ordered	March 23	April 3	319,194
Nevada	Ordered	March 16	April 21	473,744
New Hampshire	Ordered	March 16	April 16	180,888
New Jersey	Ordered	March 18	May 4	1,410,421
New Mexico	Ordered	March 16	March 26	336,263
New York	Ordered	March 18	May 1	2,729,776
North Carolina	Ordered	March 16	April 24	1,550,062
North Dakota	Ordered	March 16	May 1	109,706
Ohio	Ordered	March 17	April 20	1,710,143
Oklahoma	Ordered	March 17	March 25	693,903
Oregon	Ordered	March 16	April 8	606,277
Pennsylvania	Ordered	March 16	April 9	1,727,497
Puerto Rico	Ordered	March 16	April 24	365,181
Rhode Island	Ordered	March 23	April 23	142,150
South Carolina	Ordered	March 16	April 22	771,250
South Dakota	Recommended	March 16	April 6	136,302
Tennessee	Recommended	March 20	April 15	1,001,562
Texas	Ordered	March 23	April 17	5,360,849
Utah	Ordered	March 16	April 14	659,801
Vermont	Ordered	March 18	March 26	88,428
Virginia	Ordered	March 16	March 23	1,287,026
Washington	Ordered	March 17	April 6	1,101,711
West Virginia	Ordered	March 16	April 21	273,855
Wisconsin	Ordered	March 18	April 16	864,432
Wyoming	Closure expired	March 16	n/a	94,170

Notes: Data come from Education Week's "Coronavirus and School Closures" website, last updated on May 15, 2020. All closure dates refer to 2020.

Table A2—: Correlations Coefficients of State-level Bullying Survey Results and Bullying Search Intensity

	YRBS Overall Bullying (1)	YRBS School Bullying (2)	YRBS Cyber Bullying (3)	Google Overall Bullying (4)	Google School Bullying (5)	Google Cyber Bullying (6)
YRBS Overall Bullying	1.000					
YRBS School Bullying	0.982 (0.000)	1.000				
YRBS Cyberbullying	0.973 (0.000)	0.913 (0.000)	1.000			
Google Overall Bullying	0.446 (0.003)	0.438 (0.003)	0.432 (0.003)	1.000		
Google School Bullying	0.430 (0.004)	0.416 (0.006)	0.423 (0.004)	0.957 (0.000)	1.000	
Google Cyber Bullying	0.443 (0.003)	0.441 (0.003)	0.423 (0.004)	0.979 (0.000)	0.889 (0.000)	1.000

Notes: P-values in parentheses. Data are at the state level and weighted by each state's 2019 population. Data include the 2013 through 2019 YRBS survey results and Google searches from the same time period.