GENERATIONAL LEARNING LOSS: HOW PANDEMIC SCHOOL CLOSURES HURT STUDENTS

HEARING

BEFORE THE

SUBCOMMITTEE ON EARLY CHILDHOOD, ELEMENTARY, AND SECONDARY EDUCATION

OF THE

COMMITTEE ON EDUCATION AND THE WORKFORCE

U.S. HOUSE OF REPRESENTATIVES

ONE HUNDRED EIGHTEENTH CONGRESS

FIRST SESSION

HEARING HELD IN WASHINGTON, DC, JULY 26, 2023

Serial No. 118–19

Printed for the use of the Committee on Education and the Workforce

Available via: *edworkforce.house.gov* or *www.govinfo.gov*

U.S. GOVERNMENT PUBLISHING OFFICE

53–759 PDF WASHINGTON : 2025

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C O N T E N T S

GENERATIONAL LEARNING LOSS: HOW PANDEMIC SCHOOL CLOSURES HURT STUDENTS

Wednesday, July 26, 2023

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON EARLY CHILDHOOD, ELEMENTARY,
AND SECONDARY EDUCATION,
COMMITTEE ON EDUCATION AND THE WORKFORCE,
Washington, DC.

The Subcommittee met, pursuant to notice, at 10:16, a.m., 2175 Rayburn House Office Building, Hon. Aaron Bean (Chairman of the Subcommittee) presiding.

Present: Representatives Bean, Owens, Miller, Kiley, Moran, Foxx, Bonamici, Hayes, Bowman, DeSaulnier, and Scott.

Staff present: Cyrus Artz, Staff Director; Mindy Barry, General Counsel; Hans Bjontegard, Legislative Assistant; Isabel Foster, Press Assistant; Daniel Fuenzalida, Staff Assistant; Sheila Havenner, Director of Information Technology, Meghan Heckelman, Intern; Claire Houchin, Intern; Amy Raaf Jones, Director of Education and Human Services Policy; Georgie Littlefair, Clerk; RJ Martin, Professional Staff Member; Hannah Matesic, Director of Member Services and Coalitions; Audra McGeorge, Communications Director; Eli Mitchell, Legislative Assistant; Rebecca Powell, Staff Assistant; Brad Thomas, Senior Education Policy Advisor; Maura Williams, Director of Operations; Savoy Adams, Minority Intern; Brittany Alston, Minority Operations Assistant; Ilana Brunner, Minority General Counsel; Scott Estrada Minority Professional Staff; Rashage Green, Minority Director of Education Policy; Kristion Jackson, Minority Intern; Malak Kalasho, Minority Intern; Stephanie Lalle, Minority Communications Director; Raiyana Malone, Minority Press Secretary; Kota Mizutani, Minority Deputy Communications Director; Elizabethe Payne, Minority Fellow; Veronique Pluviose, Minority Staff Director; Eli Smolen, Minority Intern.

Chairman BEAN. A very good morning, ladies and gentlemen. Welcome to your nation's capital. Welcome to the U.S. House of Representatives, and welcome to the Subcommittee on Early Learning Elementary and Secondary Education.

This meeting is called to order. I am Aaron Bean. I am from Florida. I am going to be your guide, your Chair, your host as we embark on a journey to see what happened during COVID. What happened? We made a lot of decisions affecting our kids and

schools, so today we have assembled an all-star panel to help us see what happened, and review what happened.

I note that a quorum is present. Without objection, the Chair is authorized to call a recess at any time. The Subcommittee is meeting today to hear testimony about the learning loss that resulted from pandemic school closures. I now yield myself 5 minutes for an opening statement.

Do you guys remember the 90's? It was a decade of new and innovative technology. Grunge was the fashion and the live music. On the radio was Nirvana, Green Day, Alanis Morissette. Titanic and Forrest Gump ruled the big screen and Seinfeld and Cheers dominated TV.

School computers, labs were filled with Apple McIntosh's and if you were lucky, they were brightly colored with IMAX, colored red, CD ROM's where you could use your school lightning fast internet to check your AOL mail, or spend countless hours playing Oregon Trail during class. You felt like a fashion icon as you walked down the school's hallway wearing your Reebok pump sneakers on your feet, trapper keeper in hand, and disc man headphones around your neck.

Great decade, but sadly our American education system today is stuck back in that decade. The 90's. In other words, in only a matter of 2 years a generation of progress was lost. The great irony of COVID is how a majority of parents who so easily predicted online education and school closures, would be detrimental for students, and how so many bureaucratic education experts with all the research power in the world took years to reach the same conclusion.

The nation's report card 2022 assessment for 8th graders found math scores are at their lowest point in two decades. The same for reading, history and civic scores plummeted to their lowest mark since the tests were first administrated, administered in the 1990's.

When you examine the data by class you see an even more harrowing picture. Low-income and minority students suffered the most, and for some students from working class families, school closures did not mean online class, it meant babysitting their siblings, or in some instances, no school at all.

Test scores are just the scratch of the surface of this learning loss underseeing a set of social problems this generation is facing and will continue to face as consequences of school closures unfold. Adolescent mental health issues spiked, hospital visits spiked, and sadly so did suicides in certain regions of the country.

It is a steep price to pay, and they are continuing to pay for these needless—should I say school closures? We will find out. I should say prolonged school closures. The mass shuttering of schools throughout the pandemic is one of our greatest education policy failures in our Nation's history.

At the height of the pandemic school closures affected 97 percent of K through 12 students, over 55 million students, and as late as May 2021, well after a year after the pandemic school districts in states like states like California and others were not back to in person instructions.

In my State, the free State of Florida, our schools were back in person within 6 months. The data will show putting kids in the classrooms sooner than later was the right answer. Examining who

closed, and when they closed, research shows unions, teacher unions disproportionately affected school closures.

Brooking Institute studies found that school districts with lengthier collective bargaining agreements were less likely to start the fall 2020 semester with in-person instruction. What the data does not support is that shutdowns were predicated primarily on pandemic severity.

Let us not forget about the money. We are coming off the largest investment in education during COVID. Over 190 billion during the COVID pandemic. What happened to that 190 billion? That may be a great question for our panelists. Despite what some people may say, money may not be the answer anymore for those that think money is needed, we already tried that, and here we are.

This whole thing was like a jagged little pill. This set of facts suggests that we need to rethink our pandemic response if one was to rise again and how to recover. Where do we go from here? We have got some panelists that are going to help us chart that course. We start today by how it unfolded. Who knew what? When did they know? Then let us hold those that made decisions when the data reflected otherwise accountable.

George Orwell famously wrote in his novel 1984, that the party's final and most essential command was to ignore the evidence of their ears and eyes. Parents and the American people, we are not going to be deceived. We must demand accountability for those responsible. We must decentralize the decisionmaking power for education in this country, and above all that means school choice.

At the end of the day no solution will better equip American schools for another pandemic than empowering parents to make the best decisions for their children. Let us acknowledge some states made different decisions, and let the data reflect where they are and where those students are going forward.

We will hear from who fared better than others from our witnesses. I want to thank everybody for coming here. We are going to have a robust discussion, and I look forward to everyone's testimony. With that, I yield to the Ranking Member for an opening statement.

[The statement of Chairman Bean follows:]

COMMITTEE ON EDUCATION & THE WORKFORCE

COMMITTEE STATEMENT

Opening Statement of Rep. Aaron Bean (R-FL), Chairman
Subcommittee on Early Childhood, Elementary, and Secondary Education
Hearing: "Generational Learning Loss: How Pandemic School Closures Hurt Students"
July 26, 2023

(As prepared for delivery)

Ask any parent and he or she will tell you that America's kids are in trouble.

The great irony of COVID is how a majority of parents so easily predicted online education would be detrimental for students and how so many bureaucratic experts—with all the research power in the world—took years to reach the same conclusion.

The Nation's Report Card's 2022 assessment for eighth graders found math scores are at their lowest point in nearly two decades. The same for reading scores. History and civics scores plummeted to their lowest mark since the tests were first administered in the 1990s.

In other words, in the matter of only two years, a generation of progress was lost.

When you examine the data by class you see an even more harrowing picture. Low-income and minority students suffered the most. And for some students from working-class families, school closure didn't mean online class. It meant babysitting their siblings or no school at all.

And test scores just scratch the surface of learning loss. Underneath is a sea of social problems this generation is facing and will continue to face as a consequence of

school closures. Among adolescents, mental health issues spiked. Hospital visits spiked. And sadly, suicides spiked.

This is the steep price our kids are paying for needless COVID school closures. In fact, the mass shuttering of schools throughout the pandemic is one of the greatest education policy failures in our nation's history.

At the height of the pandemic, school closures affected 97 percent of K-12 students, or some 55 million students. As late as May 2021—well over a year after the pandemic began—most school districts in blue states like California and Oregon were not back to in-person instruction. In the free state of Florida, our schools were back in person within six months, and the NAEP's results once again prove that we made the right decision.

And research shows that Democrats and teachers unions disproportionately influenced school closures.

In 2021, Tulane University researchers found that schools in communities with a higher share of Democratic voters were much more likely to stay remote. The study found that an increase in Hillary Clinton's 2016 vote by 14 percent was associated with a 10.5 percentage point increase in the chance that local schools stayed remote.

A Brookings Institute study found that "school districts with lengthier collective bargaining agreements were less likely to start the fall 2020 semester with in-person instruction."

What the data does not support is that school shutdowns were predicated primarily on pandemic severity.

This set of facts suggests we need to rethink our pandemic response if one were to arise again.

So where do we go from here?

We need to start by identifying and dispelling the mass attempt by school-closers to memory-hole their responsibility. The campaign to downplay and walk back the teachers unions' role is well underway in the mainstream press and scientific journals.

George Orwell famously wrote in his novel, *1984,* that the Party's final and most essential command was to ignore the evidence of their eyes and ears. But this Committee and the American people will not be gaslit!

We must demand accountability from the bureaucrats and teachers unions responsible for this tragedy. But we must also acknowledge that there is a limit to the behavior we can change from entrenched powers by demanding accountability.

We must decentralize the decision-making power for education in this country. Above all, that means school choice. At the end of the day, no solution will better equip American schools for another pandemic than empowering parents to make the best decisions for their children.

We should also acknowledge that some states acted heroically to get students back into classrooms and are aggressively addressing the effects of the pandemic now. We will hear about that from our witnesses.

With that, I thank the distinguished witnesses for making the effort to appear today, I look forward to your testimony, and I yield to the Ranking Member for an opening statement.

Ms. BONAMICI. Thank you very much, Chair Bean. Thank you to our witnesses for being with us to discuss how the COVID19 pandemic negatively affected students, and how we can help them recover, equitably and effectively. I want to highlight that we are 6 months into this Congress, and this is our first hearing dedicated to missed learning time.

My Republican colleagues claim they want to address this issue and help students get back on track, yet so far their legislative priorities have focused on culture wars, and defunding public schools, including a bill they passed last week that would threaten critical resources for schools that provide shelter for migrants in need.

Today, I hope my colleagues can put politics aside so we can have a productive, as the chairman said, and robust conversation and move on the right direction on behalf of students. In 2020, at the height of the COVID–19 pandemic school districts were forced to

close classrooms to mitigate the spread of the virus, and to protect students and staff and their families.

School leaders did not take this decision lightly. Parents and teachers knew that remote learning could hinder student's learning, especially in the absence of digital equity. They were also rightly concerned for the health and safety of their students, staff and their families, especially because of the lack of testing, tracing, personal protective equipment and vaccines at the outset of the pandemic.

It was an extremely challenging and stressful time as we all remember. We did not know how bad the pandemic would be, or how long it would last. Unfortunately, the Trump administration made things worse by politicizing the crisis and failing to act quickly to implement a science driven response to COVID–19. Remember, it will be over by Easter.

It is important to keep in mind that schools entered the crisis with a $23 billion racial funding gap that already existed between school districts serving mostly students of color, and school districts serving mostly white students. Now, numerous studies and national assessment results are showing the inevitable.

Missed learning time hurt student performance and importantly, it deepened preexisting achievement gaps. According to recent data released by the National Assessment of Educational Progress, or NAEP, students have suffered a significant decline in achievement across several subjects and grade levels.

The students who fared the worst were those who were already struggling prior to the pandemic, particularly black and Latino students and students living in poverty. In early 2021, congressional Democrats and President Biden passed the American Rescue Plan Act, which delivered the largest one-time Federal investment in K12 education in our Nation's history. By targeting this funding toward the highest need learners, we worked with the Biden administration to reopen schools safely with the focus on students' academic, social and emotional recovery.

In the short-term this historic funding helped schools bridge the digital divide and also avoid extended gaps in instruction. In the long-term it has provided students, parents and teachers with resources to address missed learning time.

Thanks to the American Rescue Plan, school districts around the country, including in my home State of Oregon, have been able to hire teachers and tutors, keep their doors open during the summer for academic and extracurricular enrichment, renovate aging HVAC systems to improve the health and safety of students and staff, and design other evidence-based programs to combat missed learning time.

For example, Portland public schools used COVID relief funds to make direct investments in students' academic, social and emotional success and well-being. They hired learning acceleration specialists, invested in summer programming, and implemented professional development for teachers to help them effectively facilitate recovery from the pandemic.

In Oregon, American Rescue Plan dollars made and continue to make a difference for students and families. I want to note that the Care's Act in early 2020, and the Consolidated Appropriations Act

in late 2020 were bipartisan. Unfortunately, the Republican approach to missed learning time since then is to leave schools to fend for themselves, and to make repeated brazen attempts to fund unaccountable private schools with taxpayer dollars.

In fact, Democrats on this committee are especially concerned at present with House Republicans most recent efforts to defund public schools, including a proposed budget that decimates key resources for our children's education. Under this proposal funding would be slashed from programs aimed at addressing missed learning time and supporting students from low-income families.

It would kick teachers out of classrooms by eliminating funding that helps recruit, retain, and develop high-quality educators. Democrats have delivered on our commitment to helping students, parents and schools overcome missed learning time, but those promises and policies are now being undermined unfortunately by an extreme MAGA Republican agenda that's putting politics over people, and culture wars over classrooms.

Instead, I urge my colleagues on the other side of the aisle to join us in investing in public education, and evidence-based programs that address missed learning time, and focus on student success at every level. Finally, I want to remind my colleagues of some sobering COVID statistics.

Since the start of the pandemic more than 6,216,000 Americans were hospitalized, and more than 1,135,000 Americans died. Yes, my colleagues and I are deeply concerned about missed learning, but I also urge us to keep in mind the lives lost as well as the lives saved by limiting exposure.

Mr. Chairman, I would like to introduce into the record an article from Education Week titled Over 1,000 Educators Died from COVID. Here is the Story of one. From the Chalkbeat publication, the Pandemic's Toll, Study Documents Fatalities Rates of Teachers and Childcare Workers in 2020.

Chairman BEAN. Without objection, it is entered into the record.

[The information of Ms. Bonamici follows:]

EducationWeek®

TEACHING PROFESSION

Over 1,000 Educators Died From COVID. Here's the Story of One

By Lesli A. Maxwell — December 19, 2022 3 min read

— Education Week

Reports of school staff dying from COVID are now scarce—a tremendous relief. But a bittersweet relief, as people still die and the pandemic persists.

Since the spring of 2020, Education Week documented 1,308 active and retired educators who succumbed to the virus. Among the total, 451 were active teachers. School staff members, including secretaries, food service workers, bus drivers, and others comprised the second biggest group of deaths at 332.

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Today—Dec. 19, 2022—will be the final update to our memorial gallery.

It will stand as an imperfect historical record—our collection is not comprehensive. And it will stand as an imperfect measure of the enormity of loss.

The loss of dedicated educators like Sandra Santos-Vizcaíno.

Sandra Santos-Vizcaíno

The 3rd grade dual-language teacher at P.S. 9 in the Brooklyn borough of New York City was among the earliest wave of educators to die in the pandemic, on March 31, 2020. A street in the Sunset Park neighborhood in Brooklyn now bears her name. Student artwork adorns P.S. 9's playground benches in her honor.

But those visible markers of her life fall short of what she actually gave—and what she still means to her school community.

"She was such a nurturer. She built relationships with her students and her families that was inspiring to all of us," said Selisa Peña, a P.S. 9 teacher.

"Once you were a student in her class, you were her student forever," said Jocelyn Burgos, another P.S. 9 teacher who considered Vizcaíno a mentor and her "work mom."

"I used to drive home with her after school, and she had all these families' numbers in her phone," Burgos said. "These were family members of her former students. And she would make regular calls to those parents to ask about their kids."

When Burgos first joined the P.S. 9 faculty to teach 5th grade, Vizcaíno sought her out straightaway. She wanted to see which of her former students was on the roster. She wanted Burgos to know something about each of them.

“This one has a strong sense of justice,” Burgos said Vizcaíno told her about one student. “This one thinks they aren’t good at math, but they are,” she told Burgos of another as she moved down the list to share an insight about each child.

That depth of caregiving extended to her fellow teachers, Marlene Henríquez, another teacher at P.S. 9, said. Regularly, Vizcaíno would summon Henríquez to her classroom to eat empanadas she made in an air fryer. She insisted, every year, that Henríquez take part in Día de la Madre—Mother’s Day in the Dominican Republic—even though Henríquez had no children of her own.

“She told me, ‘You’re a mother to all these children who are your students,’” Henríquez said.

Vizcaíno’s presence is still strong at P.S. 9.

When teachers and students returned to the school building after a long stretch of virtual learning, Burgos moved into her classroom.

“It felt like I inherited something so special,” she said. “I would find her notes, her resources. It was amazing to be in her space.”

This year, Peña is teaching in that classroom.

Commemorating lives cut short

Collecting the names, ages, titles, schools/districts, and dates of death for this memorial gallery has been a labor of honor and respect. I read each person’s obituary or news article about their deaths. They were educators and school personnel of all ages, races, genders. They were from all regions of the United States.

My partner in this endeavor, Visuals Editor Jaclyn Borowski, would search for photos for each person. She found one for most of them.

Many were so young, something Jackie especially noticed. Official obituary photos showed them in graduation caps and gowns, with visibly pregnant bellies, and on their wedding days.

"The other thing that struck me were how many of their photos were selfies," she said. "It made me wonder about the moment they took that photo, the moment they were in in their lives, how quickly and unexpectedly their lives changed."

I'd like to express my deep gratitude to the sources I relied heavily on to capture the names of those who died: my EdWeek librarian colleagues Holly Peele and Maya Riser-Kositsky, the obituary writers at local news outlets across the United States, and @Losttocovid, a Twitter account relentlessly dedicated to paying tribute to America's K-12 personnel who died in the pandemic.

Lesli A. Maxwell

Managing Editor, Education Week

Lesli Maxwell is managing editor. She also writes The Savvy Principal newsletter.

EARLY CHILDHOOD EDUCATION COVID AND SCHOOLS COVID SAFETY

The pandemic's toll: study documents fatality rates of teachers, child care workers in 2020

By Matt Barnum, National Reporter, June 06, 2022 05:41 PM

Preschoolers participate in morning exercises at Little Scholars child care center in Detroit, Michigan, U.S., on Thursday April 1, 2021. Emily Elconin for Chalkbeat

Child care workers were more likely than the typical American worker to die of COVID in 2020, according to new research.

Among over 1 million child care workers, 405 died from COVID in 2020, the study found, using data from nearly every state. That translates to 38 deaths for every 100,000 child care workers — a higher rate than workers overall, and one similar to others in "essential" industries where in-person work was common.

Pre-kindergarten through 12th grade teachers, on the other hand, had somewhat lower mortality rates than the typical worker. Eight hundred and eight teachers at public and private schools died from COVID in the first year of the pandemic, for a rate of 15 deaths of every 100,000 teachers.

The study, which examined the death rates among 155 million working Americans across 46 states, offers the clearest picture to date of the toll that the first year of the pandemic took on American educators — and the disproportionate impact on child care workers in particular.

“There’s no way to know from this particular research whether or not it’s the child care work itself that caused the increased morbidity,” said Walter Gilliam, a Yale professor who studies child care. “It doesn’t change the fact that this is a workforce that we don’t adequately support.”

The study can’t distinguish among several reasons why the death rates of different occupations diverged. Although the researchers adjusted for age, they did not account for other factors that might affect someone’s risk of contracting and dying from COVID, including other health conditions, access to health care, race, income, or geography. It also can’t show whether COVID was contracted on the job or elsewhere.

Jobs with the highest mortality rates included cooks, security guards, nursing aides, and truck drivers. Workers in essential industries had nearly twice the death rate as those with “non-essential” positions. Overall, 31 workers in 100,000 died of COVID in 2020.

Although they can’t show it definitively, the researchers suggest that the generally high death rates among essential workers were due to insufficient workplace safety precautions.

“We infer that at least some of it is due to on-site transmission,” said Yea-Hung Chen, one of the study authors and a researcher at the University of California, San Francisco, though he acknowledged the results “don’t prove that.”

The paper did not break down the data for child care workers or teachers, but Chen provided the results to Chalkbeat.

One potential explanation for why child care workers had higher death rates than teachers is because child care and early learning centers were typically open, while many K-12 schools continued virtual instruction through 2020.

“During the pandemic, it was these unheralded child care workers who were keeping the American economy going by taking care of other people’s children,” said Gilliam.

But Gilliam’s research found that child care workers who returned to work in person in the spring of 2020 had similar COVID infection rates as those who did not return to in-person work, suggesting other factors were at play.

The data comes after a year-plus of debates about how quickly public schools should reopen — and the lingering consequences of some staying closed for in person instruction for much of the 2020-21 school year. Many politicians and some parents urged schools to reopen more quickly than they did. But other parents and many teachers pushed schools to remain virtual out of concern over safety.

Research has found that students who remained virtual fell further behind academically. The latest study does not examine whether school reopening decisions contributed to mortality rates among child care workers or teachers.

Overall, 350,000 Americans died of COVID in 2020, and each loss of a teacher or child care worker left devastated families, colleagues, and children. “This is about people who are beloved in their school communities and have done so much good, and now they’re gone,” then-Mayor Bill de Blasio said in April 2020.

Correction: A prior version of this story mischaracterized teacher fatality rates in England as not elevated compared to other professionals. In fact, this varies depending on the teaching level. This line has been removed.

Matt Barnum is a national reporter covering education policy, politics, and research. Contact him at mbarnum@chalkbeat.org.

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Ms. BONAMICI. Thank you again, Mr. Chairman and thank you to our witnesses and I look forward to a productive conversation.

[The statement of Ranking Member Bonamici follows:]

ED & WORKFORCE DEMOCRATS

OPENING STATEMENT

House Committee on Education and the Workforce
Ranking Member Robert C. "Bobby" Scott

Opening Statement of Ranking Member Bonamici (OR-01)
Subcommittee on Early Childhood, Elementary, and Secondary Education
"Generational Learning Loss: How Pandemic School Closures Hurt Students"
Wednesday, July 26, 2023 | 10:15 a.m.

Thank you very much, Chair Bean. And thank you to our witnesses for being with us to discuss how the COVID-19 pandemic negatively affected students, and how we can help them recover equitably and effectively.

I want to highlight that we're six months into this Congress, and this is our first hearing dedicated to missed learning time. My Republican colleagues claim they want to address this issue and help students get back on track. Yet, so far, their legislative priorities have focused on culture wars and defunding public schools—including a bill they passed last week that would threaten critical resources for schools that provide shelter for migrants in need.

But today, I hope my colleagues can put politics aside so we can have a productive as the Charman said, and robust conversation and move in the right direction on behalf of students.

In 2020, at the height of the COVID-19 pandemic, school districts were forced to close classrooms to mitigate the spread of the virus and to protect students and staff and their families.

School leaders did not take this decision lightly. Parents and teachers knew that remote learning could hinder students' learning – especially in the absence of digital equity. But they were also rightly concerned for the health and safety of students and staff and their families—especially because of the lack of testing, tracing, personal protective equipment, and vaccines at the outset of the pandemic.

It was an extremely challenging and stressful time, as we all remember. We didn't know how bad the pandemic would be, or how long it would last. Unfortunately, the Trump administration made things worse by politicizing the crisis and failing to act quickly to implement a science-driven response to COVID-19.

Remember it would be over by Easter.

It is important to keep in mind that schools entered the crisis with a $23 billion racial funding gap that already existed between school districts serving mostly students of color and school districts serving mostly white students.

And now numerous studies and national assessment results are showing the inevitable: missed learning time hurt student performance and importantly, it deepened pre-existing achievement gaps.

According to recent data released by the National Assessment of Educational Progress, or NAEP, students have suffered a significant decline in achievement across several subjects and grade levels. The students who fared the worst were those who were already struggling prior to the pandemic, particularly Black and Latino students and students living in poverty.

In early 2021, Congressional Democrats and President Biden passed the American Rescue Plan Act, which delivered the largest, one-time federal investment in K-12 education in our nation's history. And by targeting this funding toward the highest-need learners, we worked with the Biden Administration to reopen schools safely with a focus on students' academic, social, and emotional recovery.

In the short term, this historic funding helped schools bridge the digital divide and also avoid extended gaps in instruction.

And in the long term, it has provided students, parents, and teachers with resources to address missed learning time. And thanks to the American Rescue Plan, school districts around the country – including in my home state of Oregon – have been able to hire teachers and tutors, keep their doors open during the summer for academic and extracurricular enrichment, renovate aging HVAC systems to improve the health and safety of students and staff, and design other evidence-based programs to combat missed learning time.

For example, Portland Public Schools used COVID relief funds to make direct investments in students' academic, social, and emotional success and well-being. They hired learning acceleration specialists, invested in summer programming, and implemented professional development for teachers to help them effectively facilitate recovery from the pandemic. In Oregon, American Rescue Plan dollars made – and continue to make – a difference for students and families.

I want to note that the CARES Act in early 2020 and the Consolidated Appropriations Act in late 2020 were bipartisan, but unfortunately, the Republican approach to missed learning time since then has been to leave schools to fend for themselves and to make repeated, brazen attempts to fund unaccountable private schools with taxpayer dollars.

In fact, Democrats on this Committee are especially concerned at present by House Republicans' most recent efforts to defund public schools, including a proposed budget that decimates key resources for our children's education. Under this proposal, funding would be slashed from programs aimed at addressing missed learning time and supporting students from low-income families. It would kick teachers out of classrooms by eliminating funding that helps recruit, retain, and develop high-quality educators.

Democrats have delivered on our commitment to helping students, parents, and schools overcome missed learning time, but those promises and policies are now being undermined unfortunately by an extreme MAGA Republican agenda that's putting politics over people and culture wars over classrooms.

Instead, I urge my colleagues on the other side of the aisle to us in investing in public education and evidence-based programs that address missed learning time and focus on student success at every level.

Finally, I want to remind my colleagues of some sobering COVID statistics. Since the start of the pandemic, more than 6,216,000 Americans were hospitalized, and more than 1,135,000 Americans died. Yes, my colleagues and I are deeply concerned about missed learning, but I also urge us to keep in mind the lives lost - as well as the lives lost as well as the lives saved by limiting risks of exposure.

And Mr. Chairman I would like to introduce into the record there's an article from Education Week titled "Over 1,000 Educators Died From COVID. Here's the Story of One", and from the Chalkbeat publication, "The Pandemic's Toll: Study Documents Fatality Rates of Teachers, Child Care Workers in 2020."

Thank you, again, Mr. Chairman, and I thank you to our witnesses. And I look forward to a productive conversation.

Chairman BEAN. Thank you very much, Ranking Member Bonamici. The robust conversation is just beginning. Let us go to this Committee. This Committee—let me read the official statement which says pursuant to Commission Rule 8-C, all Committee members who wish to insert written statements in the record today may do so by submitting them to the Committee Clerk electronically in Microsoft Word format by 5 p.m. after 14 days from the date of the hearing, which is August 9, 2023.

Without objection the hearing record will remain open for 14 days after the date of this hearing to allow such statements, and other extraneous material referenced during the hearing, so it may also be submitted for the official hearing record.

We both have here today, both the big Chair of the big Committee of Education and Workforce, as well as the Ranking Member. Dr. Foxx, would you like to make any opening statement? You are recognized.

Mrs. FOXX. Thank you, Mr. Chairman. No opening statement, but I would like to welcome all of our witnesses today. Particularly, Superintendent Catherine Truitt from the great State of North Carolina. She is doing a terrific job, and I am very pleased that she is able to be here. Thank you, Mr. Chairman. I will hold my questions until later.

Chairman BEAN. Thank you, Madam Chair. Let us go to Ranking Member Bobby Scott. You are also recognized. First of all, thanks for coming today. You are recognized for an opening statement should you wish to make one.

Mr. SCOTT. Thank you, Mr. Chairman. I would like to hear from the witnesses, but I would point out that when students were out of school because of the pandemic obviously there was learning loss. The question is not whether there was learning loss, the question is what are we doing about it.

As the ranking subcommittee chair mentioned, we invested the largest investment in K through 12 education in the history of the United States with the expectation that it would be used to make up that learning loss, so I look forward to see what they did with the money. Thank you and I yield back.

Chairman BEAN. Thank you, Representative Scott. Thank you so much. Let us get to it. Our first witness is no stranger to education, it is Dr. Nat Malkus. He is the Senior Fellow and Deputy Director, Education Policy Studies, of the American Enterprise Institute. He has every credential. It is a full page, members, it is a full page of his credentials in your sheet.

Let me tell you something special. There is a special place in heaven for middle school teachers. Dr. Malkus spent 4 years as a middle school teacher in Maryland, and then earned his Ph.D. in Education Policy and Leadership from the University of Maryland at College Park. He has a BA in historical students from Covenant College.

We got to meet earlier and talked about him keeping score. He kept score of all of the data. There was a lot. When we looked for what witness could bring that data before the Committee of who knew what, when did they know it, and how the decisions were made there was one guy. His name is Nat Malkus, and he is here today.

For our members, I think I told you with the exception of Ms. Wray, welcome, I am glad to have you here. There is a 5-minute rule, so you have 5 minutes. I think we have a light to give you a guide. I will kind of—if I do this that is a silent signal to you to wrap it up, and you do not want to hear that. That means we have gone way too far.

Dr. Malkus welcome. You are recognized for 5 minutes. Yes, we will go through them as they come, so Dr. Malkus, welcome. I am glad to have you here.

STATEMENT OF DR. NAT MALKUS, SENIOR FELLOW AND DEPUTY DIRECTOR, EDUCATION POLICY STUDIES, AMERICAN ENTERPRISE INSTITUTE, WASHINGTON, D.C.

Mr. MALKUS. Chairman Bean, Ranking Member Bonamici, members of the Subcommittee. Thank you for inviting me to testify here today. In March 2020, the pandemic abruptly shifted my work to studying school's response to it. That resulted in the first nationally representative data on district's responses that spring.

The entire next year AEI's return to learn tracker monitored in person, hybrid and fully remote instruction of 8,600 school districts every week. That data has proven critical to answering the question at the root of this hearing, how the pandemic school closures hurt students.

The largest negative shock to student learning ever in the U.S., the pandemic's effects on student learning exceeded that of Hurricane Katrina, but effected tens of millions of students, rather than hundreds of thousands. Slowly closing for decades, achievement gaps widened, as poor black or brown, and academically behind students fell further behind.

Multiple factors drove these losses, but chief among them extended school closures, a factor policymakers had control over. Unfortunately, reopening polarized politically early on, as the 2020 Brooking Institution's analysis put plainly.

There is no relationship, visually or statistically between school districts reopening decisions in their counties new COVID–19 cases per capita. In contrast, there is a strong relationship visually and statistically, between district's reopening decisions and the county level support for Trump.

AEI's return to learn tracker showed this data across that entire school year. As late as April 2021, when COVID cases were low, and vaccines widely available, about a third of districts and countries that voted for President Biden had fully reopened, compared to 60 percent in Trump districts.

That year the highest percentage of Biden districts to open full in person, 38 percent in June, never reached the lowest percentage of Trump districts, 40 percent in January. The correlation between politics and extended closures is clear, but the causes are not, as several related factors were more predictive than were local COVID case rates.

The connection between closures and the learning loss is clear. Merging education recovery scorecard data with learning data showed that the third of district who were most in person in 2021 lost 44 percent of a year's progress in math. The most remote third lost 60 percent of the year, over a third more. Losses in reading

were smaller, but the relative differences closures made were even larger.

Numerous studies bear these stark patterns out. Extended remote learning was not the only source of learning loss. The instability of quarantines, spikes in chronic absenteeism, and disruptions in hybrid learning all hampered teacher capacity and student learning. Even schools that returned in person early faced strong pandemic headwinds, not all of which have died down.

Academic recovery is a major priority. School districts received 189 billion dollars in pandemic aid, and those funds went to many things, including academic recovery. Unfortunately, the pace of student progress is too slow. Recent data showed that most students learned more slowly than their pre-pandemic peers this school year.

Unless that pace improves dramatically, hope for recovery for this academic generation is lost. I will not prescribe easy solutions for this daunting challenge, but increased urgency is an essential, if not sufficient element. Promising responses, such as intensive tutoring and increased learning time suffer from a lack of urgency.

Though widely available, about 2 percent of students nationally have actually received high intensity tutoring last year, and among the neediest it's 4 percent. The "if you build it, they will come" model will fail without increased urgency. Extending school days or school years holds promise.

Atlanta has proved it possible for districts in New Mexico, for states, but these exceptions prove the rule. Significant expanded learning time is rare. Ultimately, only teachers can effectively communicate the urgency needed to engage families. Test scores show learning loss that student's grades do not.

Parents will not act if teachers feedback reflects business as usual. Communicating urgency is a difficult task to lay at the feet of beleaguered teachers, but if not them, who? Learning loss cannot be viewed as a past event. As something to move on from now. Pandemic learning loss has not yet cemented, but it is hardening fast.

Inaction would be an abdication of our responsibilities and would resign students to a dimmer future. Thank you for the opportunity to testify in this important hearing. I look forward to the Subcommittee's questions.

[The prepared statement of Dr. Malkus follows:]

Statement before the House Committee on Education and the Workforce Subcommittee on Early Childhood, Elementary, and Secondary Education Hearing on "Generational Learning Loss: How Pandemic School Closures Hurt Students"

Pandemic Closures and Learning Loss:

Extended Remote Schooling Drove Student Learning Loss, and the Time for Recovery is Running Out

Nat Malkus
Senior Fellow

10:15 a.m. on Wednesday, July 26, 2023

Chair Bean, Ranking Member Bonamici, and members of the subcommittee: Thank you for inviting me here today to share my assessment of this important issue.

In March 2020, at the start of the pandemic, my work as an education scholar at the American Enterprise Institute abruptly shifted to collecting data on how schools responded to the pandemic. My team began by collecting the first nationally representative data on school district pandemic response in Spring 2020 and continued our work through the 2020–21 school year with the Return to Learn Tracker, which monitored the duration of in-person, hybrid, and fully remote instruction districts offered in 8,600 school districts, covering 88 percent of all public school students at the pandemic's outset. The data we collected is critical for answering the question at the root of this hearing, "How Pandemic School Closures Hurt Students."

The pandemic caused the largest negative shock to student learning the country has ever seen. Average pandemic learning losses exceeding those of one of the worst natural disasters in recent history, Hurricane Katrina, but affected tens of millions of students instead of hundreds of thousands. Though they had been slowly closing for decades, achievement gaps widened over the course of the pandemic, as low-income students, black and brown students, and students who entered the pandemic behind academically all fell further behind their peers.

Differences in the Return to In-Person Learning

Multiple factors drove declines in expected academic progress. Chief among these was the duration of remote schooling, a factor over which policymakers had the most control. Unfortunately, by the start of the first full pandemic school year, school district instructional offerings were politically polarized such that local voting patterns, not local COVID case rates, were aligned with reopening decisions. We knew this in 2020, when a Brookings analysis[i] described these patterns:

> There is no relationship—visually or statistically—between school districts' reopening decisions and their county's new COVID-19 cases per capita. In contrast, there is a strong relationship—visually and statistically—between districts' reopening decisions and the county-level support for Trump in the 2016 election.

Our Return to Learn Data show this pattern persisted across the 2020–21 school year, during which the duration of remote instruction was weakly tied to local COVID threat levels, but strongly tied to a county's 2020 presidential vote share.[ii] As late as April 2021, when COVID cases were low and vaccines widely available, only about a *third* of districts in counties that voted for President Biden had fully reopened, compared to over 60 percent of Trump districts. During the first full pandemic year, the highest percentage of Biden districts offering full in-person instruction—38% at the year's end—never reached the lowest percentage of Trump districts—40% in January.

Despite high COVID rates, the start of the 2021–22 school year reflected these same divides. Nearly all districts reopened with full-time in-person schooling—a tacit admission that the previous year's early reopeners had made the right call—but districts showed similar divides over school masking, data we also captured as part of our Return to Learn Tracker.[iii] Though

masking decisions were lower stakes, they reflected a more important reality: districts prioritization of returning schools to some sense of normalcy. The slow return to normalcy in schools was divided along the same lines closures had been the previous year and may have been an additional drag on student academic progress and recovery.

Though politically polarized, these differences were not purely attributable to politics as much as they were to local attitudes on the "right" way to respond to the pandemic. For instance, county level masking behavior, measured before the school year began in summer 2020, appear much more predictive of remote and hybrid schooling over the course of most of the year than were weekly local COVID case rates. Similar patterns are evident for other static attributes, measured early or late in the pandemic, which were more predictive of closure durations that weekly local COVID measures. These patterns suggest that though the correlation between political affinity and pandemic school reopening is clear, the causes of reopening differences are not, as several interconnected factors were more predictive of remote and hybrid schooling than were local COVID case rates.

The Clear Connection Between Remote Instruction and Learning Loss.

In comparison, the evidence connecting the duration of closures and related learning loss is quite clear. Test scores from millions of third through eighth grade students in 29 states, gathered by the Education Recovery Scorecard,[iv] combined with AEI's Return to Learn data on show that between 2019 and 2022 the third of districts that were most in-person during 2020–21 lost 44 percent of a school year in math, compared to 60 percent of a year in the most remote third of districts—a difference of over a third. Districts in the middle third for in-person learning lost about half a year of typical math progress. Losses in reading were smaller than in math, but the relative differences from remote instruction were even larger. Numerous studies bear out these stark patterns. [v]

A key to understanding these gaps, and the importance of extended closures to them, is that most studies measure losses from before the pandemic to a time after most closures ended. The data I referenced above come from spring 2019 and spring 2022, and show significant gaps between more and less in-person districts. Gauging the importance of extended closures requires attention to that fact that these declines stemmed from both spring 2020 closures for all school districts, during which learning losses were greatest, and closures during the 2020–21 school year when district instructional offerings varied. Given the total academic progress differences stemmed from a uniformly fully remote spring 2020 and a differentially remote 2020–21 school year, the differences between instructional offerings in the first full pandemic school year appear significant.

However impactful, the duration of remote learning was not the only source of difficulty for schools and students over the pandemic. The instability of quarantines over the 2020–21 school year hampered learning, and would have been more difficult for schools offering in-person instruction. Chronic absenteeism spiked during the pandemic—and remains high—and undoubtedly hampered academic progress for students as well as teacher and administrator capacity. The introduction of novel instructional practices to allow similar instruction for

students who opted out of available in-person learning posed a steep learning curve for teachers and students, and were instituted without sufficient time to work out the kinks that come with substantial technical and instructional changes. In addition, the introduction of millions of new devices and their adoption for much larger portions of instruction than teachers and students had been accustomed to posed challenges during an already difficult time. Even for schools that returned to in-person instruction early, the pandemic posed substantial and varied headwinds for instruction and student learning. It would be a mistake to believe that all of those headwinds have now died down.

Academic Recovery is a Priority.

Academic recovery is a major priority for policymakers, educators, students, and their families. Federal Pandemic Aid to public school districts, amounting to $189 billion in ESSER funding, has been provided to, at least in part, aid in academic recovery. School districts have used these funds for widely varied uses, including many efforts to shore up lost academic achievement. Students, with the support of families, have made some progress on academic recovery. While data are somewhat limited, the recovery we have seen so far has progressed, but not at a pace necessary to close pandemic gaps.

Without substantive changes in the near future, especially considering that districts still have substantial ESSER funding to take bold action, hopes of a substantial recovery for this academic generation are dwindling. This reality is underscored by recent data from NWEA on the pace of recovery in the 2022–23 school year for grade 3–8 students in reading and math.[vi] Those data show that in the 2021–22 school year, students had made slightly faster progress compared to pre-pandemic trends, but in the 2022–23 school year academic progress actually fell below pre-pandemic trends for grades 4 through 8, and fell substantially in middle grades. Simply put, academic recovery requires students to learn faster than their pre-pandemic peers to close the pandemic gap, but in the past year students in this sample learned more slowly than their pre-pandemic peers.

The recovery challenge schools and students face is daunting, and I do not purport to have easy solutions or quick fixes to offer. However, a greater sense of urgency is an essential element that I believe, though not sufficient, is necessary for substantive progress on academic recovery.

A number of measures have been offered by districts to help student make up lost ground, two of the most promising being intensive tutoring and increased learning time. Both measures have a clear logic and empirical evidence suggesting they may hasten the academic progress of students. However, these efforts will not be productive unless students actually participate in them. Available data and reporting suggest that even when tutoring is offered, too many parents do not know about it and too few students participate regularly. One national survey in December 2022 found that about 15 percent of households reported their student was receiving any tutoring, and that just two percent were receiving the kind of high intensity tutoring that promises substantial progress. Among students who need it the most, participation was 4 percent. [vii]

Increasing learning time by extending school days and school years, or by adding summer school, is another promising tack. Instituting these "extra time" programs have proven difficult in many places—sometimes due to staffing challenges or the difficulty of negotiating programs within structures of collective bargaining agreements. For example, in 2022, Los Angeles Unified's proposal to add five extra days to its calendar on a voluntary basis was met with a boycott from its union, United Teachers Los Angeles. Large scale increased time is possible, as proven by large districts like Atlanta and by one state, New Mexico. However, these exceptions prove the rule that, in most places, significant expansions of learning time have not been made.

A far higher percentage of districts have offered summer school and after school learning options, but, like tutoring offerings, these appear to suffer from a lack of demand from families. The "if you build it, they will come" model of voluntary participation is not meeting the scale of pandemic learning loss, in part because schools and policymakers have done too little to communicate urgency around the need for recovery.

Policymakers should use the bully pulpit to promote a sense of urgency in the minds of parents and the general public. Battles over appropriate books in libraries, undue ideological influence in classrooms, and the school culture wars seem to get daily coverage in the press and in political discussions, while acute learning loss, most acute for the least advantaged, gets relatively little attention. Efforts to put more attention on this issue, such as today's hearing, are welcome, but to move the needle for students, those efforts must be more focused and more sustained than they have been.

Policymakers have a role to play in communicating the urgency of this issue, but teachers and schools alone have the access to parents and the authority to effectively communicate students' needs to individual families. Test scores clearly show that student performance has fallen, but grades and graduation rates do not appear to reflect this downturn. How can we blame parents for not taking the steps offered to them, such as tutoring or summer school, if teachers and grades do not communicate the losses students have faced? No test score on an emailed report will convey the message that a student needs intensive help like direct communication from teachers will. A lack of forthrightness about where students are academically, coupled with the threat of sliding expectations for student progress, will keep families from seeing the educational damage wrought by the pandemic—damage that students will bear the costs of far into the future. Communicating the severity of pandemic learning loss is a difficult task to lay at the feet of the nation's beleaguered teachers and schools, but if we do not ask it of them, who will accomplish it?

Conclusion

The pandemic is over, but its effects on student academic progress are not. The perspective we take on this issue is important. If we begin to assess learning loss as something that happened in the past—as something that we are now moving on from—we will be complicit in cementing these losses for an academic generation of students. Pandemic learning loss is not yet cemented, but it is hardening in place, and if we—policymakers, administrators, teachers, families and

students—treat this as a problem of the past, we will abdicate our responsibility to fix it and resign our students to a dimmer future.

Thank you for the opportunity to give testimony in this important hearing. I look forward to presenting these comments and evidence to the subcommittee and answering questions.

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Chairman BEAN. Well done. Thank you very much for coming forward and getting us started. Our next witness will be introduced by the Ranking Member Ms. Bonamici, you are recognized.

Ms. BONAMICI. Thank you, Mr. Chairman. It is my honor to introduce Ms. Mary Patricia Wray. She is from Baton Rouge, Louisiana. Today she is here testifying in her highest-ranking position as a proud parent. She is the owner and founder of Top Drawer Strategies, a public policy consulting firm. She is an adjunct Professor of Law at Tulane University Law School.

Ms. Wray has served on multiple community boards, and currently chairs the Public Relations Committee for the Recreation and Park Commission for the Parish of East Baton Rouge. Ms. Wray received her bachelor's degree from the Ohio State University and a J.D. from Loyola University New Orleans College of Law. Welcome to the Committee, Ms. Wray.

Chairman BEAN. Ms. Wray, a very good morning. Welcome to the Committee. You are recognized. Your microphone is—there you go.

STATEMENT OF MS. MARY-PATRICIA WRAY, PARENT, BATON ROUGE, LOUISIANA

Ms. WRAY. Chairman Bean, Ranking Member Bonamici, Chairwoman Foxx, Ranking Member Scott and committee members. Thank you for the invitation to participate. My name is Mary Patricia Wray, and you heard my other credentials this morning. I am more familiar with introducing myself in the context of those, but I am here in my highest-ranking position as mom.

My husband and I, Ira Wray, are parents to two beautiful boys who attend public school in East Baton Rouge Parish. Our sons, Henry Lee and Webber, are preparing to celebrate their birthdays next month. I have a long public history of advocating for public schools, teachers and support staff in my home State of Louisiana.

As a mom, I am also an outspoken and frequent critic of our school district and our State education leaders. When I say they got something right you should believe me. When our world shut down for COVID, I was 4 months pregnant with Webber. I was already 2 years into my experience as the mother of a child with disabilities.

Henry Lee attends school in an inclusive setting with the implementation of an individualized education plan, including speech and occupational therapy to help him overcome the challenges of apraxia of speech. Our district took immediate precautions to protect the health and safety of our children. Within a few weeks a schedule of virtual learning was implemented.

This included small groups with our teacher, at home exercises to connect our kids to their curriculum, hot spots were provided, and nutrition programs were delivered to our doorstep. Henry Lee received compensatory services for speech and OT, and qualified for extended school year.

Children in our district with severe disabilities and immune compromised conditions were the most at risk of dying. Our son later befriended Carter Hart, a student living with cortical vision impairment and other disabilities that present challenges to learning in person even on a good day. Because of our school reopening

guidelines, Carter went almost 3 years without getting COVID, which posed an intense life-threatening risk for him.

When he was fully vaccinated in January 2023 and picked up COVID, he only needed supplemental oxygen for 1 day. With Carter's mom's permission, I share this with you to fully explain what was on the line for our children, their lives. To suggest otherwise makes education conditioned upon each family and educator's willingness to risk their own lives.

That coercive choice does not reflect American values or commitment to providing every child with the opportunities they need. Instead of making education accessible only for those with low risk, Congress supported all our children by allocating 122 billion of American Rescue Plan funds for K through 12 education, Congress recognized that extraordinary resources were needed to meet the moment.

I am so grateful they did because my son's friend Carter is still with us. My son and every other child in America have suffered missed learning time, social deficits, behavioral health challenges, and yet unknown consequences of a global pandemic. It is intellectually dishonest to talk about learning loss without acknowledging that many students were already behind, and that there were achievement gaps, especially among students with disabilities, students of color, and low-income students already happening long before COVID.

Congress has known that for generations. That is why it passed the Elementary and Secondary Education Act, and the Individuals with Disabilities Education Act decades before I, a child of the 90's, Mr. Chairman, was even born. The cause of achievement gaps are systemic, not merely the result of pandemic closures.

Our public schools serve more than 80 percent of America's children, including more than 7.3 million with disabilities. Let us show these children what American problem solving looks like, and acknowledge that before the pandemic and after, schools struggled to recruit and retain qualified educators. Students with disabilities were already reading and performing in math well below proficiency, and they dropped out of school at twice the rate of their non-disabled peers.

This was all before COVID. Given this reality I urge Congress to provide additional funding so that the lessons we learned from COVID can be implemented after our funding ends, the targeted remedial and compensatory programs that are happening now must continue.

As a mom from Louisiana, I speak for the least among us. Our schools consistently produce the lowest ranked student outcomes in the Nation. Until recently, our teacher pay lagged behind the southern regional average for more than a decade. We already had challenges to improving public education before COVID–19 shook us to the core.

I speak from the heart when I tell you that cutting funding from public schools is a death sentence for our children, who also experience the highest incarceration rate in America. Nothing is partisan about the notion you cannot do more with less. No one disagrees our children need more. They need more qualified teachers, more

evidence-based services, career and tech ed, behavior and mental health services.

They do not need more fighting over whether protecting them from a virus and keeping them alive was the right decision 3 years ago. They need our action now. I am optimistic that you will also speak for the least among us, and fully fund the needs of our children. Spending your time focused on solutions, rather than blame. Thank you for the opportunity to address you today.

[The prepared statement of Ms. Wray follows:]

Testimony of Mary-Patricia Livengood Wray, Parent from Baton Rouge, LA
Before the Subcommittee on Early Childhood, Elementary, and Secondary Education
Hearing on Generational Learning Loss: How Pandemic School Closures Hurt Students
Wednesday, July 26, 2023

Chairman Beane, Ranking Member Bonamici, Chairwoman Foxx, Ranking Member Scott, and committee members, thank you for the invitation to participate in this hearing. My name is Mary-Patricia Livengood Wray. I am the owner and founder of a successful public policy consulting firm, and I serve as adjunct faculty at Tulane University Law School, teaching the next generation of lawyers how to draft legislation and agency regulations. Though I'm used to presenting myself in the context of many other credentials, today I'm proud to speak to you within the context of my highest-ranking position and most crucial life qualification: Mom. Ira Wray, my husband of fifteen years, and I are parents to two beautiful boys who attend a Public Magnet Montessori program in the East Baton Rouge Parish School system at the Dufrocq School, our neighborhood public school in Baton Rouge, Louisiana. My sons, Henry Lee Wray and Weber Wray, are currently 5 and 2, preparing to celebrate birthdays next month.

I have a long personal and professional history of advocating for the potential of public schools and our teachers and support staff in Louisiana. And as a Mom, I am an outspoken critic of our school district, the state board of elementary and secondary education, and all those charged with educating our children. This is why when I say that our local education authority and state education leaders did something right, you can trust that I am a legitimate voice of praise and appreciation.

My son began attending East Baton Rouge Parish schools in the fall of 2019. He was adjusting to that setting in March 2020. When our world shut down for Covid, I was four and a half months pregnant with Weber, in the middle of a boom for my maturing small business. And I was already two years into my experience as the mother of a child with disabilities. When Henry Lee was about one year old, I had a gut feeling - the kind moms have - that his speech wasn't developing quite right. Today he's five-year-old and attends school in an inclusive setting with the implementation of an Individual Education Plan - an I-E-P (IEP) which includes speech therapy to help him overcome the challenges of apraxia of speech and occupational therapy that gives him more practical skills to help him overcome the communication barriers that exist when your speech isn't easily understood. As you might imagine, when a child's speech doesn't develop in a typical way, they can experience social setbacks and emotional difficulties. My son's speech delay has taught me empathy that no other challenge could render. Put yourself in the shoes of our young learner, who talks all the time but is never understood; One who can't quite understand why the other children around him ask for what they want and receive it while he is stuck in a loop of communication feedback. Layer that with typical childhood, everyday frustrations, and emotional outbursts, and it's a complex and challenging situation to see your child struggle through.

Now, layer all that with a shutdown that leads to delays in needed services like speech therapy, a lack of appropriate socialization, and the challenges of online learning: by the way, that's difficult

for any two or three-year-old, but when you can't meaningfully participate, it *can* feel like it's a waste of time.

So, while learning to be a business owner dealing with lost revenues, I was also, like most American parents of school-aged children, working to prevent learning loss for my children while our schools operated remotely.

Our district took immediate precautions to protect the health and safety of our children, our "Teacher of the Year" award-winning, highly qualified, certified teacher Mrs. Phillips, her colleagues, and all our loved ones who would have been further endangered by exposure to Covid-19. And they didn't stop with school shutdowns or give up on making gains with our kids. Within a few weeks, a schedule of virtual learning was fully implemented. This regiment included small groups with our teacher, extensive group activities, and at-home exercises to connect our kids to their curriculum. Our children's electronic devices were available for pick up or delivery, hot spots were provided to families without high-speed internet options, and the fidelity to the Montessori curriculum we saw in our classroom was attempted at every student engagement point, even with remote learning.

Our child received compensatory services for speech and OT and qualified for extended school year programs that Summer to help him keep on track with his IEP goals. Was this perfect? 100%, absolutely, no. Was it "desirable"? No. Those who know me well will tell you I'm not a Pollyanna. And with a baby on the way and a son I was worried would regress due to his disability, I was not optimistic in 2020 about how things would turn out.

Our district employed available funds to reach vulnerable families. They implemented nutrition delivery services to ensure that for children with little access to healthy meals, that barrier to their learning did not interfere with their virtual school experience.

Children in our district with severe and profound disabilities, those with ever-present, dangerous immune compromised conditions, would have been the most at risk of dying if our school had operated in person. Our son later befriended Carter Hart, a student in East Baton Rouge Parish schools living with Cortical Vision Impairment, among other disabilities that present challenges to learning in person on a good day and complex health challenges for him daily. Because of the school re-opening guidelines, Carter went almost three years without getting Covid, which posed a significant, life-threatening risk for him. When he was fully vaccinated in January 2023 and picked up COVID, he only needed supplemental oxygen for one day. Contrast that to when he had RSV in 2021 and missed seven days of the extended school year because he needed so much supplemental oxygen that he could not get out of bed. With Carter's mom's permission, I share that context to fully explain what was on the line for our children when school opening procedures were being designed and implemented. To suggest that the better course of action would have been to keep schools open during peak virus spikes makes education which is supposed to be guaranteed to every child, instead conditioned upon each family, student, and educator's willingness to risk their lives or risk infecting a loved one. That is not a choice that reflects American values or our commitment to providing every child with the opportunities they need to be successful. So, instead of making education accessible only for students and educators with low risk, Congress supported ALL children.

By allocating $122B of ARP funds for public education, of which East Baton Rouge Parish Schools received a large share, Congress recognized that school safety measures, individualized instruction, different tools, technology, and methodology were needed to meet the moment while keeping our children safe. And for those of you who were instrumental in supporting those resources: thank you! By supporting our schools and children with needed resources to temporarily deliver services and curriculum remotely instead of through in-person learning pending safe conditions to return to school, you kept the most vulnerable students and families rather than creating a situation where the only way to receive an education was to risk our lives.

Not all American families experienced the pandemic the same. And I respect that our experience is different from other parents and families. But here's another thing about American families and how we've experienced school shutdowns, remote learning, and "learning loss": Dead children don't suffer from learning loss. Dead educators don't get to wonder if they could've served students better. Grieving parents and families don't have the luxury of complaining about, or even better yet, finding solutions to learning loss in the aftermath of Covid-19 shutdowns. Their chances for confronting those questions and challenges are buried and gone. I'm grateful that due to my district's Covid policies, my child and his friend Carter were protected from the worst harm to seek and receive an education and have age-typical experiences with their peers that support all aspects of their development. Those possibilities for them are truly endless. And I am grateful.

My son and every other child in America have suffered learning loss, social deficits, behavioral health challenges, and yet unknown consequences of a global pandemic. Many of his peers lost parents, grandparents, and loved ones to Covid-19. And they can never be replaced. Their homes lost income, leadership, and support to raise incredible children who will carry our nation to its next great challenge. But it is intellectually dishonest to talk about learning loss without acknowledging that many students were already behind and that there were achievement gaps, especially among students with disabilities, students of color, and low-income students already happening in our schools long before COVID illuminated that. Congress has worked to meet the needs of our children since key laws such as the Elementary and Secondary Education Act (ESEA), as amended by the Every Student Succeeds Act (ESSA) — and the Individuals with Disabilities Education Act (IDEA) were passed in 1965 and 1975 respectively. This shows that for generations, this body has known that achievement gaps exist and has acknowledged that the causes are systemic, a symptom of more significant inequalities, not originating from a school closure due to a global pandemic. Most children our district serve qualify for free and reduced lunch, and over 80% are from a minority community.

So, for these children who need responsible, evidenced-based approaches to public policy on this issue, what do we do about it? Say we regret saving lives? Turn against the public school system that serves more than 80 percent of America's children, including the more than 7.3 million (ages 3-21) with identified disabilities and who receive early intervention services and attend public schools, including public charter schools? I think the answer is no.

Instead, let's show our children what American problem-solving looks like. Let's acknowledge that before the pandemic and after, schools struggled to recruit and retain qualified special

educators and specialized instructional support personnel critical to educating children with disabilities. Before the pandemic, children with disabilities were already reading and performing in math well below proficiency [in 4th and 8th grade] - according to our nation's assessment of educational progress (NAEP), they dropped out of school at twice the rate of their non-disabled peers. This was all before Covid; unfortunately, the numbers have remained flat or worsened. And Congress has yet to provide the promised funding under IDEA that states and districts offset with more than $22 billion annually.

Given these realities and the ongoing need for schools to educate children like Henry Lee, who comes with both extra needs but also the beautiful potential of any 5-year-old child, I urge Congress to support our schools and provide additional funds so that the lessons we learned from Covid can be implemented across the board even after ARP funding end. The targeted, remedial, and compensatory programs that are happening now need to continue. That need is evident in the fact that Kindergarten enrollment (which wasn't always mandatory in Louisiana but now is) has declined in my home state and that the percentage of students adequately assessed by pupil appraisal and identified as having a disability has decreased. These statistics indicate that we are falling behind in addressing student needs, not catching up — independent from the pandemic and also because of it.

Proposed cuts to public school funding are harmful. First, because they will directly impact our kids, children like mine who are the most vulnerable, chief among them. But also because we will discourage a generation of leaders from entering the education workforce. My grandfather, who I am sure would marvel at my invitation from the Committee to speak today, was a high school history teacher in my home state of Ohio for over 30 years. If you want career educators passionate about serving children most in need, the last thing you should do is rob their employers, our public schools, of the resources we desperately need.

As a mom from Louisiana, I speak for the least among us. Our schools consistently produce the lowest-ranked student outcomes in the nation. Until recently, our teacher pay lagged behind the southern regional average for over a decade. We have some of the highest maternal-infant mortality rates in America. We already had enough challenges to improving public education BEFORE Covid-19 shook our families and institutions to the core. I am speaking from the heart, not with self-important condemnation when I tell you that cutting funding to our public schools is a death sentence for our children, who also experience the highest incarceration rate in America.

Nothing is partisan about the notion that you cannot do more with less. And no one disagrees that our children need more: More love, encouragement, qualified teachers, evidence-based services and supports to help them catch up to grade level, career training and opportunities, behavioral and mental health services, and better access to school-based healthcare. They don't need more fighting over whether protecting them from a virus and keeping them alive was the right decision to make a few years ago. They need our attention and our action **now**.

Our school district has already announced that as the Covid-19 funding it used to implement programming dwindles, it will have to make tough decisions about addressing learning loss and what vital services and programs to cut. What scares me most is that if funding is reduced,

districts like mine will fail to identify children like mine who need extra resources, putting off interventions until their implementation is less effective, costing more overall. I'm employing cautious optimism that you will also speak for the least among us and fully fund the needs of our children, spending your time focused on solutions rather than blame.

Thank you for the opportunity to address you today and for your time and attention to my testimony. I hope I've made my sons proud and that they will know that as their parents, we will always advocate responsible policies over political posturing to create the brightest future possible for every child, regardless of their circumstances.

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Chairman BEAN. Ms. Wray, thank you so much for your thoughts and for being parent. Any parent out there feels where you are and the hardness of the challenge that you went through during those times.

Ms. WRAY. Thank you, Mr. Chairman.

Chairman BEAN. Thank you. Our next witness is going to be introduced by our own Judge Moran. Representative Moran, you are recognized.

Mr. MORAN. Thank you, Mr. Chairman. I woud like to introduce Mr. Derrell Bradford, a native of Baltimore. Mr. Bradford is the President of 50CAN: The 50-State Campaign for Achievement Now. Mr. Bradford leads communications and policy and recruits local leaders across the country to serve as Executive Directors of State CANs, and advocacy fellows.

He also leads the National Voices Fellowship, which focuses on education, policy, media and political collaboration. He serves on several boards dedicated to putting the needs of students and families first, including Success Academy Charter Schools, Yes Every Kid, the National Alliance for Public Charter Schools, the Advisory Boards of the Alliance for Catholic Education at Notre Dame, and the National Association of Charter School Authorizers, the Pie Network, and was the founding Board Chair for Ed Build.

We are exceedingly pleased to have Mr. Durrell Bradford here with us today. Mr. Bradford, thank you for being here.

STATEMENT OF MR. DERRELL BRADFORD, PRESIDENT, 50CAN: The 50-STATE CAMPAIGN FOR ACHIEVEMENT NOW, NEW YORK, NEW YORK

Mr. BRADFORD. Thank you for that glowing introduction, sir.

Chairman BEAN. Mr. Bradford, you are welcome. We are glad to have you here. You are recognized.

Mr. BRADFORD. Chairman Bean, Ranking Member Bonamici, Ranking Member Scott, thank you for having me today. I thought about how to organize this, and I will just jump to the point given the amount of time that I have.

It is sophistry that people, that the narrative things are like peddled in the public domain is that teachers unions had no role in keeping schools closed longer than they needed to be closed. You can look at this as the culmination of the series of labor actions that started in Kentucky and Oklahoma, but that really blew up in Chicago and in Los Angeles during the Democratic Presidential primaries.

At the time those striking teachers who denied kids learning, which is the most common way we see learning being denied from families right now, is teacher strikes. They struck for pay increases. Democratic candidates during that election offered to triple Title I as a way to increase teacher pay at the local level.

Teachers unions saw this as a once in a lifetime opportunity to sort of get teacher pay on the Federal balance sheet, and though they never would have been able to strike in a national capacity before, there was no way they could have afforded it, COVID provided them with that opportunity.

I just want to say I know a lot of people do not want to say this is an unpopular thing to say, but Mayor Muriel Bowser here in the District of Columbia had to file a temporary restraining order against her own teachers union when she attempted to get schools open. Representative Bean, to your 90's references, the truth is out there, and I just urge everyone to go and seek that.

I was also a hard core school closer. I think I should say this. In April 2020, I was at the front of the line because people were scared. I was scared. I respect Ms. Wray's point of view, and I just want to shout out State Superintendent Truitt, who said at the time that we should use the opportunity to make change because for the past 30 years the system has failed millions of kids.

It has been just a disaster. I mean I do not want to but hyperbole seems like firmly worth using in this instance. Nat, Dr. Malkus talked about it a lot earlier. In New York City, where I lived for a very long time, and have been for a very long time, 20 years-worth of learning has been erased. This is a generational tragedy.

You can look at the work of Dr. Mackie Raymond at Stanford, who says that not only is the gap essentially insurmountable, without additional acceleration it will be even worse. Like it is not enough to simply get back to where we are. We have to do significantly more if we want to try to get back to where we are. Now I know this Committee has this question in front of it—of what happened to the money, and there are lots of anecdotes out there, and I can point you to tons of places, but the New York Times is a good place to look.

I did not do this on purpose, Ranking Member, but in Klamath County, they are spending 70 percent of their relief dollars to buy turf fields, renovate bleachers, build a gym, and resurface a parking lot. In Newark, New Jersey, where I worked for a very long time, Chop Point B reported that Newark spent only 5 percent of its ESSR funding on tutoring.

I think sadly what has been proven is that if you give American school districts 190 billion dollars in a black box with no accountability, they will spend the money on themselves. That is the lesson. There is good news, which is important, and a lot of State and local philanthropic examples that we can look to, because I do think we need to be solutions oriented, this is the biggest domestic policy tragedy or failure of our lifetime in my humble opinion.

You can look at New Jersey and Louisiana, which have passed bills that provide high dosage tutoring to more children, and those are great examples. Mike Bloomberg and his summer boost program is a philanthropic effort in eight cities across the country to give high dosage tutoring to students.

There have been investments in summer. Governor Ducey's AZ on Track, and his last term, and I would also like to highlight that Governor Brad Little, he used COVID relief and gave it directly to families. To me, if in the future you are worried about what happens if you make a major infusion for education expenses, it could be best just to trust families.

One last thing, we do need to look at the country's Catholic schools, particularly urban Catholic schools. They gave the proof, in many cases, that it was possible to open schools safely. I think we owe them a debt of gratitude, and they should be a part of the solution in the future. Thank you very much.

[The prepared statement of Mr. Bradford follows:]

COMMITTEE ON EDUCATION AND THE WORKFORCE
SUBCOMMITTEE ON EARLY CHILDHOOD, ELEMENTARY, AND SECONDARY EDUCATION
Generational Learning Loss: How Pandemic School Closures Hurt Students
U.S. HOUSE OF REPRESENTATIVES
2176 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-6100

July 26, 2023

Chairman Bean, Ranking Member Bonamici, and Members of the Subcommittee,

Thank you for allowing me to present this testimony today. My name is Derrell Bradford and I am the president of 50CAN, the 50 State Campaign for Achievement Now, which supports leaders in 10 states across the nation working on a wide range of education policy issues, including pandemic recovery. We're committed to ensuring that every child gets the education that works best for them regardless of their zip code, the color of their skin, or how much money their parents make. And we see learning loss catalyzed by poorly delivered virtual instruction and schools that were closed for too long, predominantly in big cities and school systems that are highly unionized, as one of the great domestic policy failures of our lifetimes. Indeed the harm of the last three years will be with us for the next 30 if something is not done.

With this in mind I'd like to focus on a few things. First the conditions that allowed school closures to continue longer than necessary. Second, the scale and depth of learning loss particularly for the nation's neediest children, and why after committing $190 billion in COVID relief to schools results are worse now, not better. And lastly some positive examples that have emerged across the nation, despite these challenges, that the committee can look to for interventions and a way forward.

It is important to understand that pandemic related school closures did not happen in a vacuum and that they were, in fact, the opportunistic culmination of a multi-year program of labor actions across the country led by the nation's teacher unions. While this may be unpopular to point out, it is critical that the broader context is recognized, understood, and remembered if we do not wish to visit this sort of learning disruption on the nation's students in the future. Indeed strikes in Columbus, OH and Seattle, WA in the last year have continued to disrupt learning for American students.

In 2018, before public schools were closed across the country for COVID, they were closed in Kentucky because of pensions and education choice. Then Governor Matt Bevin sought to pass pension reforms the state's teacher union opposed in addition to a scholarship program that would have expanded educational opportunities for Kentucky families. The state's teachers launched a coordinated program of sick outs which essentially shut down many of Kentucky's school districts. This sort of disruption is only possible because of the unique nature of compulsory public education laws and teacher union collective bargaining in public schools. In the absence of alternatives, these unions are, quite literally, able to deny a compulsory public service to families as a way to create political pressure for what they want or what they oppose. The Kentucky school choice program was defeated, the pension reforms overturned by the courts, and Governor Bevin was ousted soon after.

This was the first in a series of job actions, largely but not exclusively over teacher pay, that came to be known as Red for Ed, not merely for their signature red t-shirts, but for the deep red states (Oklahoma, West Virginia, and Arizona) where striking teachers shut down their state's public education apparatus for political gain. The teacher strikes, sickouts, rallies, and activism were ultimately effective in achieving the goal of increasing teacher pay. Oklahoma legislators increased teacher pay by an average $6,000 (approximately 16 percent). West Virginia's teachers won a 5-percent increase, while Arizona's protests saw then Governor Doug Ducey increase teacher pay by 20 percent preemptively. More importantly, though, these efforts left teacher unions emboldened, laying the groundwork for school closures as a key tactic in their future activism.

In 2019, two of the largest school districts in America, Los Angeles and Chicago, also struck over teacher pay and, in Los Angeles, the growth of charter schools. These strikes left hundreds of thousands of low-income students in the lurch academically while their parents scrambled for child care. While the Chicago strike is notable for the militancy of its teacher union, the 14% proposed raise the union dismissed, and the progressive Mayor, Lori Lightfoot, who made the offer, the Los Angeles strike matters because it captured the attention of the media and the political class during the democratic presidential primary, making teacher pay a prominent issue among candidates with several promising to increase federal funding to raise teacher pay. The message to the unions was clear. These large-scale disruptions could extract policy victories from elected officials on both sides of the political aisle with little or no fallout for the unions themselves. And while it would be financially impossible for teachers unions to run what would amount to a national strike under normal circumstances, the COVID pandemic in the spring of 2020 gave them the opportunity to do just that.

In April of 2020 I argued strongly for school closures, urging schools and districts to improve virtual instruction rapidly in the face of epidemiological uncertainty. It seemed the right choice at the time and the fear of many American families was genuine. And I'd like to thank State Superintendent Truitt for her work in North Carolina on this issue and her call to use the COVID disruption to "make change because for the past 30+ years, the system has failed millions of kids." But by August it was clear that school reopening had become a political football and we argued instead, in a brief titled Fund Everything, that if a family wanted in-person instruction they should be able to get it and that funds should follow the student to make this possible. Private schools and public schools in some states, and some nations, were already showing this was an achievable goal.

We did this because what should have been a circumspect moment where we prioritized teacher excellence and student safety had been co opted by teacher unions as they sought to take advantage of the crisis, eliminate competition, consolidate their position and receive a generational cash infusion from the federal government in the form of COVID relief aid. For example, virtual charter schools saw increased enrollment due to brick and mortar school closings so a cap was enacted in Oregon at their behest. United Teachers of Los Angeles took the opportunity to negotiate new work rules that capped the number of hours a teacher could teach while making it optional for a teacher to appear "in-person" during virtual instruction. One does not need to be an economist to know that making a teacher more scarce makes their time more expensive. And despite early guidance from several state departments of education that emphasized the importance of in-person instruction and the relationship between a student and a teacher, educators protested school reopening with scythes and coffins, with the Chicago Teachers Union asserting that the push to reopen schools was "rooted in sexism, racism and misogyny."

All the while the price for reopening was going up. After congress's first $13.2 billion infusion of COVID relief in March of 2020, the Council of the Great City Schools sent a letter to congressional leadership requesting an additional $175 billion in COVID aid, describing the first round of relief as a "downpayment." While some monies went directly to Governors in the form of the Governor's Emergency Education Relief fund, the larger aid dispersals of ESSER II and III ($54.3 and $122 billion as part of President Biden's American Rescue Plan respectively) went primarily through State and Local Education Agencies with little to no guidance for how the funds should be used and as little oversight. In March of 2021, Secretary of Education Miguel Cardona told Utah Senator Mitt Romney, who described the funding request as "gratuitous" that "The funds that are being discussed are really to help us with the long-term recovery process, preventing layoffs, when we need more teachers, not less," citing personnel as the primary focus of the aid, not student recovery. Becky Pringle, the head of the National Education

Association, asserted of the President's plan that "if you have the unions behind what you want to do, it gets done." This is how the teachers unions manipulated the COVID crisis to achieve their own financial goals. And on March 11, 2021 despite what I am sure were the best intentions of many congressional officials, a blank check was sent to the nation's school districts in the hope that something would be done to ameliorate learning loss for the nation's students.

More than two years on the data is not good. In October of 2022 Education Week, reporting on results from the National Assessment of Educational Progress, featured the headline *Two Decades of Progress, Nearly Gone: National Math, Reading Scores Hit Historic Lows*. The New York Times noted that 1990 and 2004 were the last time performance was this low for 13-year olds in math and reading respectively. Chalkbeat reported that, in New York City, one of the last school districts to reopen for in-person learning, "Just 18% of the city's fourth graders were proficient in math, compared with 24% in 2019. Levels that low in New York City have not been seen for nearly 20 years, according to the results," with one advocate offering that "There will be ripple effects for decades."

Sadly, this was not the end of the bad news for the nation's students, but the beginning. On July 11, The Times reported on NWEA's newly released study, *Education's Long Covid: 2022-23 achievement data reveal stalled progress toward pandemic recovery*. After analyzing spring assessment data from approximately 3.5 million public school students, the study's researchers found slower than average growth in math and reading when compared to pre-pandemic results, with one of the study's authors stating that "We are actually seeing evidence of backsliding." This is surprising even after considering the work of Dr. Macke Raymond at the Center for Research on Educational Outcomes at Stanford who proposed in her Pace of Learning report that simply returning to pre-pandemic instructional levels would still leave students far behind. Without rigorous intervention and increased learning time fewer than two-thirds of students will achieve a level of "average knowledge" in reading and math by the time they reach their senior year in high school. Far from being addressed, for millions of American students learning loss appears to be locked in and, perhaps, worsening. To call it a disaster understates what has happened to an entire generation of American children.

Which all begs the question: what happened to the $190 billion in aid sent to the nation's public schools to prevent exactly this result? Instead of a once-in-a-lifetime infusion of federal aid to catch up the country's students, parents, leaders, and taxpayers got a black box with little transparency and even less student recovery. A 10-month long investigation of 15 school districts which received collectively $3.4 billion

in relief aid by the education website The74 titled *$190B Later, Reason to Worry Relief Funds Won't Curb COVID's Academic Crisis* is troubling to say the least. It shows little urgency and less coherence in how many districts tackled learning loss. Providence, RI, for example, still has $120 million of unspent relief funds. Newark, NJ spent just 5% of its ESSER III aid on tutoring according to Chalkbeat. Oregon's Klamath County is spending 70% of its relief dollars to buy new turf fields, renovate bleachers, build a gym and resurface a parking lot. Marguerite Roza and Katherine Silberstein of the Edunomics Lab at Georgetown found in a recent analysis that many states have failed to track their spending accurately and roughly half of states have used the money on "labor," setting the stage for a "painful fiscal cliff" given how difficult it will be to rightsize staffing when federal funds run out. Roughly 20% of funds were invested in facilities overall. Twenty states share no details other than what each district has spent with "other" as a common category. This is, again, a costly disaster but students who need help to catch up will pay the price.

Or perhaps it isn't. Indeed teacher unions, school districts, and other aligned interests did exactly what one would expect them to do when given billions in aid with few if any strings attached. They spent the money on themselves. We should all learn this lesson.

Fortunately some elected leaders, educators, and philanthropists rose to the challenge of COVID learning loss and in them we find the green chutes of what could be future progress. In the summer of 2020 the Bill and Crissy Haslam foundation launched the Tennessee Tutoring Corps with the goal of helping students receive high quality tutoring so they could catch up from COVID school disruptions. The former mayor of New York City, Michael Bloomberg, and a cadre of philanthropists in 2022 and 2023 have made a similar and significant investment in summer tutoring by partnering with charter schools and networks in New York and seven other cities across the country. New Jersey has funded a statewide tutoring program, the New Jersey Tutoring Corps, Inc., out of its budget and their efforts have increased grade level proficiency in math from 16% to 40%, and from 23% to 40% in literacy, for participating students. In Louisiana, the State Department of Education and Louisiana Kids Matter have partnered with the non-profit Accelerate and several school districts to deliver high dosage tutoring to students, and Governor John Bel Edwards signed SB 177 which makes tutoring available during the school day for struggling students. Ohio's Governor DeWine has also made access to the math learning platform Zearn free for the state's middle school students through 2025.

At the end of his tenure Arizona's Governor Doug Ducey used COVID relief funds to launch AZ on Track which made summer camp free for nearly 70,000 students. Tennessee Governor Bill Lee has done similarly with the state's Summer Learning

Camps. And notably Idaho Governor Brad Little funded families directly to support their children's learning with his Strong Families, Strong Students plan which sent up to $3,500 to Idaho families for educational expenses. Given the records of many school districts, and survey data that show 30% of all families (and 40% of low-income families) said they used funds from the child tax credit for education, sending COVID funds to families directly could have been the more effective way to disperse them.

It is also worth remembering that the nation's urban Catholic schools, in cities like Chicago, New York, and Philadelphia, performed a critical public service by proving that schools could be reopened safely for students and teachers, with little federal aid, despite assertions by teacher unions and other interest groups to the contrary. Their preservation represents an important policy priority as well as a safety valve for parents, students, and policy makers now and into the future.

In closing I would offer that no one believed that schools would not need money to reopen, or to support and catch up students. And I suspect that, despite what amounts to the failure of COVID relief to ablate learning loss, you will be approached for more money to address the issue. I would urge committee members to be both cautious and bold when this happens. Cautious when appropriating any money if you do so, and bold when deciding who to give it to and for what purpose. Families are your most important partners and school districts are but one vehicle among many educational providers–public, private, charter, and others–that can support the nation's students. You have before you not just an opportunity to help the nation's children in the current system, but a chance to help a future, more responsive education system start to take root. Please don't waste it.

Thank you.

Derrell Bradford
President
50CAN

Chairman BEAN. Mr. Bradford, thank you very much for being here and giving us your thoughts. I am looking forward to some questions in just a bit. Our final witness is ready to go, but before she could start, she needs a proper introduction, and to do that let us go to Illinois, where our own Representative Miller is standing by to give her that proper introduction. Representative Miller, you are recognized.

Mrs. MILLER. Thank you, and it as an honor to introduce Ms. Catherine Truitt, Superintendent of the North Carolina Department of Public Instruction. Superintendent Truitt's service in education began as a high school English teacher, where she spent 10 years in the classroom at both the high school and middle school levels.

She has worked as a turnaround coach with underperforming school districts, and we are so thankful that you are bringing your experience to affect change. Ms. Truitt was appointed by Governor McCrory, as his Senior Education Advisor, and most recently she served as Chancellor of the non-profit Western Governor's University.

She has been Superintendent since being elected in 2020, and we are so thankful to have you here.

Chairman BEAN. Superintendent Truitt, welcome to the Committee. We are glad to have you here. You are recognized.

STATEMENT OF MS. CATHERINE TRUITT, SUPERINTENDENT, NORTH CAROLINA DEPARTMENT OF PUBLIC INSTRUCTION, RALEIGH, NORTH CAROLINA

Ms. TRUITT. Thank you, Chairman Bean. Good morning to you all, to Ranking Member Bonamici, and members of the Subcommittee on Early Childhood Elementary and Secondary Education. I would also like to extend a special hello and thank you to Chairwoman Foxx, who has faithfully represented the 5th District in my great home State of North Carolina.

My name is Catherine Truitt, and I have the distinct honor of serving as North Carolina's State Superintendent, where I lead the Department of Public Instruction, which serves nearly 1.6 million students. I appreciate the opportunity to join you today, as the topic of lost instructional time is one that defines my vision for leading North Carolina out of the pandemic and help to establish our road to recovery.

Even before I took office in January 2021, State Chiefs around the country heard about the massive spending proposals coming to states. What would be known as ESSER 3, from the then incoming President's administration. Knowing of this influx of Federal funds about to flow into our State and recognizing as a parent of three children how detrimental school closures were for our students. I immediately launched the Office of Learning Recovery and Acceleration in February 2021. The office remains one of the first of its kind. When the massive influx of Federal funding did come pouring into North Carolina, we were ready. My agency was able to provide local education leaders with an office dedicated to recovery and rooted in research and data.

This was vital because many of our 115 school districts, and more than 200 charter schools did not have the central office bandwidth or support, to take on the massive exercise in planning and compliance that would be required with ESSER 3.

Office of Learning Recovery and Acceleration began their work right away, producing a comprehensive report detailing the impact of learning loss on every individual student in North Carolina, which I have submitted to this Committee for the record.

As this analysis was based on student level data instead of aggregate samples of students, it was one of the most comprehensive reports in the Nation. The findings in this report allowed our agency to better target resources and prioritize funding for those students most affected, and for areas of the State most in need.

Importantly, it allowed us to continue developing and supporting district run interventions to accelerate student learning. Following

the release of the 2022 lost instructional time report, our agency recognized a need to convene school districts to help them explore how to effectively leverage their ESSER funding. We organized a 4-day summer convening in July 2022 for school districts across the State, where leaders could gather and examine their findings alongside experts, using new and relevant data to help create evidence-based interventions to better serve students.

During this convening, staff ensured that each district and charter school walked away with a plan for the next year, outlining how their ESSER funding could support data driven strategies for transforming teaching and learning in their districts and schools.

I am proud to say that the 2022 summer convening went so well that we just held our second annual convening 2 weeks ago. With the 2022 lost instructional time report used as a benchmark to monitor progress and ensure North Carolina students continue to accelerate, our agency produced a second report in April of this year.

This 2023 report detailed the significant strides students made in the 2021–22 school year, and it specifically highlighted that the strongest gains were made in middle school math, which is where we encourage districts to invest heavily, based on data from the first report.

While our State has much more to do, North Carolina was unique and intentional in its approach to recovery and acceleration. During my time in office, we have been transparent, data driven, and research based every step of the way. We remain committed to working alongside our school districts, providing them with access to tools, data and one on one sessions, so they can make informed decisions about how to best serve their students.

Our schools and districts have made incredible strides in helping so many of our students get back on track to their pre-pandemic performance. While there is more work to be done, we are on the path to recovery. Thank you for the opportunity to be here, and I look forward to answering your questions.

[The prepared statement of Ms. Truitt follows:]

North Carolina Department of
PUBLIC INSTRUCTION

Congressional Testimony

U.S. House of Representatives
July 26, 2023

Prepared for: The Subcommittee on Early Childhood, Elementary, and Secondary Education of the Committee on Education and the Workforce

Hearing: Generational Learning Loss: How Pandemic School Closures Hurt Students

Catherine Truitt
N.C. State Superintendent of Public Instruction

NORTH CAROLINA DEPARTMENT OF PUBLIC INSTRUCTION
Catherine Truitt, *Superintendent of Public Instruction*
www.dpi.nc.gov

Good morning, Chairman Bean, Ranking Member Bonamici, and members of the Subcommittee on Early Childhood, Elementary, and Secondary Education. I'd also like to extend a special hello and thank you to Chairwoman Foxx, who has faithfully represented the 5thth district in our great home state of North Carolina.

My name is Catherine Truitt, and I have the distinct honor of serving as North Carolina's State Superintendent, where I lead the Department of Public Instruction which serves nearly 1.6 million students.

I appreciate the opportunity to join you today, as the topic of lost instructional time is one that defined my vision for leading North Carolina out of the pandemic and helped to establish our road to recovery.

Even before I took office in January 2021, state chiefs around the country, who were already managing an unprecedented influx of federal funding from the CRSSA, heard about the massive spending proposals coming to states, the American Rescue Plan—what would be known as ESSER III from the then-incoming President's Administration. Knowing of this influx of federal funds about to flow into our state, and recognizing, as a parent of three children, how detrimental school closures were for our students, I immediately launched the Office of Learning Recovery and Acceleration in February 2021.This Office remains one of the first, if not the only, of its kind. When the massive influx of federal funding did come pouring into North Carolina, we were as prepared as we could be. My Agency was able to provide local education leaders with an office dedicated to recovery and rooted in research and data. This was vital because many of our 115 school districts and more than 200 charter schools did not have the central office support or bandwidth to take on the massive exercise in planning and compliance that would be required with ESSER III.

This Office of Learning Recovery and Acceleration began their work right away, producing a comprehensive report detailing the impact of learning loss on every student with a score on a tested subject in the state of North Carolina. As this analysis was based on student-level data instead of aggregate samples of students, it was one of the most comprehensive reports in the nation.

The findings in this report allowed our agency to better target resources and prioritize funding for those students most affected and for areas of the state most in need. Importantly, it allowed us to continue developing and supporting district-run interventions to accelerate student learning. Following the release of the 2022 Lost Instructional Time Report, our agency recognized a need to convene school districts to help them explore how to effectively leverage their ESSER funding. We organized a four-day summer convening in July of 2022 where leaders could gather and examine their funding alongside experts using new and relevant data to help create evidence-based

interventions to better serve students. During this convening, staff ensured that each district and charter school walked away with a plan for the next year outlining how their ESSER funding could support data-driven strategies for transforming teaching and learning in their districts and schools. I'm proud to say that 2022 summer convening went so well that we just held our second annual convening two weeks ago with 102 traditional districts and charter schools participating.

With the 2022 Lost Instructional Time Report used as a benchmark to monitor progress and ensure North Carolina's students continued to accelerate, our agency produced a second report in April of this year. This 2023 report detailed the significant strides students made in the 2021-22 school year, and it specifically highlighted that the strongest gains were made in middle school math, which is where we encouraged districts to invest heavily based on data from the first report.

While our state has more to do, North Carolina was unique and intentional in its approach to - recovery and acceleration. During my time in office, we have been transparent, data-driven, and research-based every step of the way. We remain committed to working alongside our school districts – providing them with access to tools, data, and one-on-one sessions so they can make informed decisions about how to best serve their students. Our schools and districts have made incredible strides in helping so many of our students get back on track to their pre-pandemic performance, and while there is more to be done, we are on the path to recovery.

Thank you for the opportunity to be here, and I look forward to answering your questions.

Chairman BEAN. Ms. Truitt, Superintendent Truitt, thank you very much for coming here and sharing North Carolina's experiences, as we may all get better. We will also observe the 5-minute rule as we begin asking questions. I will put the clock on Bean, put the clock on Bean as I'll begin the first round of 5-minute questions.

My question goes to Dr. Malkus. Dr. Malkus, it all started with—you remember this? We just need 2 weeks. We need 2 weeks to stop the spread. That was it, and here we are 3 years later. We still have some Federal agencies that are not fully back at work yet. Some would argue that it was a dangerous place for a kid to be in school, and then as months unfolded, summer happened, data came in.

Dr. Malkus, you kept score. What did the data show about school closures during that summer or fall of 2020?

Mr. MALKUS. This is an important question because what happened that summer 2020, we can observe over the course of the year, and not only that year, but the next year when our tracker tracked masking policies across the same nationwide districts. Those very early positions that districts and states took stood the test of time, even as COVID went down and up.

Now I talked in my testimony about how there was a big political split here. A lot of this went toward an early and ossified sense in these places about what is the right way to react to the pandemic? The data that we have over what happened over the course of the pandemic shows that masking measured at the country level in summer 2020 is a much better predictor of the duration of closures and masking 2 years later than COVID case rates were.

This suggests that there was a lot of position taking early on, and rather than being responsive, much of our policymaking and decisionmaking regarding schools was stuck in summer 2020.

Chairman BEAN. Thank you very much. To Mr. Bradford, some say, in fact teachers unions now are saying that no one fought harder to get schools open than they did. Is that a true statement, Mr. Bradford?

Mr. BRADFORD. I mean true is relative apparently. For me again, I just think the evidence is very clear. In particular, and I do not want to call you out, Representative Miller, but in Chicago, you know, the discussions of reopening schools were sort of responded to with a Chicago teachers union saying that an effort to try to reopen them was about sexism, misogyny and racism.

In New York, and other places frankly, teachers picketed with signs and coffins. This is not the sort of activity of a group of people that are particularly interested in opening schools. I do want to say this too because I think this is important, and I just want to go back to it.

I can remember when like March 13th, I think that is when it was, that was that Friday. It was like Friday the 13th in March, when the Nation essentially shutdown. Again, I was at the front of the line being like we should do this. The UFT, the United Federation of Teachers in New York wanted to close down schools, and Bill DeBlasio wanted to keep them open, and I was with the UFT.

Over the summer it became very clear by August, it was incredibly clear, that what was happening was that teacher unions and places were working to sort of ban competition.

Chairman BEAN. You would say that answer is not true.

Mr. BRADFORD. The answer is not true. Yes. If you want me to be more assertive about it, yes.

Chairman BEAN. That is what I need to know. Thank you. No. I appreciate your insight. I wanted to get another question in to

Superintendent Truitt. Some may say what is the big deal, OK, we are a generation behind, why can we not just study extra hard this year, and make up for it? Are we lost forever in the 90's, or can we make it up in 1 year? What is the big deal about this learning loss?

Ms. TRUITT. Well, the big deal is that it is going to take multiple years to recover, and some students may never recover because as Ms. Wray rightly stated, many students were behind in their academic progress when the pandemic hit, which one could argue is why so many parents are seeking alternatives to their neighborhood public schools.

Our data shows that we measured our learning loss by converting the effect sizes to months of instructional time needed to catch up.

Chairman BEAN. We have got our challenges. I have got just a few seconds left. Give us some good news. I want to end my questioning on some good news on a bright outlook. Can you do that, Superintendent Truitt?

Ms. TRUITT. Yes. The good news is that North Carolina has gone all in on the science and reading. We used Federal dollars to provide professional development for teachers on phonics-based instruction. Our K–3 foundational reading scores show that we have outpaced the rest of the Nation.

Chairman BEAN. It can be done. Thank you so much, Superintendent Truitt, for all you guys, it is so frustrating that time, the clock, we want to expand this, but let us continue. Here is the order of members of which we will recognize members. We are going to go to Ranking Member Bonamici, then Ms. Miller, Mr. Bowman, Mr. Moran. Ranking Member Bonamici, you are recognized for questions.

Ms. BONAMICI. Thank you, Mr. Chairman. It is evident that missed learning time from the pandemic has hurt students academically, socially and emotionally, so to address this challenge, and to help close the gaps, we need investments in our public schools to help students catch up, to support teachers delivering high-quality instruction to more meaningfully engaged families.

Instead of attacking how public schools responded to the pandemic with the information they had at the time, let us discuss how we can work together to help students and families recover equitably and effectively. Ms. Wray, I have three questions I am going to try to get in in 5 minutes.

Recently, House Republicans released an appropriations bill that includes significant cuts to key education programs, including about an 80 percent cut to Title I. The bill also eliminates programs to support English learners, cuts teacher recruitment and retention, eliminates statewide family engagement centers, which of course are known to increase the quality and frequency of parental involvement.

As a parent, how do these budget cuts affect your children and their peers, and what difference would it make in their ability to fully recover from missed learning time?

Ms. WRAY. I will answer quickly, so you have time. Mr. Chairman, I would like to employ another 90's song lyric: "Isn't it Ironic." Is it not ironic that this Congress allocated funding for those

programs, recognizing that they were needed, and is now about to take them away at a time when they are also screaming loudly about learning loss?

Community family engagement is one of the most important things we could fund in our Federal budget, and that is because what has not been mentioned up here is that children like mine, they do not have alternatives. I do not really care what Catholic schools did because none of them will serve my child. That is not a solution for me.

Funding the programs that work for my family is, and I hope we do that.

Ms. BONAMICI. Thank you very much. Ms. Wray, schools in Oregon, my home State, were some of the latest to reopen for in person learning, but my State also has one of the lowest COVID death rates per capita. I know timing for each community was different, but Ms. Wray, as a parent, how do you respond to the argument that school closures were too long or unnecessary?

Ms. WRAY. I would respond that causing educators, whether they are in a union or not, and children like mine to choose between their life or an education is the absolute, most least American decision that we could make as a generation, a 90's generation or thereafter.

Ms. BONAMICI. I appreciate that. I remember early on in the pandemic talking to an educator via Zoom, when we were all in little boxes on a screen, who said I am terrified to go back to the classroom. This is pre-vaccination. He said because my wife works in a COVID unit, and I am afraid I am going to go in that classroom and pass the virus on to the students.

Ms. Wray, research from the NWEA, the Northwest Regional Educational Association, which happens to be in the district I represent, shows that students in grades 3 to 5 require anywhere from two to 4 months of schooling to catch up from missed learning time in reading and math. Access to a highly effective teacher during the school day can contribute to student success, for example.

A national board-certified teacher can accelerate student learning by one to 2 months, with students of color, and students from low-income families experiencing more significant benefits. In your testimony you mentioned a Teacher of the Year. We have one of those here on our Committee, Representative Hayes is a National Teacher of the Year, but you mentioned an award winning, highly qualified certified teacher, Mrs. Phillips.

How does a well prepared, highly effective teacher make a difference for your children and their peers academically, socially and emotionally?

Ms. WRAY. Unfortunately, we lost our Teacher of the Year, because when she tried to advocate for better resources, when all of her colleagues tried to advocate for better resources, so that they did not bring COVID home to their loved ones, they did not die of COVID, and they did not bring COVID to school to our kids, they were villainized.

When they asked for more resources and better funding to support a salary that reflected they were risking our lives for our kids, they were villainized. It was said that they were politicizing things. My answer to your question is, I will not know anymore what the

impact of that would be, and I think that is one of the biggest tragedies of projecting and politicizing instead of looking for solutions.

I think it is pretty much common sense that a highly qualified certified teacher with experience makes a difference for every child. Mrs. Phillips did that for my disabled child for 1 year before we lost her, and we now have no Montessori certified teachers in our school, and I know after speaking with them, that is in large part a result of how they were treated because they wanted the dignity of work.

A profession mostly made up of women, and serving underserved and minority communities, saying that a decision to force them to go to work when it is not safe has an element of racism or classism to it. We are going to villainize that when it is true? That is absolutely shocking to me as a parent.

Ms. BONAMICI. I appreciate that, Ms. Wray, and I also appreciate your comment about the Catholic schools. We know that private schools do not have to take everyone. They do not have to serve every student, so we need to be very cautious about making those comparisons, and I am a little over, but thank you Mr. Chairman. I yield back.

Chairman BEAN. Thank you very much Ranking Member Bonamici. Here is our order of questions now. It will be Ms. Miller, Mr. Bowman, Mr. Moran, so she is the Vice-Chair. Do you know she is the Vice-Chair of this Committee, and we are yielding 5 minutes to her. Ms. Miller from Illinois, you are recognized.

Mrs. MILLER. Thank you, and I am really appreciative that we are having this hearing because I am sure we will all agree that our children are the hope of our future, so looking for solutions on how to do life better, how to do education and family better. That is our goal. All of us can agree to that.

Dr. Malkus, in your testimony you stated that being in a Democrat district was highly correlated to school closure. That looks a lot like a clear example of leaders prioritizing politics over children. Why do you think this was the case? Then most importantly, how can we ensure that this never happens again?

Mr. MALKUS. This is an important question to make sure that we do not make the same mistakes in the future. I think that to some degree it was a fear to lead. I think there was politicization, but we saw studies and have done studies at AEI that looked at public opinion on closures.

Indeed, we found that local public opinion actually reflected local leader's decisions to close schools. We also found that that public opinion changed when leaders reopened their schools. In other words, the reopening encouraged local opinion to see that it was safe and approved those decisions.

That is the leadership that we needed in a time when we could see other examples across the country, across the Nation that reopening was safe, and we needed our leaders to strike forward and make sure that that option was available to families who needed it.

Even when that option also included remote options for those who did not. As we look forward, I think it is very important to look at the public health guidance that we get, particularly from

the CDC to ensure that that is even-handed and clear to allow local leaders to make clear decisions.

Finally, that we weight the interests of kids higher than we did during the pandemic.

Mrs. MILLER. Thank you. Then also, Dr. Malkus, the left will concede that the pandemic caused learning loss. However, the evidence suggests that learning loss is far worse than it should have been because the Democrat politicians and their teacher union allies kept schools closed far longer than what was necessary.

Can you share with us why you think they pushed for policies that they knew were going to cause additional learning loss? I know in a lot of my rural areas they opened the schools long before some of these urban areas that are, you know, primarily Democrat districts. Why do you think that they pushed for these policies so hard?

Mr. MALKUS. It is hard to know on an individual, you know, district by district basis, but there was sort of a pandemic of the same bug right? Fear to reopen schools even though we could see other examples. There were Catholic schools in the same district, with the same exact COVID conditions that were proving it was possible.

There were other countries in Europe that were coming back earlier, and look, even when the CDC had said as long as you take some precautions in January, you could reopen schools. We still had disproportionate closures of about 30 percent of districts. That is complete closures in districts located in counties that voted for Biden.

I really think that the reign of fear went too long, and we needed more courageous leadership in the face of that uncertainty.

Mrs. MILLER. Well, I know that in early 2021 I proposed an amendment that schools that were still remaining closed allowed parents to have the money that they were taking, and now we know either not spending or squandering, and allow those parents to find alternative educational opportunities for their children, including tutoring, and it is really a shame that they were not forced to do that when they refused to open.

By the way, every Democrat voted against my amendment to let parents access that money to hire tutors or send their children somewhere else. Thank you, and I yield back.

Chairman BEAN. Thank you very much, Ms. Miller. The order of questions now is Bowman, Moran, Hayes. Let us go to New York where Mr. Bowman is recognized for his series of questions.

Mr. BOWMAN. Thank you so much, Mr. Chairman. Before I get started on my questions I just want to start with this simple one, and this is to everyone in the Chamber, not just to our witnesses. Raise your hand if you lost someone due to COVID, or you know someone who lost someone due to COVID? Raise your hand.

[A show hands raised.]

OK. That is like the whole chamber, OK. COVID killed 1.135 million Americans and counting. That is more Americans than were killed during the Civil War and World War II combined, in a shorter period of time. Let us say we would have kept the schools open. Is it not likely? Yes, kids were not as harmed as other people.

Kids are taught by teachers who may have some immunocompromised situation going on. Kids go home to parents and grandparents and aunties and uncles and live in the community and travel. While kids may have not been seriously sick or killed by COVID, they can pass the illness on to others who will then die from COVID. This is well documented.

That being said, I think it is fair to say if we would have kept schools open, more people would have died due to COVID. We are talking here about learning loss, which is the incorrect term by the way. The more correct term is learning disruption, or disrupted learning because the way the brain works, it does not work in the way where learning is lost, that implies that you need to go find it.

That implies that it is somewhere that it cannot be located. Learning does not happen at a period of time in a vacuum, and then you move on and then you cannot get it back unless you go find it. It may have been disrupted yes, because we experienced a trauma that is unprecedented in world history. That is a word that no one has used up until this point, trauma.

I encourage you all to review an ACE study that was done in the medical field several decades ago. ACEs are adverse childhood experiences. ACEs, the study shows that toxic stress and complex trauma impacts the brain's development in people 18 years of age and younger.

Look up the study. The world experienced a complex trauma, which is going to impact the brain's development, particularly the prefrontal cortex. If that has happened to our kids, and then they go back to school, of course you are going to see disruptions in learning.

There is another pandemic that has been going on since the beginning of American history and that is the underinvestment and disinvestment in poor schools, in poor communities, particularly black and brown. That is a pandemic that was here way before COVID, which is why we see an achievement gap in our schools, and why kids in wealthier school communities do better than other kids.

Now we are having a conversation behaving as if we are really concerned about learning loss, while my colleagues on the other side of the aisle want to cut funding to Title I, to community schools, and to resources for our most vulnerable people, especially those who receive SNAP and TANF benefits.

What are we talking about? We are not being honest about the full conversation here. If learning loss is something we really care about, and again it is the wrong term, it is disrupted learning, we need to invest in our teachers, invest in our children, and invest in our schools and communities that have been historically neglected.

I will close with this, and Ms. Wray, I am going to try to give you a moment to respond to my comments, I am sorry I went too long, but I do not know where we are getting this idea of this disruptive learning is going to lead to generations falling behind. I have a doctorate in educational leadership from Manhattanville College.

I ran a middle school for 10 and a half years. In 2016, my middle school had the No. 1 gross scores of any middle school in New York City. We moved kids from level one to level three on standardized tests at a higher rate than anyone else in New York City. We did that in 1 year.

Why are we talking about generations? We need to have a conversation about how learning works, and be honest about that in this Committee. I hate standardized tests by the way. We need project-based learning, and more holistic learning in our schools. That includes the arts, and sports, and tech and things that kids actually care about, and actually contribute to a 21st century economy. Sorry my time is up. I yield back.

Chairman BEAN. Thank you very much. Here is the order remaining right now, Moran, Hayes, Owens, Scott, Foxx. Let us go to Texas where Representative Moran is standing by for his questions. He is recognized.

Mr. MORAN. Thank you. Dr. Malkus, I want to start with you. One of the comments that my colleague just made, Mr. Bowman, I think I wrote the quote down correctly. He said if we would have kept schools open more people would have died from COVID. Does this bear out in the evidence and the statistics that you have looked at across the nation?

Mr. MALKUS. It is certainly the case that when people gathered during COVID there was theoretically a danger of transmission, and that COVID led to deaths. This is clearly a concern. When we look back at the evidence there, and this is not as of late, it was in, you know, October-November 2020, there were claims that actually the evidence appears that schools are not spreading COVID.

If you look at the death rates among children, they are just a fraction, like a very small number. The evidence on whether schools, many of which were open during this time, with quarantines in place, and measures to mitigate transmission what have we not seen?

We have not seen clear studies, and we would expect to see hundreds of them that would say actually large swaths of the country reopened, and deaths resulted. There are some marginal effects in some places. They do not stand up against the weight of the costs of widespread school closures, and some of the transmission that we saw was because it was not done as well-controlled, and with reasonable mitigation strategies in place as we saw elsewhere.

Mr. MORAN. Yes. I have not seen a statistical connection between opening up earlier and having higher death rates among either adults or children in those areas, and in fact, when I was a county judge in Smith County during the time of the pandemic, when we talked about how to deal with the pandemic as it came on us in 2020, we allowed our school districts to make decisions on their own, as to what was best for their school districts.

Tyler Independent School District, who was one of the first, if not the first large school district in the State of Texas to reopen in the fall of 2020, after the main wave of the pandemic. In fact, that school did not see any increase, and did not have any deaths among children throughout the pandemic, and we did not see statistical increases compared to other countries that decided to make

other decisions, or other schools that made other decisions as it related to adult deaths per capita in the State of Texas.

That year learning, based on the state's testing was at its highest level and best level ever for Tyler ISD. A lot of that because they actually returned back to normal school year for those that were faced with medical difficulties where they were at higher risk, did you see that school districts generally provided exemptions for those kids, and allowed them to stay home to make accommodation for those kids?

Mr. MALKUS. In that first full pandemic year it was standard procedure, and almost universal across the country. When you reopened there was a remote option available, and oftentimes there were multiple remote programs available.

Mr. MORAN. It was possible to both accommodate those students that were at higher risk, and also to generally accommodate those students that needed to push forward with that learning. Would you agree with that?

Mr. MALKUS. I would absolutely agree with that, the decision to go fully remote would force a single decision on every student in a district, and many districts did that well into the spring of 2021.

Mr. MORAN. Would anybody on the panel disagree with me to say that the extended school closures during COVID will likely result in larger learning gaps between economically disadvantaged children and non-economically disadvantaged children? Would anyone disagree with that?

Would anyone disagree with, and Ms. Wray pop up if you disagree with that. Would you disagree with the statement that those school closures and the learning gap resulting from it will likely lead to increased poverty in the future? Would anyone disagree with that?

Ms. WRAY. I would say that to describe that as a correlation is incorrect, in that the way the word correlation has been used throughout this hearing has been highly incorrect usage.

Mr. MORAN. Well, I am asking statistically if there is a correlation in between education and poverty, and I hear you saying there is not, but clearly there is, right?

Ms. WRAY. Correlation means there is no other predominant cause. It means that those two things, poverty and closure, are so closely connected that there's no other cause.

Mr. MORAN. No, no, no. I said poverty. I said education and poverty. That was my question. Would you agree that there is a statistically significant correlation between education and poverty?

Ms. WRAY. A lack of education definitely contributes to poverty. Yes, sir.

Mr. MORAN. A lack of education that leads to poverty also leads to people in higher areas of poverty being more likely to be a victim of crime, more likely to commit a crime, more likely to commit suicide, more likely to exhibit worse mental health outcomes, and those are all documented scientific studies. Do you disagree with any of those statements?

Ms. WRAY. I do not disagree with any statement that you have made in that sentence.

Chairman BEAN. Mr. Moran, thank you very much. Thank you very much. There is a new order line up and we are going to go

Hayes, Owens, DeSaulnier, Foxx, and Scott. Let us go to Connecticut, where Mrs. Hayes is recognized for her series of questions.

Mrs. HAYES. Thank you. Thank you to the witnesses for being here today. I had pages of questions prepared, but none of them seem relevant because it is becoming more and more apparent to me that the purpose of this committee is not to find solutions, or reach a conclusion that is best for children.

I agree that there is a correlation between poverty and education and arrests, and all of the things that my colleague just laid out. However, we are having a hearing where they are trying to disinvest in all these things. If you truly believe that there is a correlation between education and these disproportionate outcomes, then why are we having a hearing that is attempted to remove funds that was meant to reach our most vulnerable children?

I appreciate all the Monday morning quarterbacking here today, but we do not need Brooking's data to tell us that if kids are not in school, they will not learn. That is pretty basic. It is pretty simple. We also know if kids are dead, they do not learn. I am a parent, so when you are talking about the marginal effects of this, I am an educator, and I am a parent.

I was not willing to risk my child on information that was not widely available to us, or that we didn't know. We took the approach with all the information we could at the time to save the lives of children. I do not know what anyone else was doing, but that is what I was doing. I voted in support of two Presidents to make sure that our schools had the resources that they needed.

Ms. Wray, I echo the same thing as you about the irony that we are hearing today because is it not ironic that members of this panel are blaming teachers and teachers' unions, while also arguing that their children should have been back in front of those same teachers?

Either the teachers are good for your kids, or they are not. You cannot have it both ways because you are arguing that the teachers wanted to keep schools closed, and they were detrimental to learning, and everything is the fault of teachers. In the same breath saying and our kids should have been back in front of those teachers with no disruption.

You do not understand trauma. You do not understand what is happening in our classrooms. You do not understand what is going on with our kids if this is the conclusion that you have come to. I do not even know where to begin with the questions, because I do not anticipate that I will get any meaningful answer from people who come before this committee as experts in the field of education without bringing out the lens and saying that this is—you talk about generational, you talk about decades—this did not happen in 20 months during a pandemic. This is the result of disinvestment over decades as you have said. The response for that to be to continue to disinvest just blows my mind. My question is, which is not even a real question because I do not want an answer. If we have another pandemic, are you proposing that we do not shut schools down?

If we have another global crisis, are you proposing that we do nothing? That does not work for me. I do not even know where to

begin. We have people on the panel, Superintendent Truitt, you talk about how you created these reports, how you used Federal funds to create programs to support teachers. That is what we sent that money to you in order to do, for you to make decisions on the ground that would best support your students and your communities. This idea that only Democratic led communities, or Biden districts are falling behind, six of the top 10 lowest performing states for test scores and school districts are led by Republican Governors.

What are you talking about? What are you talking about? I hail from the State of Connecticut where my Governor just announced today that he is going to use some of these funds to have intense math and science tutoring for kids to bring them back up to date, to close some of these gaps, to begin to do the things that we need to do.

All of these things about schools have protocols in place, they could social distance kids. I worked in a school where the windows did not open. I worked in a school where if all my kids were in school on the same day two had to sit at my desk, and I had to borrow a chair from next door.

This idea that we could have put kids six feet apart, open windows, did all the ventilation things, pre-supposes that we had not disinvested in schools for the last 30 years, and all of these things were in place. If that is what you believe, there is nothing I can do to help you.

There is nothing I can say to bring you to the reality of this century in 2023, where we have schools and buildings without proper ventilation that have on average two vacancies for every grade, that have teachers that are not certified, that have all of these things that affect student learning.

If we are not looking at all of the social determinants, and making sure that all of those things are in place first, before we jump to and it is because schools were closed, so we could save kids' lives, and that is why they are behind, then there is nothing I can say here. Mr. Chair, I yield back.

Chairman BEAN. Thank you very much, Ms. Hayes. We now will go to Mr. Owens. Mr. Owens, who will be followed by DeSaulnier, Foxx, then Scott. Representative Owens, you are recognized.

Mr. OWENS. Thank you. Thank you very much. Before I get started with my opening statement, I think what is happened with the COVID is now America is now seeing what is been happening to our black children for decades by these unions. Yet the report in 2017 that 75 percent of the black boys of the State of California cannot read and write.

Nobody says a word. Nobody thinks that is crazy. Nobody thinks that something should be addressing this process where unions are focusing on themselves, their institution, and not those black, young men that will go out and become very, very unsuccessful, very hopeless in the future.

This has been going on for quite a while my friends, so the upside of COVID, if there is one, is that parents across the country now have empathy for those who have been used and abused and discarded for so many decades. I am very happy that we are now

having this conversation, and we are going to yes, find what the cause is.

Redefine with the cause. Never go this route ever again to give this kind of power to people who do not care about our kids, care about the billions of dollars they get, the power they get, they are willing to shut things down. Right now, yes, we will be losing a lot of kids because 20 percent, and I wish—I was trying to find that study, 40 percent of black kids in many of these blue states and cities would never go back to school again.

No, we are not ever going to get them back. We need to recognize that. OK. Learning loss results from school closures during the COVID–19 pandemic have taken a historic toll on our students and their education. This loss of learning is highlighted by the National Assessment of their educational progress which shows the history scores of eighth graders have fallen below a level that they were in 1994, that is a 30 year low.

Civics tests for eighth graders have fallen for the same level as 1998. Results from the National Center of Education Statistics, which administered the NAEP long-term reading and mathematics assessment for 13-year-old students are particularly concerning. Students' math scores have regressed by 33 years, and reading scores have dropped to 50 year lows.

If we cannot read, you cannot learn. You cannot ever hope. Even the free can never be. Nearly a half a century of steady, incremental reading gains have been wiped out in 2 years by self-centered union nonsense. For many young people of this generation, they are projected to lose earnings of $44,000 less over the lifetime due to the demanded closures.

Not to mention the impact of mental health, suicides, depression caused by 2 years of isolation. Here are some of the union demands, the ransom note that altered the lives and futures of millions of children in our country. Now this has nothing to do with school.

Medicaid for all, banning charter schools, banning standardized tests, paying teacher's mortgages and rent, increased property taxes on businesses, financial support for illegal aliens. Now what does that have to do with teaching our kids anything? We have the union was demanding 250 million dollars for their union.

The concession by our Democratic colleagues across the aisle over this time was 190 billion dollars of taxpayer funds, which is three times more the funds spent in 1 year, much of this is unaccounted for, wasted, unused and going to the union coffers. We define and implement solutions that help our students bridge the learning gap and excel in their academic and career aspirations.

Moving forward we must ensure that our children can never ever be used as ransom. Our children are our future, not bargaining chips or political hostages. That is why I introduced the bill that ensures the bright future of most of the most vulnerable children, Title IX kids, will never be threatened again by adults negotiating for more pay.

Our poor children should have never been used, abused, or scarred again in this manner. The legislation that I presented called Kids in Class Act allows for Title I funding to follow the child once a school closes to another—if another pandemic strikes.

These funds can be used by the parents to seek support outside the closed schools, educational support services like tutoring, educational classes outside the home, private school tuition, and educational therapies with students with disabilities. This should be something that we all agree on if the child is our priority.

Dr. Malkus, one of the things that concerned me about the learning loss is that high poverty minority students seem to be particularly left behind. Can you talk more about the data that looks like—what the data looks like for high poverty and minority students, and why these children seem to be especially hard hit?

Mr. MALKUS. There are three factors to pay attention to on this question. The first is there was a downturn in student achievement that preceded the pandemic. Around 2013, we started to see a slight downturn. The second thing is closures were disproportionately difficult for poor and minority and low-achieving students.

For each week they were closed, and those closures lasted longer for those students. Holding all things constant, they got a one, two punch during the pandemic, and they will be paying for it for some time.

Mr. OWENS. Thank you, Dr. Malkus.

Mr. MALKUS. Thank you.

Mr. OWENS. I yield back. Thank you so much.

Chairman BEAN. Thank you, Representative Owens. Here is our order. DeSaulnier, Foxx, Scott, and Kiley. Let us go to California, Representative DeSaulnier, you are recognized for questions.

Mr. DESAULNIER. Thank you, Mr. Chairman. I want to thank the panelists and the Chair and the Ranking Member for this important discussion, such as it is. Speaking of California, I am reminded of a quote by a colleague of mine in the State Senate when we were going around the State 15 years ago looking at intercession summer learning loss in the State, so it has been happening for a while.

He represented a district in Los Angeles, a disadvantaged district. He used to say, he said this at one of the meetings down there. If you do what you have always done you will get what you always got. That in context of a social model in the last two generations it changed dramatically. We do not live in a world of Ward Cleaver anymore, Father Knows Best.

Certainly, in the State I have represented, that dynamic is very strong, particularly in disadvantaged communities, but everywhere. You do not have a single parent, or you have a lot of single parent households. You have got a lot of two income households, and it is—has a disproportionate effect, depending on where you are in the economic scale.

What do we do to fix it? In this instance we followed what the science told us, what the professionals at CDC told us, to protect kids and their families. In that context, and what we are talking about priorities right now, and I am trying to get the wisdom of Solomon in here, Ms. Wray.

Representative Thompson and I, when I first got here—Glenn Thompson—we worked on family engagement centers, knowing that this model had changed forever, for better or worse. What did we do about it? We worked in a bipartisan way to fund, and we

have grown it every session I have been here, to get family engagement centers.

It was led by the National PTA, so that these busy families, and again disproportionately communities of color and poor communities have a bigger problem, but it is everywhere. In the appropriations that we are dealing with now, we are going to zero out the funds we have given to family engagement centers.

Ms. Wray, could you speak to that about how families need to be able to connect with superintendents, with the teachers, with the counselors, to make sure that they are part of their kids growing up, and particularly coming out of COVID after having spent the last 3 years off and on dealing with the pressure of two income households, long commutes, and trying to help their kids be successful with things like family engagement centers?

Ms. WRAY. Yes, sir. I want to thank you, in particular, for your long history of working on behalf of children with disabilities who are missing from too many of these conversations. Without family engagement centers districts like mine, where we have a majority minority student population, where most of our children qualify for free and reduced lunch, parents cannot navigate the complex opportunities that are available, and they may not even know they exist.

Laws that Congress passed generations ago to recognize that disruptive learning is happening are very hard for parents to take advantage of. They are hard to implement. They are complicated because they require individualized education plans, and children that need other resources, even children without disabilities that need to access programming to make sure they are advantaged, are not going to get those services if we take funding away for those community engagement centers.

I think it is one of the most important things that the members of this subcommittee could do to enhance what is going to come out of the coming budget process, is to advocate for that funding to stay in the budget and to increase. Without field engagement centers, for example, if we ever had to shut down schools again, I just want to make clear that these options to stay home that have been mentioned, there were not devices available.

There was no assistive technology for everyone. Teachers were not trained. Parents were not trained in how to do that. Those parent engagement centers were a point where parents could go to find out what those resources were going to be. We cannot take them away now.

Mr. DESAULNIER. On disabilities. Governor Pat Brown, years ago, was faced with a growing disability community, and there was pressure to institutionalize kids. We changed. It was a Republican legislator in the State Assembly then said no, we are going to put them in the community, and give them the resources that led to IDEA.

Now, we are going to flatline that budget in the current appropriations. Speak to your life experience about how difficult that will be for again, one of the most disadvantaged communities, the disabled, particularly disabled kids and their parents.

Ms. WRAY. To cut that funding means you do not believe that children like mine can learn. If you cut that funding, if you tell my

child he cannot learn first of all you are wrong. Second of all, you should not be in Congress.

Mr. DESAULNIER. Well and the financial model. I mean we can institutionalize people, and continue to institutionalize people, which is a horrible moral decision, but financially it is also horrible.

Ms. WRAY. For those who care more about the budget than disabled people, sure. Pick from a buffet of reasons, but please just do the right thing.

Mr. DESAULNIER. Thank you. I yield back.

Chairman BEAN. Thank you very much. We will now go to the Chair of the full Subcommittee. Dr. Foxx, honored to have you here. You are recognized for questions.

Mrs. FOXX. Thank you very much, Mr. Chairman. Once again, thanks to our witnesses for being here. Superintendent Truitt, one of the arguments we hear frequently from the left is the Federal Government must spend more money. We have seen states like North Carolina be remarkably successful with existing resources.

What would you say to Democrats who claim that learning loss cannot be fixed without billions of dollars in new taxpayer dollars at the Federal level?

Ms. TRUITT. Thank you for the question. No. The premise of the Office of Learning Recovery that I created in February 2021 was to ensure that our resources that we were getting from the Federal Government would—that we would be able to be good stewards of that money.

90 percent of that money went straight to districts. We have some districts in North Carolina, which is an 80 percent rural State, that maybe only have three or four people in their central office. The idea that they would get money that was time limited, that had to be spent in a relatively short period of time without any data on where that learning loss was, was very daunting for them.

I want to make sure that the Committee understands that North Carolina was very unique in setting up this Office of Learning Recovery, and in the data that we have provided in a very timely amount of time, so that is how I would answer that question.

Mrs. FOXX. Thank you. Dr. Malkus, you mentioned that parents are not taking advantage of all the resources available to them. How can local or State level leaders make sure these resources reach kids while also not encouraging government overreach?

Mr. MALKUS. Well, I think there is—the main onus on this is on teachers. Teachers have the most influence on students learning. I also think that there is a role for the bully pulpit for local and State and Federal policymakers, to make clear how vital this issue is. This learning loss is—it is apocalyptic, especially for low achieving students.

It cannot be stressed highly enough. We have seen inadequate focus on it, and I understand the calls for well, do we need more spending? Indeed, but we did spend a great deal of money and in a great deal of places. It was sent out without enough guidance, without enough reporting, and so I understand the reluctance to spend more on a black box, when much of that money is not being spent well, or when the institutions were asking to communicate

to parents the urgency of their children's plight, means that we offer programs and students are not showing up.

This is not an easy task, but I think raising the alarm before pandemic learning loss is over, finished, something that we have washed our hands from and just hoping for the best is an essential aspect in this fight.

Mrs. FOXX. Well, thank you very much. Mr. Bradford, I know a large focus of your work is school choice. I think school choice is absolutely essential to getting students back on track. Over the last 3 years we saw states massively expand choice programs. How do you think school choice can empower parents and get students back on track?

Mr. BRADFORD. Thank you, Congresswoman Foxx. By some reports, a million kids are no longer going to their neighborhood public school, and about two-thirds of those kids have chosen charter schools, or other kinds of school options being home schooled, or a private school, whatever.

On the one hand I would just say the obvious. No school is going to work for every child. On the other hand, I would say what has presented itself is an America where parents are thinking much more critically about matching their child, their child's aspirations, and where they attend school.

I think this is all a very good thing. I think this approach should be essential to how we think about the system that we want, not the one that we have been interrogating all day.

Mrs. FOXX. Thank you, Mr. Chairman. I yield back.

Chairman BEAN. Thank you very much, Madam Chair. Let us go to the Ranking Member, Ranking Member Scott from Virginia. You are recognized and thank you for being here today.

Mr. SCOTT. Thank you, Mr. Chairman. Dr. Malkus mentioned the political dynamics involved in school closures. I would ask unanimous consent to introduce into the record a National Public Radio article showing the death rate in Trump counties as almost three times higher than other counties.

The Hill article, which associates the difference in death rates to vaccine politics. I ask unanimous consent.

Chairman BEAN. Without objection, so ordered. Thank you.

[The information of Mr. Scott follows:]

Untangling Disinformation

Pro-Trump counties continue to suffer far higher COVID death tolls

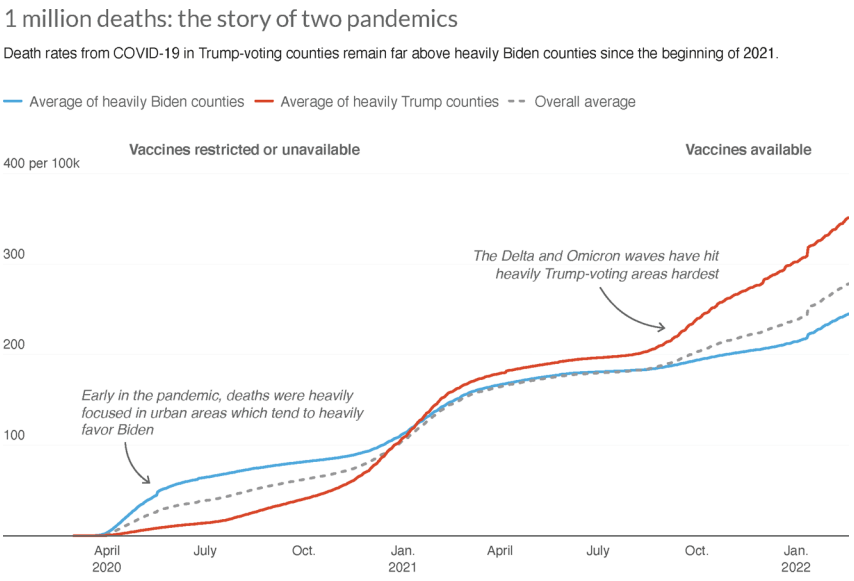
May 19, 2022 · 5:00 AM ET

By Daniel Wood, Geoff Brumfiel

People who identify with the political right are less likely to be vaccinated and more likely to believe misinformation about vaccines.

Ted S. Warren/AP

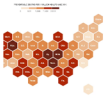
Even with widely available vaccines and newly effective treatments, residents of counties that went heavily for Donald Trump in the last presidential election are more than twice as likely to die from COVID-19 than those that live in areas that went for President Biden. That's according to a newly-updated analysis from NPR, examining how partisanship and misinformation are shaping the pandemic.



NPR examined COVID deaths per 100,000 people in roughly 3,000 counties across the U.S. from May 2021, the point at which most Americans could find a vaccine if they wanted one. Those living in counties that voted 60% or higher for Trump in November 2020 had 2.26 times the death rate of those that went by the same margin for Biden. Counties with a higher share of Trump votes had even higher mortality rates.

The scale of the preventable loss of life is staggering. According to a recent analysis by Brown University, nearly 320,000 lives nationwide could have been saved if more people had chosen to get vaccinated. The Brown analysis also shows a partisan split in

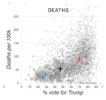
how those preventable deaths are distributed. States that went most heavily for Trump – including Wyoming and West Virginia – have among the highest rates of preventable deaths, while states that voted heavily for Biden – such as Massachusetts and Vermont – had among the lowest.



SHOTS - HEALTH NEWS

This is how many lives could have been saved with COVID vaccinations in each state

"How you vote should not predict whether you die of COVID," says Jennifer Nuzzo, an epidemiologist at Brown University School of Public Health. The social causes of the divide are complex, but the immediate reason is dead simple: Trump-leaning counties have far lower vaccination rates than those that went for President Biden. NPR's analysis showed that the gap was 21 points, with 81% of adults vaccinated in heavily-Biden counties compared to 60% of adults in counties that went for Trump.



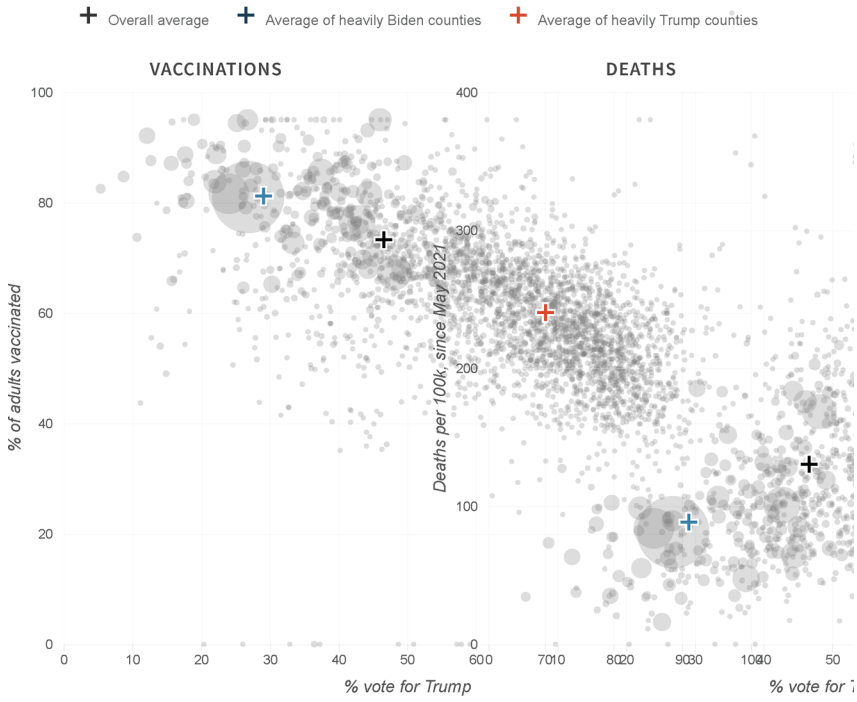
SHOTS - HEALTH NEWS

Pro-Trump counties now have far higher COVID death rates. Misinformation is to blame

According to the CDC, vaccinated individuals are 10 times less likely to die from a COVID-19 infection than the unvaccinated.

Nuzzo says she sees the partisan divide in COVID deaths as one of the major failures of public health messaging in this pandemic. "Public health advice about vaccines often says, 'Talk to your doctor,'" Nuzzo says. But many people don't have one.

Counties that went heavily for Donald Trump continue to see much lower vaccination rates and much higher death rates from COVID



SEARCH BY COUNTY

Notes

Circle sizes reflect population. Vaccination rates are percent of 18+ population fully vaccinated. Death rates are new COVID-related deaths since May 2, 2021. Averages are weighted by county population. The overall average represents the average of the 3,014 counties included in the analysis. "Heavily Trump" indicates a county that voted for Trump at 60% or more. "Heavily Biden" indicates a county that voted for Trump at 40% or less. Data is as of May 18, 2022.

Credit: Daniel Wood/NPR

Meanwhile anti-vaccine advocates have found new audiences on social media, often by feeding into conspiracy theories on the political right. Trusted conservative sources of information tend to have far higher levels of vaccine misinformation than liberal sources. "It's hard for people to actually find the facts, particularly if they are of certain political persuasion," she says.

Political affiliation continues to be the largest predictor of vaccination status, says Liz Hamel, director of public opinion and survey research at the Kaiser Family Foundation, a non-partisan think tank. Roughly 90% of Democrats say they are vaccinated compared to just 55% of Republicans. Moreover, Hamel says that 37% of Republicans now say they will definitely not get vaccinated. "It does appear that there's a sort of hardening of attitudes among those who have decided not to get the vaccine," she says.

Hamel says that previous polling has shown that belief in misinformation is highly correlated with being unvaccinated. Kaiser examined several common pieces of misinformation such as the idea that the government is exaggerating the severity of the pandemic, or that the vaccines contain a microchip. Kaiser's poll found that 94% of Republicans believed one or more false statements about the vaccines.

"There was some indication that people who trusted conservative news media sources for COVID information were more likely to believe misinformation than those who trusted more mainstream news sources," Hamel says.

Despite these factors, the death gap between the pro-Trump and pro-Biden counties did shrink slightly over the winter from 2.73 to 2.26.

That likely was mostly down to the Omicron variant, according to William Hanage, an epidemiologist at Harvard University. Hanage says that Omicron is much more effective at evading masks and other measures to prevent infection. "Before Omicron, actions that people were taking, like masks in schools, would have a really significant impact," he says. "After Omicron they have far less."

The variant's high transmissibility has likely allowed Omicron to reach communities in more Democrat-leaning parts of the country that were previously able to protect themselves. Nuzzo also suspects that the narrowing gap is partially due to older Americans of all political persuasions who are not getting a booster shot, even when eligible. According to recent Kaiser data, 30% of Americans 65 and older remain unboosted. "It's a huge factor," she says.

Nuzzo and Hanage both say they expect the gap in deaths by political affiliation to shrink with time. As more Americans survive COVID infections, their chances of death from subsequent bouts with COVID will decrease. But Nuzzo says, new people are being born every day, and others are aging into different risk categories. Vaccination will likely remain an important tool for controlling COVID into the future. "The fact that we haven't gotten to the bottom of this hesitation," she warns, "is setting us up for bigger problems."

UNTANGLING DISINFORMATION

Inside the growing alliance between anti-vaccine activists and pro-Trump Republicans

And Hanage foresees even deeper problems if a subset of far-right politicians are willing to "take vaccines and turn them into a wedge issue for political gain." He worries that deeply Republican parts of the country will soon start to refuse vital childhood vaccines, such as the measles, mumps and rubella shot, which prevent outbreaks of other infectious diseases. "It's part of the long-term damage that happens

when you have politicians relentlessly trying to denigrate it and turn it into a political football," he says.

Methodology

COVID-19 deaths per 100,000 residents are calculated by dividing total cumulative deaths from COVID-19 by the county or group of counties' populations. County population data come from the U.S. Census Bureau's 2020 decennial census.

The line chart is a calculation of cumulative COVID-19 deaths per 100,000 residents since March 1, 2020 among the three groups analyzed: counties that voted heavily for Donald Trump in 2020, counties that voted heavily for Joe Biden in 2020 and the overall average. Death data are collected by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University and are current as of May 18, 2022.

The dot chart shows COVID-19 deaths per 100,000 residents by county since May 1, 2021. May 1, 2021 was chosen as the start date of our analysis because that is roughly the time when vaccines became universally available to adults ages 18 and older. Death data are also from Johns Hopkins University except for data from Utah, Ohio and Missouri, which came from the CDC Community Profile Report, produced by the White House COVID-19 Team.

Vaccination rate data are the rate of full vaccination among all people 18 years of age or older, as of May 18, 2022. They are from the Centers for Disease Control and

Prevention.

2020 election result data are from MIT Election Data and Science Lab.

Nebraska, Hawaii and Alaska were excluded from all analyses due to insufficient data.

All averages are weighted by county population. A total of 3014 counties are used in this analysis.

Thanks to Beth Blauer from the Centers for Civic Impact at Johns Hopkins University for discussions about our methodology.

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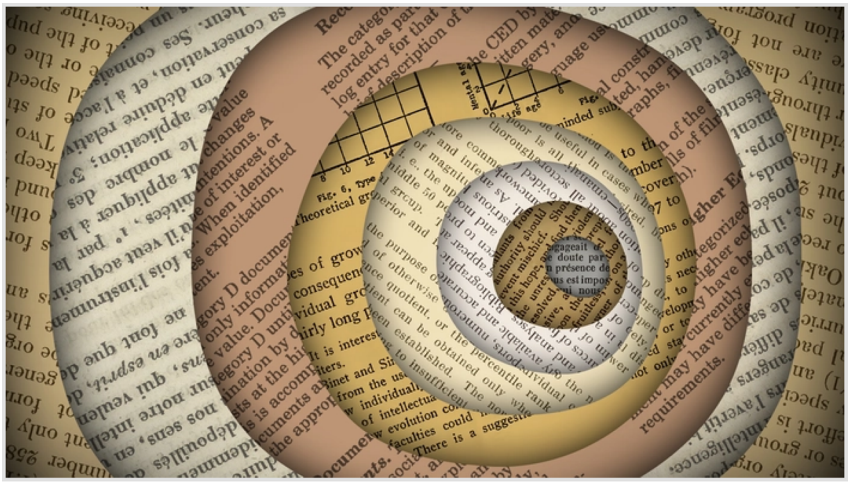

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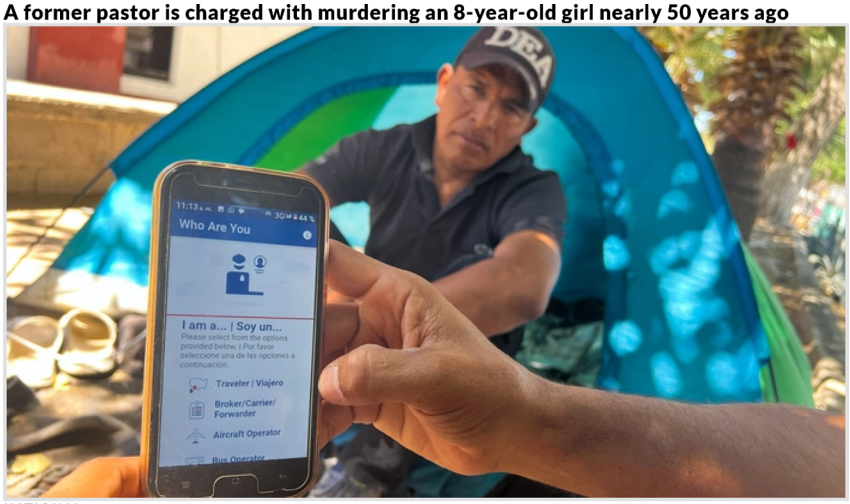

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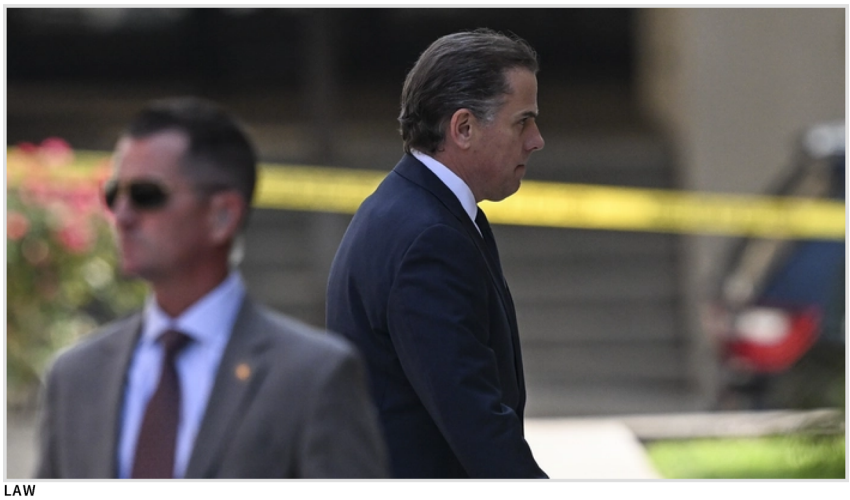

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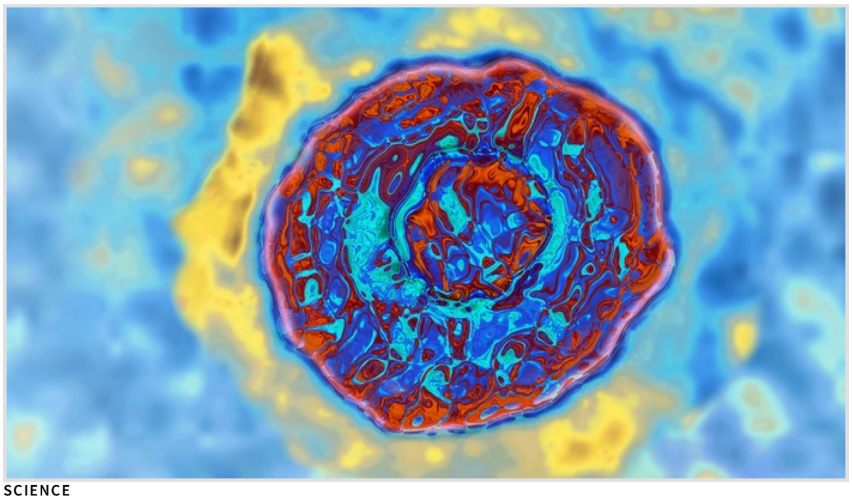

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HEALTH CARE

COVID-19 vaccine politics could be linked to excess GOP deaths in Ohio, Florida: study

BY NATHANIEL WEIXEL - 07/24/23 5:04 PM ET

The study from Yale researchers looked at 538,159 deaths for individuals aged 25 years and older in Florida and Ohio between January 2018 and December 2021 linked to their 2017

The findings come as House Republicans have scrutinized the Biden administration's COVID-19 response, and as Florida Gov. Ron DeSantis (R) uses his "freedom first" pandemic strategy as the basis for his presidential campaign.

"These risk factors may be associated with differences in excess mortality by political party, even though we only observed differences in excess mortality after vaccines were available to all adults," the authors wrote.

TAGS COVID-19 COVID-19 VACCINES RON DESANTIS

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Mr. SCOTT. Thank you. Now I do not know how that is relevant to this, but if you are going to blame people for closing schools, and inflicting learning loss, maybe you can associate those articles to see who gets blamed for what.

Ms. Truitt, you obviously were not surprised to find students with a reduced academic achievement when they were not in school, but rather than complaining about it and blaming people, you focused on actually doing something about it. Can you—it sounds like you started with getting data. Can you tell me why it was important to get student level data?

Ms. TRUITT. Yes. In North Carolina the 10 percent holdback from ESSER 3 was by law able to be appropriated by our General Assembly, and so we wanted to be able to provide them, as well as districts who again got 90 percent of those funds, the information that they needed to best serve individual students.

To kind of taking a scattershot approach, and just investing in programs that may or may not improve learning outcomes for students in my opinion was not an option. In doing a population study, which means that we look at the learning loss of every single student, and we are able to determine by student and by subgroup, which subject suffered the most, we were able to then tell districts here is what we suggest you spend your ESSR dollars on, and here are some vetted resources we think would match up best with what your students need.

Mr. SCOTT. Armed with that data, what kind of interventions did you recommend for students most in need?

Ms. TRUITT. We looked at a lot of districts, did Summer Bridge Academies so that we were able to help 5th graders transition to 6th grade, 8th graders to 9th grade. We looked at a lot of math boot camps because middle grade's math suffered the worst in our population study. We also, as I mentioned, invested a lot of money in teacher professional development.

We also stood up a statewide high dosage tutoring effort.

Mr. SCOTT. Did these interventions cost money?

Ms. TRUITT. They did, and what I would let the Committee know is that our districts are still sitting on 47.7 million dollars of their ESSER 3 funds.

Mr. SCOTT. Does that mean that they have the ability to continue providing the summer support, the tutorial services, and other services needed to catch up?

Ms. TRUITT. Yes, sir.

Mr. SCOTT. Does your data—are you doing continuing testing to find out where the students are?

Ms. TRUITT. We are.

Mr. SCOTT. Based on what is working and what might not be working, what recommendations can you suggest outside of the pandemic?

Ms. TRUITT. To improve education?

Mr. SCOTT. Yes.

Ms. TRUITT. I would say that we need to not run away from accountability, that standardized testing lets us know where we are falling short with which subgroups. Had it not been for no child left behind, we would not know that our black and brown students were experiencing the kinds of gaps that they were. In a time

where some states are running away from accountability, North Carolina is running toward accountability.

We need to include other measures of accountability, aside from standardized tests. That means things like chronic absenteeism. If children are not at school, they cannot learn. We also need to be holding our districts accountable for whether or not students are participating in career college education, career technical education, so that we can once and for all get rid of the narrative that the only pathway to the middle class is with a 4-year college residential degree.

Mr. SCOTT. Thank you. A study came out right before the pandemic that showed widespread problems with heating and ventilation systems. Obviously, if you can open a school during an airborne pandemic, you would like a good ventilation system. Did you find that many schools needing to fix their ventilation systems before they could open?

Ms. TRUITT. Yes, sir. ESSER 1 was incredibly helpful in that mitigation of the pandemic.

Mr. SCOTT. Thank you, Mr. Chairman.

Chairman BEAN. Ranking Member Scott, thank you so much. Close us out. Let us go to California where the Chair, sub-Chair of the Workforce Protection Subcommittee, Representative Kiley is recognized for 5 minutes for questions.

Mr. KILEY. Thank you, Mr. Chair. Dr. Malkus, in your written testimony you write that the pandemic caused the largest negative shock to student learning the country has ever seen. You said that the learning losses exceeded those from Hurricane Katrina and said achievement gaps widened over the course of the pandemic.

Would you say that those losses were mainly the result of the pandemic itself, or the government's response to it?

Mr. MALKUS. This is a great question, and an important one. Thank you for it. Typically speaking, we are looking at learning loss that was what was the trajectory of pre-pandemic learning, and what did we know well before the pandemic started, and then well after the pandemic started.

That means that some of the learning loss that we see, and we see it in schools that were also in person, was due to the fact that they were closed all spring unexpectedly, and we were building a plane as we were flying it down the runway to educate those students remotely.

In addition, there is some of the total learning loss that occurred in the 2020–21 school year. The fact of the matter is that we see large differences between those two groups, even though for the spring they have the same missed learning. That suggests that the difference that we see between them was actually more important because of the differential policy decisions in districts to stay longer.

In other words, they both would have had some of the learning loss no matter what, extended closures were actually more of a differential than the overall differentials.

Mr. KILEY. The evidence is pretty clear at this point that districts and states that stayed closed longer did more harm to their students. Is that right?

Mr. MALKUS. That is correct.

Mr. KILEY. Your organization had a tracker for in person learning. Do you recall which State did the worst in terms of getting students back in the classroom?

Mr. MALKUS. I do not have that information off the top of my head.

Mr. KILEY. I just checked it. It happens to be my State of California, very much against what I advocated for. The Governor of California, Gavin Newsom issued a statewide shutdown order heading into the fall of 2020. Do you recall, I mean what was the State of the evidence right then as far as the harm of keeping kids out of school versus having them in school?

Mr. MALKUS. In early fall, 2020, a reopening?

Mr. KILEY. That is right.

Mr. MALKUS. It was mixed, and there was a pandemic fog. Some states were blazing ahead, California was not.

Mr. KILEY. How about in the spring of 2021, specifically March, the California super majority rejected the amendment to open schools. I was actually the author of that amendment. What did the evidence say in March 2021 about the harms of keeping kids out of school versus having them in school?

Mr. MALKUS. By March 2021 the Centers for Disease, the CDC had issued clear evidence that it was safe to open schools with mitigation strategies, and it had issued that 2 months prior to the time you are talking about.

Mr. KILEY. By the way, all this time the Governor himself had his own kids in person in private school. What does that tell you about his belief about the benefits versus costs of having kids in school in person?

Mr. MALKUS. I will not speak to the Governor's own motivations. I will let you lead your own conclusions on that. However, our family did have to take steps to remove our students largely because we knew that they would be open during the pandemic.

Mr. KILEY. Could you just summarize for us then the harms that we know of now that a State like California did by shutting down its schools unnecessarily for so long?

Mr. MALKUS. I believe that these will be dramatic changes from what otherwise would have been. I understand there were differences in learning trajectories before that. Believe me, this is my business, but the pandemic has some of its own consequences. These consequences were dire. They were more dire for disadvantaged people, disadvantaged students in terms of learning loss, and it will be more dire down the line in terms of their life outcomes.

All the evidence that we have suggests that this is pretty clearly the case. Anyone concerned with equity should be concerned with pandemic learning loss.

Mr. KILEY. That is right. I believe this is the greatest domestic policy error, the most consequential domestic policy error in the modern history of this country. Frankly, the Biden administration was complicit in it. They went after Governors who did not want to have kids, young children wear masks in classrooms. They did not say anything about Governors like Gavin Newsom in California, that refused to open schools.

Frankly, we had a lot of schools that were failing well before the COVID shutdowns, and I think that in a sense what the shutdowns

did, if there is any silver lining at all, is it opened a lot of eyes to the way our education establishment works. That it is really not about the kids.

In a State like California, it is never about the kids. The good news is I think we are seeing a lot more people now realizing that. Eyes have been opened, and I think there is a growing movement in this country to reorient public education toward a paradigm that is student centered and parent directed.

Thank you very much for your testimony. I yield back to the Chair.

Chairman BEAN. Mr. Kiley, thank you very much. This is the Subcommittee on Early Childhood Elementary and Secondary Education. If you are just tuning in, we have just completed a lively discussion. Members, thank you so much for jumping in and making this a lively discussion.

We now know that learning loss is real. We have spent a lot of money, and we are still determining the full effect of that money, and that this Committee has a lot of work to do to catch up to where we were. It is not just so much states competing with each other, it is America competing with the rest of the world.

Next month millions of students will be returning to school, and they will be asked what did you do over the summer to students that are returning to school? We will answer, what did you do over the summer? They will say I spent my summer as an intern in the Education and Workforce Committee.

Those students are Meghan Heckelman from the majority office, and Claire Houchin from the majority office. Could those two stand? Meghan and Claire, if you are here please stand up. I want to recognize both of them. Let me tell you before we clap, before we clap, hold on one thing.

Both sides agree, these two young ladies have very bright futures, but here is the secret to succeeding. When they were given tasks, and they were given a lot, they always performed with a smile and said I will get it done.

As they go back, Meghan will be going back to Boston College, and Claire Houchin will be going back to Ashland University. Let us give them a big round of applause for their service. Do you want to do? Yes, ma'am, yes, ma'am. I am going to—before we adjourn, I will recognize the Ranking Member for a closing statement.

Ms. BONAMICI. Thank you very much, Mr. Chairman. Today we discussed missed learning, which I think Mr. Bowman, Representative Bowman aptly described as disrupted learning. In K–12 students, and how the pandemic exacerbated the difficulties in closing long-standing and opportunity and achievement gaps, particularly for black and Latino students.

I hope our colleagues across the aisle will work with us with congressional Democrats to further assist educators and schools in recovering from the pandemic, and in providing every child with a well-rounded, world class education. I want to note that what students and schools do not need is extremist MAGA Republican culture wars, and they do not need devastating cuts to education funding.

These words and actions are harmful to students. They can cause additional stress and burnout among educators, and I implore my

colleagues to reject them in favor of policies that actually improve public education. I want to note there was a discussion in our hearing today about prevention. How do we keep this from happening again?

Well one thing we can do is invest not just in education, but also in public health, and make decisions based on science. Dr. Malkus, at one point you mentioned Europe, and compared it with Europe. What you did not see in Europe was mask wars and vaccination opposition.

In Europe people wore masks and got vaccinated because that is based on science. I had a conversation with the superintendent of a small school district in Oregon at the height of everything, and she was beside herself. She said I do not know what to do because my parents are calling, they want their students in a classroom with a teacher who is vaccinated.

My State has a religious exemption, but all of a sudden half the teachers have found religion, and they do not want to get vaccinated, and by the way, I cannot get medication to deworm my horse. Those were not decisions that were being based on science, so we need to make sure we are making decisions based on science.

Then I also want to correct a statement in Mr. Bradford's written testimony. In Mr. Bradford's written testimony, he stated when discussing teachers unions. For example, virtual charter schools increased enrollment due to brick-and-mortar schools closing, so a cap was enacted in Oregon at their behest, referring to the teachers unions. That is just not the case.

Mr. BRADFORD. That is an article in the Wall Street Journal. I am happy to send it to you, Congresswoman.

Ms. BONAMICI. You can send it to me, Mr. Bradford, but I served in the legislature in Oregon on the Education Committee more than a decade ago, and the cap was in place long before COVID, and that was because virtual charter schools were taking a significant amount of public money with serious equity issues, and without evidence of success.

Mr. BRADFORD. I am happy to send it to you.

Ms. BONAMICI. Thank you. I just want to correct that for the written record.

Mr. BRADFORD. I am happy to send it to you.

Ms. BONAMICI. The cap was in place long before. Mr. Chairman, I remain committed to working together to advance the interest and well-being of every student, parent and teacher. I urge my colleagues on both sides of the aisle to join me, and I thank you, Mr. Chairman, and I yield back.

Chairman BEAN. Ms. Bonamici, thank you so much, Ranking Member. It is great to work with you, and without objection Mr. Bradford, if you will submit that article, we will include it as part of the record.

[The information of Mr. Bradford follows:]

https://www.wsj.com/articles/oregons-coronavirus-education-lockdown-11585697080

OPINION | REVIEW & OUTLOOK Follow

Oregon's Coronavirus Education Lockdown

Teachers unions block kids from transferring to virtual charter schools.

By The Editorial Board Follow

March 31, 2020 7:24 pm ET

A woman and child walk past North Salem High School on March 31. PHOTO: ANDREW SELSKY/ASSOCIATED PRESS

Oregon has cancelled public-school classes amid the pandemic, but political self-interest never sleeps. The Oregon Education Association and its labor allies are now blocking hundreds of children from continuing their education at virtual public charter schools.

As of Oct. 1, more than 14,000 children already attended Oregon's 19 virtual public charters and received the bulk of their education remotely. But when brick-and-mortar schools closed on March 16 to limit the spread of the coronavirus, Oregon parents clamored to transfer their children to the online schools.

Monday was the first day at Oregon Connections Academy, the state's largest virtual public charter, for seventh grader Natalie Ritter and her fifth-grade brother, Lincoln. Their mom, Stephanie Ritter, says the ability to transfer them was a godsend, though it was heart-wrenching to leave behind beloved teachers and classmates.

Ms. Ritter and her husband work full time and don't have hours a day to teach their children at home. Attending school online "will help them not just learn but feel connected," Ms. Ritter says. "Not having that as an option just means that we would have to put more faith in the Oregon schools figuring that out. And I think they're working on it, but we just don't have the luxury to wait."

Like Natalie and Lincoln, some 300 students successfully transferred in mid-March to Oregon Connections Academy alone, and the teacher's unions were alarmed by this mass exodus from the public schools.

Under pressure from the unions, the Oregon Department of Education stopped allowing transfers on March 27. At Oregon Connections Academy, this means some 1,600 students who had sought to transfer won't be able to, says Jeff Kropf, the school's founder and president of the board of directors.

It could be worse. The state Department of Education originally contemplated closing down virtual public charters along with the brick-and-mortar schools, according to a March 24 PowerPoint presentation reviewed by the newspaper Willamette Week. Even during a national crisis, unions would rather deprive students of an education than see their charter-school competitors succeed.

Appeared in the April 1, 2020, print edition.

Chairman BEAN. What I have learned in my time in the Education Sector. If we truly want to make a difference let us empower parents. Let us empower parents, and we are going to put more money in, let us let parents choose where that money is spent. Maybe, if it is a private school, if it is a public school, a charter school, or home school, whatever it is, let us let them make that choice, and that is something that we can go forward today.

Our members, you are outstanding. Let me get clearance to see if we can adjourn. Are we ready? Yes, yes, guess what, breaking

news here that we have a handful of other interns that we want to recognize, including Elizabethe Payne, if you are here, please stand. We would love to recognize you. Elizabethe Payne, Savoy Adams, Madeline Lucas, Malak Kalasho, Kristion Jackson, Eli Smolen.

Wherever you are. They are probably doing some filing, and letter writing in the back, but we appreciate your service, and this whole complex relies on interns to do great work, and it is also making future leaders out of them. They could see the process firsthand.

With that, there being no further business to come before you ladies and gentlemen, thank you for your attention today. Let us go make it a good day. This Committee is adjourned.

[Whereupon at 12:01 p.m., the Subcommittee was adjourned.]

ADDITIONAL SUBMISSIONS FOR THE RECORD

[Additional submissions from Chairman Bean follows:]

NORTH CAROLINA
State Board of Education
Department of Public Instruction

Report to the North Carolina General Assembly: An Impact Analysis of Student Learning During the COVID-19 Pandemic

Findings from the third-party entity contract to collect, analyze, and report data related to overall impacts of COVID-19 on public schools units.
SL2021-3, HB196, Section 1.2. S.L. 2021-1 is amended by adding Section 5A (4)

Date Due: --- Preliminary Report: March 15, 2022
Final Report: December 12, 2022
DPI Chronological Schedule, 2021-2022

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Contents

Executive Summary

During the 2019-20 and 2020-21 school years, the COVID-19 pandemic dramatically impacted traditional methods of student learning. Traditional methods of delivery were uprooted by school closures and an unplanned shift to remote learning. Understanding the extent of the impact of students' lost instructional time and how it can vary among student groups – is critical to understanding current education needs and developing recovery plans to meet those needs.

To further this understanding about the impact of students' lost instructional time, the North Carolina Department of Public Instruction (NCDPI) and SAS Institute Inc. (SAS) collaborated to leverage existing student assessment data and yield insight into how the pandemic disrupted student learning.

Although the pandemic's impacts are likely far-ranging across many domains, this report focuses on an Impact Analysis that assesses student performance and lost instructional time by comparing students' pre-pandemic expected performance with their post-pandemic actual performance in the 2020-21 school year.

This data is unique to North Carolina as it is individual, student level data and not based on representative samples of students. This is one of the most comprehensive reports done to date on the effects of the pandemic as it pertains to individual students and should be considered to be the authoritative source within North Carolina on the issue of learning loss during the 2020-21 school year. This analysis is the first of its kind in the state and one of the first nationally.

NCDPI is in a unique position because North Carolina has one of the only statewide student information systems, a cross-sector longitudinal data system, custom-designed standard accountability models, and a longtime partnership with the EVAAS team at SAS. Though student achievement for the 2020-21 school year was presented to the State Board of Education in September 2021, this report goes beyond how many students met grade level proficiency and presents the difference between where we expected students to perform and how they actually performed. Taken together these two pieces of information can provide the state and local educators a more complete picture of the impact of the pandemic on student performance and how to move forward.

More specifically, this analysis uses student projections to the 2020-21 school year, which represents their pre-pandemic expected performance based on the average schooling experience and then compares these projections to students' actual performance on the 2020-21 statewide assessments. A negative difference indicates that students did not perform as expected based on their pre-pandemic learning trajectories. The impacts are disaggregated in several different contexts including subject, grade, student demographic. The disaggregation of data assists in our understanding of those groups that were disproportionately impacted by the pandemic.

This report focuses on two key questions at the state-level:

- Question 1: To what extent do students' pre-pandemic trajectories and their actual performance results vary by subgroup and contextual factors?
- Question 2: How do any observed differences compare to historical trends?

The impact analysis incorporates additional data variables to investigate student performance and learning across targeted areas of exploration to assess differences in patterns in learning:

- *Across subjects and grades*
- *Across geographic regions and urbanicity indicators*
- *Across student subpopulations* such as those in a specific demographic category or socioeconomic status
- *According to students' entering achievement*
- *According to students' education delivery* such as in person, virtual, etc.

Using these strategies offers NCDPI empirical results to realistically assess the impact of lost instructional time and more effectively monitor students' recovery during the 2020-21 school year and beyond.

The analysis presented below used the state's summative assessment data from end-of-grade (EOG), end-of-course (EOC), and early grades (mCLASS). Where available, the analysis used data from prior years through the 2020-21 school years as historical data was used to establish students' projected performance as well as to provide context for interpreting the 2020-21 findings.

NCDPI's initial findings from this analysis include:

- On average, at the state level, all students were significantly impacted by the pandemic and lost instructional time.
- Results show that there was a negative impact for all students, for all grades, for almost every subject (except English II). These negative impacts were especially true for Math (5th-9th grades) and Science (Biology).
- Most students continued to progress during the pandemic but at a slower pace than they would have done otherwise.
- Students who returned to the classroom for face-to-face learning and where specific and targeted resources and supports were immediately put in place, did better than the students who were purely remote and disengaged from their school community.

Based on these preliminary findings, NCDPI will be able to better understand learning recovery and acceleration programs and interventions across the state and set benchmarks to monitor progress over time. This report allows the department to better target resources and prioritize funding for students who were most affected and for areas of the state that are most in need. The Office of Learning Recovery and Acceleration offered these key takeaways with a focus on eliminating opportunity gaps:

- Connectivity - Students need access to reliable broadband internet at home, which directly impacts their ability to access robust, dynamic instructional materials and resources. Cross-sector partnerships should focus on solving the rural and economic broadband divide.
- In-Person Instruction - The majority of students need regular interaction and direct personal engagement with their principals, teachers, and peers.
- Students Disproportionately Impacted by the Pandemic – Education leaders and teachers should focus resources and targeted interventions on students who have been most negatively impacted by disrupted learning caused by the pandemic.
- Focus on Content Areas of Highest Need - Education leaders and teachers should focus resources and targeted interventions for early grades reading, middle grades math, and science in the transition years.

The following sections provide more details about the data used, methods of analysis, results, and interpretation of the results for the Impact Analysis. State-level student and aggregated files are provided separately to NCDPI and to individual LEAs via secure file transfer protocol accounts.

Data

Assessment Data

The analysis in this report leveraged student-level assessment data, where available, from 2007-2008 through the 2020-21 school year in order to compile a longitudinal data set based on the following assessments:

- EOG Mathematics in grades 3–8
- BOG Reading in grade 3 (Note: These scores were used as predictors only; no projections were made to this assessment)
- EOG Reading in grades 3–8
- EOG Science in grades 5 and 8
- EOC Biology, English II, Math 1 and Math 3
- mCLASS in grades K-2 (used as predictors only)

The state EOG tests are administered in the spring semester whereas the EOC assessments are typically given at the end of the fall and spring semesters with the occasional summer administration. The BOG Reading in grade 3 assessment is given at the start of the fall semester. The mCLASS assessments are administered in equal intervals three times throughout the year.

For each administration, SAS used the following student identifiers, assessment data, and district/school/student flags; definitions of these identifiers and flags are available in Appendix A:

- Student Identifiers
  - Student Last Name
  - Student First Name
  - Student Middle Initial
  - Student Date of Birth
  - Student Identification Number
- Assessment Information
  - Scale Score
  - Test Taken
  - Tested Grade
  - Test Semester
  - School Number
  - District Number
  - Administration Window
- Student Flags
  - Academically or Intellectually Gifted (Y, N)
  - Sex (M, F)
  - English Learners (EL) (Y, N)
  - Economically Disadvantaged Students (Y, N)
  - Students with Disabilities (Y, N)

- Homeless (Y, N)
- Military Connected (Y, N)
- Chronically Absent (Y, N)
- Migrant Student (Y, N)
- Education Delivery
- Race
    - American Indian/Alaskan Native
    - Asian/Pacific Islander
    - Black (not Hispanic)
    - Hispanic
    - Two or More Races
    - White (not Hispanic)
    - Other

- District/School Flags
    - School Designation (Public, Charter)
    - State Board Region
    - Urbanicity
    - Education Delivery: Number of Days Remote

SAS merged the individual student records over time using an algorithm that incorporated all student identifiers to create a longitudinal database that tracks individual students' performance across grade levels on state assessments each year. As explained in Section 0, student flags were not included in the analysis for determining students' projected performance but were used to aggregate students into different student groups for comparison. Furthermore, some student flags are used to generate school-level variables that indicate the school's concentration of student composition in the form of quartiles. For example, the student-level Economically Disadvantaged flag was used to create quartiles based on the percentage of the school's students who are considered Economically Disadvantaged.

Business Rules

In creating the longitudinal database, the following business rules were applied regarding student scores.

Missing Grade

In North Carolina, the grade used in the analyses and reporting is the tested grade, not the enrolled grade. If a grade is missing on an early grade or end-of-grade test record, then that record will be excluded from all analyses. The grade is required to include a student's score in the appropriate part of the models.

Duplicate (Same) Scores

If a student has a duplicate score for a particular subject and tested grade in a given testing period in a given school, then the extra score will be excluded from the analysis.

Students with Missing Districts or Schools for Some Scores but Not Others

If a student has a duplicate score with a missing district or school for a particular subject and grade or course in a given testing period, then the duplicate score that has a district and/or school will be included over the duplicate score that has the missing data.

Students with Multiple (Different) Scores in the Same Testing Administration

If a student has multiple scores in the same period for a particular subject and grade or course and the test scores are not the same, then those scores will be excluded from the analysis. If duplicate scores for a particular subject and tested grade in a given testing period are at different schools, then both scores will be excluded from the analysis. For grade 3 Reading and Math scores, the most recent score is used.

Students with Multiple Grade Levels in the Same Subject in the Same Year

A student should not have different tested grade levels in the same subject in the same year. If that is the case, then the student's records are checked to see whether the data for two separate students were inadvertently combined. If this is the case, then the student data are adjusted so that each unique student is associated with only the appropriate scores. If the scores appear to all be associated with a single unique student, then scores that appear inconsistent are excluded from the analysis. For the historical data based on K-2 scores, the analysis excludes K-2 students with a grade change.

Students with Records That Have Unexpected Grade Level Changes

If a student skips more than one grade level (e.g., moves from sixth in 2018 to ninth in 2019) or is moved back by one grade or more (i.e., moves from fourth in 2018 to third in 2019) in the same subject, then the student's records are examined to determine whether two separate students were inadvertently combined. If this is the case, then the student data is adjusted so that each unique student is associated with only the appropriate scores. These scores are removed from the analysis if it is the same student. Per DPI's decision, the analysis does not remove students with scores that appear to be associated with inconsistent grades. The analysis leaves students in the analysis at the tested grade that EVAAS receives from DPI.

Students with Records at Multiple Schools in the Same Test Period

If a student is tested at two different schools in a given testing period, then the student's records are examined to determine whether two separate students were inadvertently combined. If this is the case, then the student data is adjusted so that each unique student is associated with only the appropriate scores. When students have valid scores at multiple schools in different subjects, all valid scores are used at the appropriate school.

Outliers

Student assessment scores are checked each year to determine whether they are outliers in context with all the other scores in a reference group of scores from the individual student. These reference scores are weighted differently depending on proximity in time to the score in question. Scores are checked for outliers using related subjects as the reference group. For example, when searching for outliers for EOC Math test scores, all EOG and EOC Math subjects are examined simultaneously, and any scores that appear inconsistent, given the other scores for the student, are flagged. Outlier identification for college readiness assessments use all available college readiness data alongside state assessments in the respective subject area (e.g., Math subjects with EOC, EOG). Lastly, K-2 data are used solely for outlier identification with K-2.

Scores are flagged in a conservative way to avoid excluding any student scores that should not be excluded. Scores can be flagged as either high or low outliers. It should also be noted that test scores within a year, subject and grade are normalized before checking begins. This helps mitigate any unnecessary flagging of outliers due to a year of assessments shifting across the state as might happen in 2021.

This process is part of a data quality procedure to ensure that no scores are used if they were,

in fact, errors in the data, and the approach for flagging a student score as an outlier is fairly conservative. Again, students were expected to score lower in 2021 due to the pandemic, and this process is more about flagging data that might be erroneous.
Considerations included in outlier detection are:

- Is the score in the tails of the distribution of scores? Is the score very high or low achieving?
- Is the score "significantly different" from the other scores as indicated by a statistical analysis that compares each score to the other scores?
- Is the score also "practically different" from the other scores? Statistical significance can sometimes be associated with numerical differences that are too small to be meaningful.
- Are there enough scores to make a meaningful decision?

To decide whether student scores are considered outliers, all student scores are first converted into a standardized normal Z-score. Then each individual score is compared to the weighted combination of all the reference scores described above. The difference of these two scores provides a t-value of each comparison. Using this t-value, the models can flag individual scores as outliers.

There are different business rules for the low outliers and the high outliers, and this approach is more conservative when removing a very high-achieving score.
For low-end outliers, the rules are:

- The percentile of the score must be below 50.
- The t-value must be below -3.5 for EOGs in Math and Reading when determining the difference between the score in question and the weighted combination of reference scores (otherwise known as the comparison score). In other words, the score in question must be at least 3.5 standard deviations below the comparison score. For EOC and EOG Science assessments, the t-value must be below -4.0
- The percentile of the comparison score must be above a certain value. This value depends on the position of the individual score in question but will range from 10 to 90 with the ranges of the individual percentile score.

For high-end outliers, the rules are:

- The percentile of the score must be above 50.
- The t-value must be above 4.5 for EOGs in Math and Reading when determining the difference between the score in question and the reference group of scores. In other words, the score in question must be at least 4.5 standard deviations above the comparison score. For EOC and EOG Science assessments, the t-value must be above 5.0.
- The percentile of the comparison score must be below a certain value. This value depends on the position of the individual score in question but will need to be at least 30 to 50 percentiles below the individual percentile score.
- There must be at least three scores in the comparison score average.

Membership

To include as many students as possible and given the research purpose of the analysis, students were not excluded based on membership, a designation based on student enrollment at a school and used for accountability purposes.

First Year English Learner
Given the research purpose of the analysis and need for historical data to calculate a pre-

pandemic projection, students were excluded based on first year English Learner designation. Students who were flagged as English Learner after their first year were included in the analysis.
Based on the business rules in this section and the analytic criteria outlined in the next section (such as the three-predictor minimum), 3,143,764 test records out of a total 3,394,169 were included in this analysis, which is about 93%. NCDPI has made more details available about student participation rates in the 2020-21 school year here: https://www.dpi.nc.gov/media/12854/download?attachment.

Methods of Analysis

Overview

This report focuses on a comparison between students' projected 2021 performance prior to the pandemic with their actual 2021 performance as a viable method to assess lost instructional time. In order to provide this assessment, this analysis engaged in five key steps:

1. **The most recent cohort of students from the 2018-19 school year is used to establish the pre-pandemic experience.** A model is constructed with this cohort of students where the response variables are each individual subject and grade on the 2018-19 school year regressed on the prior testing histories of that students. Establishing the relationships of past tests to this current 2018-19 test determines the pre-pandemic experience or, in other words, an expected score on the response given a specific set of prior testing data.
2. **Students' prior assessment data (2018-19 and earlier) is used to establish a projected or expected score on a future assessment (2020-21).** This projection is based on the students' own prior testing history as well as how the cohort of students who just took the assessment prior to the pandemic performed. In other words, the students with testing data in 2020-21 use their previous tests (2018-19 and earlier) as independent variables in the model established in the step above. For example, a student who last tested as a third grader in 2018-19 might have a projected score of 548 on the next summative assessment as a fifth grader in 2020-21.
3. **Projected scores represent students' expected or average progress trajectories prior to the pandemic.** Each student receives a projected score based on their prior testing history, which assumes that each student had an "average" schooling experience. An average schooling experience in this study is determined by the observed progress of students who took the assessment prior to the pandemic. While schooling experiences inevitably vary across the state in any given year, the analysis uses the average schooling experience to avoid assumptions that certain students will have more than or less than the average schooling experience during the pandemic year and to avoid assumptions that students at individual schools would have the same schooling experience during the pandemic as they had prior to the pandemic.
4. **With assessment data available during the 2020-2021 school year, it is possible to compare a student's trajectory prior to the pandemic to the student's current performance.** The student's projected score is compared to the current score for the same tested content area. Although the projected score is based on the average pre-pandemic schooling experience, the 2020-21 school year is likely to be different because of the pandemic. This comparison will indicate the extent to which students have experienced lost instructional time and diverged from their projected trajectory established prior to the pandemic.

5. **The individual student scores can be aggregated among students to assess the pandemic's impact on specific student groups.** This aggregation may yield insights into patterns among student subpopulations, subjects, and grades.

This approach was conducted for the most recent year of assessment data (2020-21 school year) as well as using historical years to provide context for interpreting results. The historical analysis made projections to the 2017-18 and 2018-19 school years using prior test scores from 2016-17 and earlier school years to define the average schooling experience. The historical analysis considered multiple years as a comparison due to changes in the assessments' content standards and state administration policies.

The sections below provide a more technical explanation of the analytic approach as well as business rules. The Results section summarizes these differences and provides a few ways to contextualize and interpret them.

Determining Students' Projected Scores

As part of the current EVAAS reporting for NCDPI, SAS provides student projections to future statewide assessments, such as the EOG and EOC. This information indicates students' likely performance on future tests based on their prior performance given an "average" schooling experience, and the projections are a resource for educators to plan for students' future success.

The analysis for this report uses a similar methodology to provide student projections to their 2020-21 state assessments. The model provides a projected score for each student based on that student's prior testing performance and assuming the average schooling experience of the most recent cohort of test takers, which was defined prior to the pandemic.
This modeling approach offers the following statistical advantages:

- Projected scores based on multiple scores are more reliable estimates of where students might perform than just a single prior test score. They include more predictive information about students' future performance than the prior year's single score by incorporating multiple subjects, grades, and years of data.[1] This mitigates challenges with measurement error.
- The model does not require students to have all predictors or the same set of predictors as long as a student has at least three prior test scores in any subject and grade. This flexibility is critical in avoiding selection bias as more students can be included in the model itself, even if they have missing data.

These advantages are important features for creating reasonable expectations of student performance for the purposes of this analysis.

It should be noted that, historically in North Carolina and in the other states that use the SAS projection model, it is not necessary to add demographic or socioeconomic indicators into the projection model because, to the extent that these factors influence student performance, they are captured indirectly in the students' prior test scores. Other researchers have reported similar findings in their assessments of value-added models (which are similar to the projection model in their construction and use of prior test scores).

1 See, for example, data and results from Ohio's Growth Model Application and Information available at: https://www2.ed.gov/admins/lead/account/growthmodel/oh/index.html.

As a 2004 Education Trust study stated, specifically with regards to the SAS EVAAS value-added modeling, which again has a similar use of prior test scores to the projection model in this analysis:

> [I]f a student's family background, aptitude, motivation, or any other possible factor has resulted in low achievement and minimal learning growth in the past, all that is taken into account when the system calculates the teacher's contribution to student growth in the present.[2]

UCLA researchers Kilchan Choi, Pete Goldschmidt, and Kyo Yamashiro reported:
First, adding in an adjustment for student SES (as measured by eligibility for free- or reduced-price lunch) adds very little once a student's initial status is controlled...This indicates that student initial status captures many of the effects that SES is attempting to measure. In other words, by controlling for initial status, the model already captures the preceding effects that SES might have on students.[3]For this analysis, there is indication that specific student groups had different experiences during the pandemic that are related to their student characteristics. To investigate these differences, the projection model in this analysis does not include demographic or socioeconomic indicators. However, the aggregation of student residuals based on student characteristics will indicate their potential impact or relationship to lost instructional time.

More specifically, the projection model is an analysis of covariance (ANCOVA) model. The model parameters are established using the most recent cohort of test takers of that assessment prior to the pandemic. The response variable (y) is the observed score of students from the 2018-19 year, the covariates (xs) are scores on tests the student has already taken up to that point, and the categorical variable is the school at which the student received instruction in the subject, grade, and year of the response variable (y). Algebraically, the model can be represented as follows for the i^{th} student.

$$y_i = \mu_y + \alpha_j + \beta_1(x_{i1} - \mu_1) + \beta_2(x_{i2} - \mu_2) + \cdots + \epsilon_i \quad (1)$$

The μ terms are means for the response and the predictor variables. α_j is the school effect for the j^{th} school, the school attended by the i^{th} student. The β terms are regression coefficients. Projections to the future are made by using this equation with estimates for the unknown parameters (μs, βs, sometimes α_j). The parameter estimates (denoted with carets or "hats," e.g., $\hat{\mu}$, $\hat{\beta}$) are obtained using the cohort of test takers in the 2018-19 school year with their observed tests as the response variables. These estimates are then used to establish a projection for students based on the experiences of students in a normal year (2018-19) prior to the pandemic. The resulting projection equation for the i^{th} student is as follows:

$$\hat{y}_i = \hat{\mu}_y + \hat{\beta}_1(x_{i1} - \hat{\mu}_1) + \hat{\beta}_2(x_{i2} - \hat{\mu}_2) + \cdots + \epsilon_i \quad (2)$$

The corresponding $\hat{\alpha}_j$ term from equation (1) is omitted to assume the "average schooling experience" such that the average schooling experience equates to the average progress observed among the population of test-takers with the average school across the state from the 2018-19 school year for each tested content area.

2 Carey, Kevin. 2004. "The Real Value of Teachers: Using New Information About Teacher Effectiveness to Close the Achievement Gap." *Thinking K-16* 8(1):27.

3 Choi, Kilchan, Pete Goldschmidt, and Kyo Yamashiro. 2006. Exploring Models of School Performance: From Theory to Practice (CSE Report 673) Los Angeles, CA: National Center for Research on Evaluation, Standards, and Student Testing (CRESST), 24.

To state again, parameter estimates (i.e., $\hat{\mu}, \hat{\beta}$) were derived using the 2018-19 cohort of test takers to create projections out to the 2020-2021 school year using data up through the 2018-19 data as predictors (x). For historical comparisons, parameter estimates (i.e., $\hat{\mu}, \hat{\beta}$) were derived using the 2016-17 cohort of test takers to create projections out to the 2017-18 school year using data up through the 2016-17 school year as predictors (x). They were also used to create projections out to the 2018-19 school year using data up through the 2017-18 school year.

Two difficulties must be addressed to implement the estimation and use of this model. First, not all students will have the same set of predictor variables due to missing test scores. Second, because this is an ANCOVA model with school as a random effect, the regression coefficients must be "pooled-within-school" regression coefficients. The strategy for dealing with missing predictors is to estimate the joint covariance matrix (C) of the response and the predictors. Let C be partitioned into response (y) and predictor (x) partitions, that is,

$$C = \begin{bmatrix} C_{yy} & C_{yx} \\ C_{xy} & C_{xx} \end{bmatrix} \quad (3)$$

This matrix is estimated using the Expectation Maximization algorithm for estimating covariance matrices in the presence of missing data provided by the Multiple Imputation procedure in SAS/STAT® (although no imputation is actually used). It should also be noted that, because this model is an ANCOVA model, *C* is a pooled-within school covariance matrix. This is accomplished by providing scores to the EM algorithm that are centered around group means (i.e., the group means are subtracted from the scores) rather than around grand means. Obtaining *C* is an iterative process since group means are estimated within the EM algorithm to accommodate missing data. Once new group means are obtained, another set of scores is fed into the EM algorithm again until *C* converges. This overall iterative EM algorithm is what accommodates the two difficulties mentioned above. The estimation only includes students who had a test score for the response variable in the most recent administration *and* who had at least three predictor variables. Given such a matrix, the vector of estimated regression coefficients for the projection equation (2) can be obtained as:

$$\hat{\beta} = C_{xx}^{-1} c_{xy} \quad (4)$$

This allows one to use whichever predictors a student has to get that student's projected y-value ($\hat{y}_i$). Specifically, the C_{xx} matrix used to obtain the regression coefficients *for a particular student* is that subset of the overall C matrix that corresponds to the set of predictors for which this student has scores. Once the parameter estimates for the projection equation have been obtained, projections can be made for any student with any set of predictor values. Again, to protect against bias due to measurement error in the predictors, projections are typically made only for students who have at least three available predictor scores.

The table below summarizes the data used to generate projections representing a pre-pandemic average schooling experience.

Table 1: Data Used to Determine Students' Projected Score

Projected score in SY20-21 on…	**Prior years' data through SY18-19 used to calculate projected score**
EOG Reading for grades 3 and 4*	mCLASS in grades K-2 BOG Reading in grade 3

EOG Reading and Math for grades 5-8	EOG Reading and Math in grades 3-6** EOG Science in grade 5
EOG Science for grade 8	EOG Reading and Math in grades 3-6** EOG Science in grade 5
EOC Biology, English II, NC Math 1 and NC Math 3	EOG Reading and Math in grades 3-8*** EOG Science in grades 5 and 8***

***Note: Projections were not made to EOG Math in grades 3 and 4 because the available predictors for the 2020-21 cohort of students were based solely in the Reading content area and were much lower in those subject/grades than they were for other subject/grades. More specifically, the correlation between predictors and actual scores for EOG Math in grades 3 and 4 was about 0.60 compared to 0.80 for most subjects and grades.**
****Note: Due to suspended assessments in the SY19-20, EOG Reading and Math scores were not available from grade 7 to make projections to SY20-21 EOG Reading, Math and Science in grade 8.**
*****Note: Due to suspended assessments in the SY19-20, EOG Reading, Math and Science scores from grade 8 are not available to use as predictors for students who were enrolled in grade 8 in SY19-20 and took an EOC test in SY20-21.**

In this analysis, student scores from the 2018-19 school year were used as the response to create the underlying parameter estimates in the projection equations. These parameter estimates define the relationships between prior tests or predictors and the response subject and grade. In other words, these relationships indicate how one test can provide information about where students are likely to score on another test. The set of predictors that were considered in each of these models are listed above in Table 1. Once these parameter estimates were obtained, these models were used to create projected scores for the 2020-21 school year using predictor test scores up through the 2018-19 school year. This creates a projected score for students who tested during the 2020-21 school year that was based on experiences or relationships defined prior to the pandemic and their own individual set of prior testing history.

Note that, based on empirical data, there are observed differences in the projection model for NC Math 1 depending on whether the student took that assessment in middle school or high school. As a result, there are two separate pools to establish the projections and parameters for NC Math 1: one based on middle school test takers and the other based on high school test takers.

Students' Actual Scores

In this analysis, a student's actual score is the scale score that they obtained on the state summative assessment in the 2020-21 school year.
In EOG Reading, the standards were modified for the 2020-21 school year's assessment. Although that year's scale scores look different compared to prior years', it is our understanding that there were minimal changes to the EOG Reading content standards in the 2020-21 school year compared to previous years. Given this, the projected scores to the 2020-21 school year were modified to be on the same scale as the 2020-21 actual scores by adding 100 to the projected scale score. The hundreds place in the prior version was a 400, while it is a 500 in the new version. This place defines the version of the assessment.

Difference Between Students' Projected and Actual Scores

Because the projected scores and actual scores are in the same scaling units, the difference between them is a simple subtraction problem. *For each student, the difference is calculated as the actual score minus the projected score.*

A difference of zero indicates that a student scored where they were projected to score. A positive difference indicates that a student exceeded their projected score or, in other words, that the student made more progress than the average pre-pandemic schooling experience given their set of prior testing data. A negative difference indicates that a student fell short of their projected score or, in other words, that the student made less progress than the average pre-pandemic schooling experience given their set of prior testing data. The average schooling experience was defined by the most recent cohort of test-takers who took the test prior to the pandemic in the 2018-19 school year.

No conclusions should be drawn for individual students, but an aggregation of student results does provide a more robust indicator of how students' observed performance differed from their pre-pandemic projected scores. Typically, and in non-pandemic years, the average schooling experience does not vary significantly from one year to the next. As a result, in a "normal" school year, the students in a state will, on average, score close to where they were projected to score, although this might not hold true for students in specific schools or student groups.

However, in this analysis the projected scores were based on the pre-pandemic average schooling experience. Thus, it is possible that some students fell short of their projected scores due to lost instructional time and to the pandemic's impact on student learning.
As noted above, some student flags are used to generate school-level variables that indicate the school's concentration of student composition in the form of quartiles. For example, the student-level Economically Disadvantaged flag was used to create quartiles based on the percentage of the school's students who are considered Economically Disadvantaged.

Conversion of Differences to Effect Sizes

In order to standardize the differences across grades and provide a more meaningful interpretation, the residual that is in the scaling units of the test is then divided by the standard deviation of the student-level achievement distribution based on the statewide distribution of student scores in a specific tested content area (like 2018-19 EOG Math in grade 7) to create an effect size. This effect size or "standardized residual" is helpful in interpreting results across grades.

With this standardized residual, it is possible to assess whether certain grades, schools, or student groups were disproportionately impacted. All of the results are expressed in terms of the effect size.

The effect size can be classified as small, medium, or large to assist with interpretation and whether any differences in student performance are meaningful. Various researchers have offered thoughts on what defines a small, medium, and large effect size.

- Cohen describes 0.20 as small, 0.50 as medium, and 0.80 as large (Cohen, Jacob. *Statistical Power Analysis for the Behavioral Sciences.* 2nd ed. Mahwah, NJ: Lawrence Erlbaum, 1988).
- Hattie describes an effect size of 0.40 as the average seen across all interventions, and 0.40 as the "hinge point" (Hattie, John, *Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Achievement.* London: Routledge, 2008).
- Kraft suggested < 0.05 as small, 0.05 to 0.20 as medium, and > 0.20 as large based on the distributions of effect sizes and changes in achievement (Kraft MA. "Interpreting Effect Sizes of Education Interventions." *Educational Researcher.* 2020; 49 (4):241-253).

All of the researchers agree that it is important to interpret results within the distribution of

actual results. In other words, what constitutes a small, medium, or large effect size is determined by what is observed in the actual results.

For a comparison, the table below provides school-level effect sizes based on a "typical" pre-pandemic school year for the state assessments (the 2018-19 school year). For example, an effect size of -0.11 in EOC Biology corresponds to the 30th percentile in a "typical" year while an effect size of -.30 corresponds to the 10th percentile in a "typical" year.

Table 2: Pre-Pandemic *School*-Level Effect Size Percentiles

	Percentile										
Assessment	5	10	20	30	40	50	60	70	80	90	95
EOC Biology	-0.40	-0.30	-0.17	-0.11	-0.05	0.00	0.05	0.11	0.17	0.26	0.34
EOC English II	-0.33	-0.18	-0.10	-0.06	-0.02	0.01	0.05	0.07	0.11	0.16	0.24
EOC NC Math 1	-0.36	-0.27	-0.17	-0.11	-0.06	-0.01	0.04	0.10	0.16	0.28	0.38
EOC NC Math 3	-0.33	-0.26	-0.18	-0.13	-0.07	-0.01	0.04	0.11	0.17	0.28	0.40
EOG Math 4	-0.36	-0.28	-0.18	-0.10	-0.04	0.01	0.07	0.12	0.18	0.26	0.32
EOG Math 5	-0.30	-0.24	-0.16	-0.11	-0.05	0.00	0.04	0.09	0.15	0.24	0.32
EOG Math 6	-0.33	-0.25	-0.18	-0.11	-0.06	-0.01	0.04	0.09	0.16	0.26	0.35
EOG Math 7	-0.31	-0.22	-0.15	-0.10	-0.04	0.00	0.04	0.09	0.14	0.21	0.28
EOG Math 8	-0.49	-0.37	-0.24	-0.17	-0.09	0.00	0.07	0.14	0.21	0.35	0.48
EOG Reading 4	-0.22	-0.16	-0.10	-0.06	-0.03	0.00	0.03	0.07	0.11	0.17	0.22
EOG Reading 5	-0.20	-0.15	-0.10	-0.06	-0.03	0.00	0.03	0.07	0.10	0.15	0.19
EOG Reading 6	-0.23	-0.16	-0.10	-0.06	-0.03	0.00	0.03	0.06	0.11	0.17	0.20
EOG Reading 7	-0.22	-0.15	-0.09	-0.05	-0.03	0.00	0.03	0.06	0.10	0.15	0.21
EOG Reading 8	-0.22	-0.16	-0.10	-0.06	-0.02	0.01	0.03	0.06	0.09	0.14	0.19

This information can also be put into context of pre-pandemic student-level effect sizes. Table 3 below provides the average student-level effect size based on the 2018-19 school year. For example, an effect size of -0.23 in EOC Biology corresponds to the 30th percentile in a "typical" year while an effect size of -.60 corresponds to the 10th percentile in a "typical" year. Note that the student-level effect sizes have a broader range of values than the school-level effect sizes since the school effect sizes are averaged values.

Table 3: Pre-Pandemic Student-Level Effect Size Percentiles

	Percentile										
Assessment	5	10	20	30	40	50	60	70	80	90	95
EOC Biology	-0.80	-0.60	-0.38	-0.23	-0.10	0.02	0.15	0.28	0.43	0.66	0.86
EOC English II	-0.83	-0.62	-0.39	-0.23	-0.10	0.02	0.14	0.27	0.41	0.61	0.78
EOC NC Math 1	-0.76	-0.59	-0.38	-0.23	-0.11	0.00	0.12	0.24	0.38	0.57	0.73
EOC NC Math 3	-0.96	-0.75	-0.50	-0.31	-0.16	-0.01	0.13	0.28	0.45	0.68	0.86
EOG Math 4	-0.81	-0.62	-0.40	-0.25	-0.11	0.01	0.13	0.26	0.41	0.62	0.80
EOG Math 5	-0.81	-0.62	-0.40	-0.24	-0.11	0.01	0.13	0.26	0.41	0.61	0.79
EOG Math 6	-0.78	-0.59	-0.38	-0.23	-0.10	0.01	0.13	0.25	0.38	0.58	0.75
EOG Math 7	-1.04	-0.80	-0.53	-0.32	-0.15	0.01	0.17	0.34	0.54	0.81	1.02
EOG Math 8	-0.84	-0.64	-0.42	-0.26	-0.12	0.00	0.13	0.26	0.42	0.65	0.83
EOG Reading 4	-0.80	-0.62	-0.40	-0.25	-0.12	0.00	0.12	0.25	0.40	0.61	0.79
EOG Reading 5	-0.80	-0.60	-0.39	-0.23	-0.11	0.01	0.12	0.24	0.38	0.58	0.75
EOG Reading 6	-0.81	-0.61	-0.39	-0.24	-0.11	0.01	0.12	0.24	0.39	0.59	0.76
EOG Reading 7	-0.81	-0.61	-0.39	-0.23	-0.10	0.01	0.13	0.26	0.40	0.60	0.77
EOG Reading 8	-0.92	-0.71	-0.47	-0.29	-0.14	0.00	0.15	0.30	0.47	0.72	0.93

The analysis does not report statistical significance. This is a common statistical metric used to establish a confidence band around the likely range of values for an effect size. It is related to the number of students included in the analysis as well as other factors. Given the number of students included in the analysis, almost all differences in student performance are classified as statistically significant. Given the purpose of this research, the effect size is a more useful measure for determining the relevance of any differences in student performance.

Historical Comparisons

The analysis compares students' projected performance to their actual performance for three cohorts of students:

- 2020-21 actual performance based on predictors through the 2018-19 school year
- 2018-19 actual performance based on predictors through the 2016-17 school year
- 2017-18 actual performance based on predictors through the 2016-17 school year

The method of analysis for the historical comparisons (2018-19 and 2017-18) is similar to what is described for the 2020-21 comparison above. However, there are some important differences for interpretation.

First, when interpreting the 2018-19 results as historical context, it is important to understand that Math standards changed. When standards change, there is often a one-year dip in state achievement levels as educators and students adjust to the new standards. This is typically true in North Carolina as well as other states. In subsequent years, the achievement stays fairly consistent from year-to-year. In the 2018-19 comparison, students typically perform lower than projected across the EOG Math and Math 1 assessments, and this gap is likely due to the change in standards. These results should be interpreted as gaps in projected achievement for a year when standards changed in Math.

In the 2017-18 school year, standards did not change, and the gap between projected and actual performance is fairly small across the EOG Math and Math 1 assessments. This year

might be more comparable to the typical year of schooling where standard did not change than the more recent 2018-19 school year as standards did not change in the 2020-21 school year either.

Note that, historically, when standards change in Reading, there are fewer differences in student performance compared to Math. Given the smaller shift in content this year in Reading, there are not analytic concerns about the Reading comparison.

As a second difference to note for interpretation, there was a change in the policy for eighth-grade Math students in the 2017-18 school year. Prior to this year, eighth-grade students who were enrolled in NC Math 1 took both the EOG Math 8 test and the NC Math 1 test. Starting in the 2017-18 school year, eighth-grade students who were enrolled in NC Math 1 did not take the EOG Math 8 test, only the NC Math 1 test. For this reason, the 2018-19 comparison analysis removed these students from the projection model for EOG Math 8. In other words, these students' prior test scores were not used to establish parameters and the average schooling experience for the 2018-19 performance because those students did not actually take EOG Math 8 in the 2018-19 school year. These students tend to be relatively high achieving, so including them in the model when none of them took the test introduces a gap when comparing students' projected and actual performance.

Last, it should be noted that EOC NC Math 3 was fully implemented in 2019 (as opposed to NCFE Math 3), so there are no historical comparisons available, only the 2020-21 results.

Results

A brief description of the information provided in the results is below, and results are provided in Appendix B. This description will assist with interpretation. With the exception of correlations, actual results based on effect sizes are provided separately.

Effect Size by Subject Grade

The "Effect Size by Subject Grade" bar charts provide the average state-level effect size by assessed content area.

The Y axis lists the available subjects and grades as well as an overall "All Subjects" category. The X axis shows the average effect size based on all student residuals for that subject/grade. As a reminder, the effect size is the standardized residual between students' actual and projected score for a specific assessment. Each bar chart shows the average standardized residual for all students who took the assessment in the 2020-21 school year. The X axis ranges from -0.8 to +0.4 since more of the data was negative due to the pandemic's impact on student learning.

For context in interpretation, the 2021 results are shown alongside the 2018 results. This enables users to assess whether there were pre-existing gaps prior to the 2020-21 school year.

Similar information is provided in tables, with the addition of student counts. In these tables, the Count column represents the number of student records that were used in the analysis, i.e., the scores met all analytic criteria for inclusion, and there was sufficient data for an individual student to calculate the difference between the student's actual and projected score. In "All Subjects," an individual student can be included more than once if that student has records in multiple assessments, such as EOG Math Grade 5 and EOG Reading Grade 5.

Effect Size by Subject Grade for Specific Groups

The "Effect Size by Subject Grade" bar charts are also provided based on whether a student has a specific student, school, or district flag. The interpretation is similar to what is described above; however, rather than present one bar chart per assessment, these graphics have two or more bar charts per assessment. For example, for a given assessment, there is an effect size based on all students who are considered English Learners next to an effect size based on all students who are not considered English Learners. Similar data is available for other student-level flags.

There are also results available for school- or district-level groupings, such as the percentage of educational delivery days that were remote at the school. For ease of interpretation, these school or district groupings are sometimes placed into quintiles or quartiles based on the percentage, with 0 representing the lowest percentage and 4 representing the highest percentage.

Correlations between Observed and Projected Scores

The correlation table below reports the correlation value between students' observed and projected scores for a given school year. For example, in the column "Correlation 2018," the correlation is based on students' actual scores from the 2017-18 school year and their projected scores to the 2017-18 school year. As a reminder, the projected score is based on the individual student's previous test scores prior to the 2017-18 school year and assumes the average schooling experience of students who tested in the 2016-17 school year.

The purpose of this information is to provide context about the predictive relationship between students' projected and observed scores in a given year. Correlations in 2018 were made one year out using the experience of the 2016-17 school year's test takers. Correlations for 2019 and 2021 are made two years out using the experience of the 2016-17 and 2018-19 school years' test takers respectively. In some subjects, the correlation is slightly lower in 2021. This is not only due to the projections being two years out but due to the experience during and before the pandemic being different as well as more volatility in individual student scores during the pandemic. Regardless, the correlations tend to be very strong across all years and subjects

Table 4: Correlations between Students' Projected and Actual Scores in 2018, 2019, and 2021

Subject	Correlation 2018	Correlation 2019	Correlation 2021
Biology	0.86142	0.84938	0.85611
English II	0.86813	0.86261	0.86481
NC Math 1	0.86869	0.84415	0.81108
NC Math 3	.	.	0.81555
Math Grade 5	0.86657	0.82138	0.78619
Math Grade 6	0.87336	0.84293	0.80623
Math Grade 7	0.89681	0.85100	0.81629
Math Grade 8	0.80725	0.73636	0.67042
Reading Grade 3	0.73320	0.70012	0.67861
Reading Grade 4	0.85698	0.70820	0.70192
Reading Grade 5	0.86606	0.84119	0.82272
Reading Grade 6	0.87780	0.85330	0.82419
Reading Grade 7	0.87550	0.85170	0.83668
Reading Grade 8	0.87329	0.85105	0.84262
Science Grade 8	0.86010	0.84895	0.84527

Distributions by Subject/Grade

These graphs show the distribution of student-level effect sizes by year and assessment. This is similar information as what was presented in Table 3 except that it highlights shifts in distributions over time. For each graph, there are two distributions: one for 2018 and one for 2021. Each distribution shows the frequency of the student-level effect size for a given subject/grade or course. These graphs provide a visual illustration of the shifts in student performance over time.

The X axis indicates the student-level effect size and ranges from -3 to +3.
The Y axis reports the percentage of students with a specific effect size.

The vertical black line at zero represents a student-level effect size of zero, meaning students' actual scores were the same as their projected scores. When the distribution is to the left of the vertical black line, it means that a student's actual score is lower than their projected scores. When the distribution is to the right of the vertical black line, it means that a student's actual score is higher than their projected scores. In 2018, the distribution tends to be centered around the vertical black line at zero whereas the 2021 distribution tends to be shifted to the left, indicating that more students' actual scores were lower than their projected scores.

Appendix A: Definitions of Student Identifiers and PSU Flags

NCDPI provided the following definitions of student identifiers and district/school flags to SAS for inclusion in the analysis:

Sex
As defined by federal guidance from ED Facts SY 2020-21.

Race/Ethnicity
Categories developed in 1997 by the Office of Management and Budget (OMB) that are used to describe groups to which individuals belong, identify with, or belong in the eyes of the community. The categories do not denote scientific definitions of anthropological origins. Source: ED Facts SY 2020-21

Economically Disadvantaged Students (EDS)

Any student identified by a PSU, meeting the criteria of Directly Certified, Categorically Eligible, or a method consistent with State or Federal guidance for financial assistance regardless of participation or eligibility in the National School Lunch Program." Source: Economically_Disadvantaged-Student_Guidance_20210630 V4.3 Final.pdf (govdelivery.com)

Academically or Intellectually Gifted (AIG)

This flag is defined by state but identified by PSU. The flag is defined as follows: Academically or Intellectually Gifted (AIG) students perform or show the potential to perform at substantially high levels of accomplishment when compared with others of their age, experiences or environment. Academically or Intellectually Gifted students exhibit high-performance capability in intellectual areas, specific academic fields, or in both the intellectual areas and specific academic fields. Academically or Intellectually Gifted students require differentiated educational services beyond those ordinarily provided by the regular educational program. Outstanding abilities are present in students from all cultural groups, across all economic strata, and in all areas of human endeavor. Source: Article 9B (N.C.G.S. § 115C-150.5) Article_9B.pdf (ncleg.net)

Students with Disabilities (SWD)

Those children evaluated as having any of the following impairments and who, by reason thereof, receive special education and related services under the Individuals with Disabilities Education Act (IDEA) according to an Individualized Education Program (IEP), Individualized Family Service Plan (IFSP), or a services plan. There are local variations in the determination of disability conditions, and not all states use all reporting categories. Source: COE - Students With Disabilities (ed.gov)

English Learners (EL)

This definition is given by the U.S. Department of Education, and the flag is defined as follows: The term English Learner (EL), when used with respect to an individual, means an individual — (A) who is aged 3 through 21; (B) who is enrolled or preparing to enroll in an elementary school or secondary school; (C)(i) who was not born in the United States or whose native language is a language other than English; (ii)(I) who is a Native American or Alaska Native, or a native resident of the outlying areas; and (II) who comes from an environment where a language other than English has had a significant impact on the individual's level of English language proficiency; or (iii) who is migratory, whose native language is a language other than English, and who comes from an environment where a language other than English is dominant; and (D)

whose difficulties in speaking, reading, writing, or understanding the English language may be sufficient to deny the individual — (i) the ability to meet the challenging State academic standards; (ii) the ability to successfully achieve in classrooms where the language of instruction is English; or (iii) the opportunity to participate fully in society (ESEA Section 8101(20)) ("Non-Regulatory Guidance" 43). Source: ESL/Title III Program and ELD Standards Glossary - Google Docs

Chronically Absent

Defined by the North Carolina State Board of Education and aligned with federal guidelines, as a student who is enrolled in a North Carolina public school for at least 10 school days at any time during the school year, and whose total number of absences is equal to or greater than 10 percent of the total number of days that such student has been enrolled at such school during such school year. Source: View Policy ATND-004: Definition of Student Chronic Absenteeism Rate (eboardsolutions.com)

Foster Student

This flag is defined by the state as students who are identified as being in the care of the foster system by the Department of Health and Human Services.

Migrant Student

The term ''migratory child'' means a child or youth who made a qualifying move in the preceding 36 months— (A) as a migratory agricultural worker or a migratory fisher; or (B) with, or to join, a parent or spouse who is a migratory agricultural worker or a migratory fisher. Source: Section 1309 of ESEA 1965

Student Experiencing Homelessness

The term 'homeless children and youths'-- means individuals who lack a fixed, regular, and adequate nighttime residence (within the meaning of section 103(a)(1)); and includes—

(i) children and youths who are sharing the housing of other persons due to loss of housing, economic hardship, or a similar reason; are living in motels, hotels, trailer parks, or camping grounds due to the lack of alternative adequate accommodations; are living in emergency or transitional shelters; or are abandoned in hospitals;*

(ii) children and youths who have a primary nighttime residence that is a public or private place not designed for or ordinarily used as a regular sleeping accommodation for human beings (within the meaning of section 103(a)(2)(C));

(iii) children and youths who are living in cars, parks, public spaces, abandoned buildings, substandard housing, bus or train stations, or similar settings; and

(iv) migratory children (as such term is defined in section 1309 of the Elementary and Secondary Education Act of 1965) who qualify as homeless for the purposes of this subtitle because the children are living in circumstances described in clauses (i) through (iii).

*Per Title IX, Part A of the Every Student Succeeds Act, 'awaiting foster care placement' was removed from the definition of homeless on December 10, 2016; the only exception to his removal is that 'covered states' have until December 10, 2017 to remove 'awaiting foster care placement' from their definition of homeless." Source: McKinney-Vento Definition – National Center for Homeless Education

Military Connected

A student who has a parent serving on active duty; parent In the National Guard; parent In the U.S. Reserve; a surviving dependent of a deceased service member

Entering Achievement by Quintile
Students are placed into one of five approximately evenly sized groups defined by students' projected score. Graph displays the average student-level effect size across all students in each quintile.

Public School Designation
Charter schools are public schools of choice that are authorized by the State Board of Education and operated by independent non-profit boards of directors. State and local tax dollars are the primary funding sources for charter schools, which have open enrollment and cannot discriminate in admissions, associate with any religion or religious group, or charge-tuition. Charter schools operate with freedom from many of the regulations that govern district schools, but charter schools are held accountable through the State assessment and accountability system. Source: Info by Role | NC DPI

Urbanicity
As defined by federal guidance:

- City: Territory inside an Urbanized Area and inside a Principal City
- Suburb: Territory outside a Principal City and inside an Urbanized Area
- Town: territory inside an Urban Cluster that is outside of an Urbanized area
- Rural: Census-defined rural territory that is outside of an Urbanized Area, as well as rural territory that is outside of an Urban Cluster.

Source:Local Boundries File Documentation

Percent of Economically Disadvantaged Students by Quintile
Schools are placed into one of five approximately evenly sized groups defined by the proportion of students within each school that is identified as economically disadvantaged. Graph displays the average student-level effect size across students within schools in each quintile.

School Grade

Every district and charter school receives an A-F letter grade based 80 percent on the school's achievement score (calculated using a composite method based on the sum of points earned by a school on all of the indicators measured for that school), and 20 percent on students' academic growth (compares the actual performance of the school's students to their expected performance based on a statewide statistical model). The letter grades are computed on a 15-point scale (85-100=A; 70-84=B; etc.). Source: Frequently Asked Questions | NC DPI

Low Wealth Supplemental Funding

A county that receives supplemental "low wealth" funding; a supplement based on tax revenue, income, student enrollment, county size; those located in counties in which the calculated county wealth (per the legislated formula) is less than 100% of the state average wealth. Source: Calculating Low Wealth Supplemental Funding | NC DPI

Percentage Connectivity
Schools are placed into one of five groups defined by the percent of students within each school that had home internet connectivity in 2019-2020: 0-20%,20-40%, 40-60%, 60-80%, and 80-100%. Graph displays the average student-level effect size across students within schools in each range.

Remote Days by Quintile
Schools are placed into one of five approximately evenly sized groups defined by the number of days spent in remote instruction. Graph displays the average student-level effect size across

students within schools in each quintile.

Low Performing Designation

A unit in which the majority of the schools in that unit that received a school performance grade and school growth score as provided in G.S. 115C-83.15 have been identified as low-performing schools, as provided in G.S. 115C-105.37." (G.S. 115C-105.39A(a)). Source: GS_115C-105.37.pdf (ncleg.gov)

District Tier Designation

The North Carolina Department of Commerce annually ranks the state's 100 counties based on economic well-being and assigns each a tier designation. The 40 most distressed counties are designated as Tier 1, the next 40 as Tier 2 and the 20 least distressed as Tier 3. This tier system is incorporated into various state programs to encourage economic activity in the less prosperous areas of the state. Source: NC Commerce: County Distress Rankings (Tiers)

State Board of Education Region

Geographically defined, set by the General Assembly, to create a unified system of statewide support to North Carolina Local School Administrative Units. For purposes of enhanced collaboration and cooperation between governmental agencies, planning, use of resources, and improved efficiency at a regional level. Source: State Board of Education

Appendix B. Charts and Tables of Results

Results are presented for the following:

By Student Group

1. Statewide Summary of All Tested Subjects
   - Bar chart of 2018 and 2021
   - Effect size tables for subject/grade for 2018 and 2021
2. Sex
   - Bar chart of 2018 and 2021
   - Effect size tables for subject/grade for 2018 and 2021
3. Race/Ethnicity
   - Bar chart of 2018 and 2021 – all and by group
   - Effect size tables for subject/grade for 2018 and 2021
4. Economically Disadvantaged Students
   - Bar chart of 2018 and 2021
   - Effect size tables for subject/grade for 2018 and 2021
5. Academically or Intellectually Gifted
   - Bar chart of 2018 and 2021
   - Effect size tables for subject/grade for 2018 and 2021
6. Students with Disabilities
   - Bar chart of 2018 and 2021
   - Effect size tables for subject/grade for 2018 and 2021
7. English Learners
   - Bar chart of 2018 and 2021
   - Effect size tables for subject/grade for 2018 and 2021
8. Chronically Absent
   - Bar chart of 2018 and 2021
   - Effect size tables for subject/grade for 2018 and 2021
9. Foster Student
   - Bar chart of 2018 and 2021
   - Effect size tables for subject/grade for 2018 and 2021
10. Migrant Student
    - Bar chart of 2018 and 2021
    - Effect size tables for subject/grade for 2018 and 2021
11. Student Experiencing Homelessness
    - Bar chart of 2018 and 2021
    - Effect size tables for subject/grade for 2018 and 2021
12. Military Connected
    - Bar chart of 2018 and 2021
    - Effect size tables for subject/grade for 2018 and 2021
13. Entering Achievement by Quintile
    - Bar chart of 2018 and 2021
    - Effect size tables for subject/grade for 2018 and 2021

By School

14. Public School Designation
    - Bar chart of 2018 and 2021
    - Effect size tables for subject/grade for 2018 and 2021

15. Urbanicity
    - Bar chart of 2018 and 2021
    - Effect size tables for subject/grade for 2018 and 2021
16. Percent of Economically Disadvantaged Students by Quintile
    - Bar chart of 2018 and 2021
    - Effect size tables for subject/grade for 2018 and 2021
17. School Grade
    - Bar chart of 2018 and 2021 by region
    - Effect size tables for subject/grade for 2018 and 2021
18. Percentage Connectivity
    - Bar chart of 2018 and 2021 by region
    - Effect size tables for subject/grade for 2018 and 2021
19. Remote Days by Quintile
    - Bar chart of 2018 and 2021
    - Effect size tables for subject/grade for 2018 and 2021

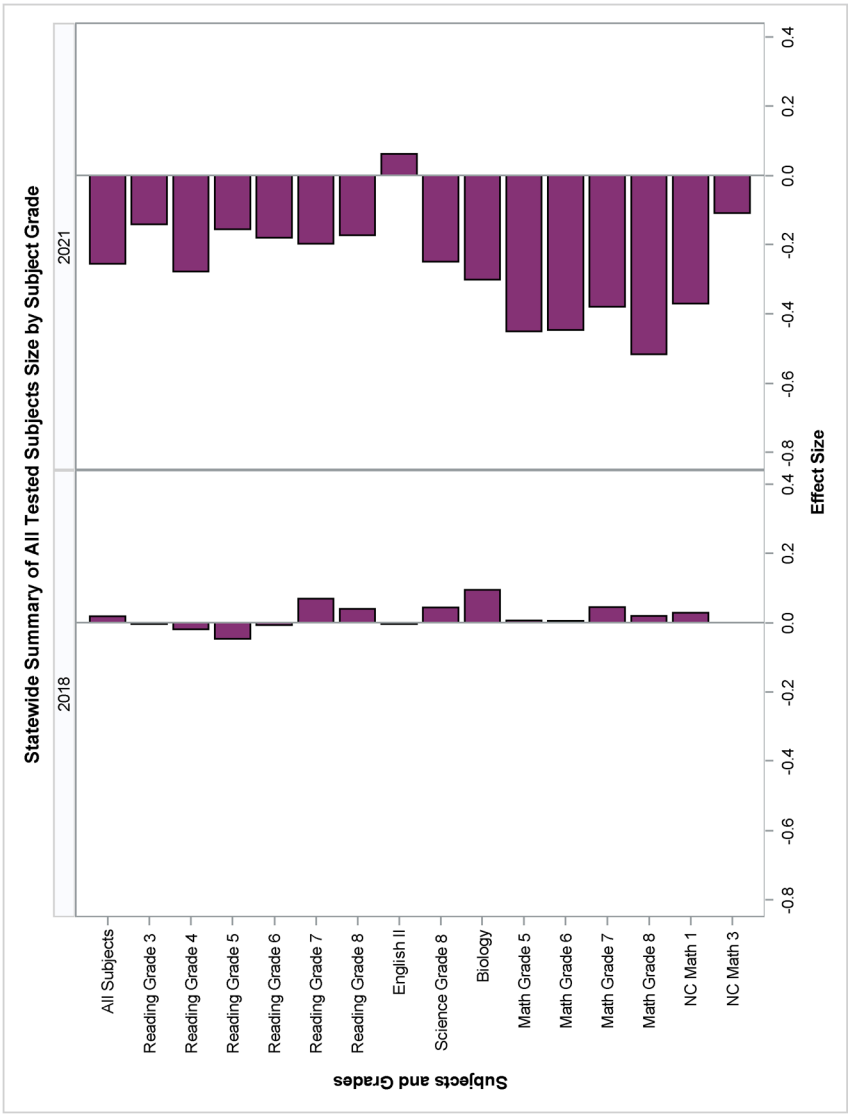
By District

20. Low Wealth Supplemental Funding
    - Bar chart of 2018 and 2021
    - Effect size tables for subject/grade for 2018 and 2021
21. Low Performing Designation
    - Bar chart of 2018 and 2021
    - Effect size tables for subject/grade for 2018 and 2021
22. District Tier Designation
    - Bar chart of 2018 and 2021
    - Effect size tables for subject/grade for 2018 and 2021

By Region

23. State Board of Education Region
    - Bar chart of 2018 and 2021 by region

Effect size tables for subject/grade for 2018 and 202

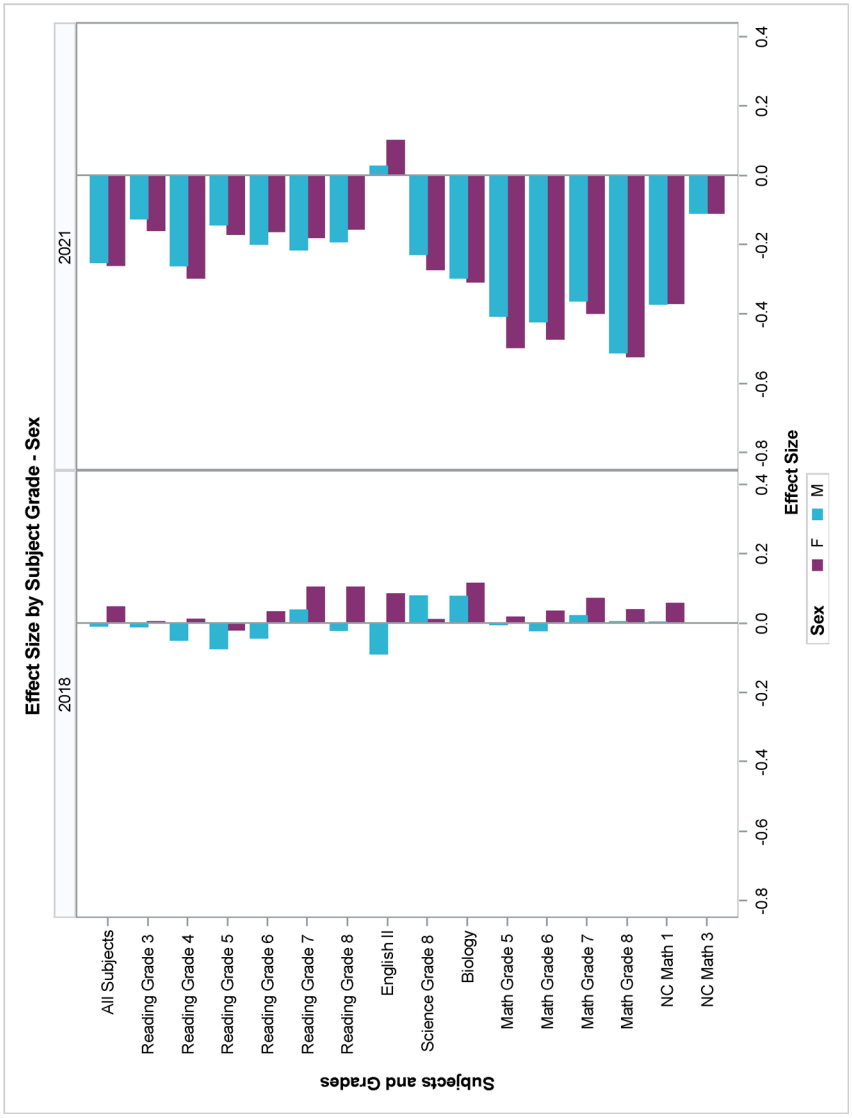

Statewide Summary of All Tested Subjects Size by Subject Grade
2021
2018
Effect Size
0.4
0.2
0.0
-0.2
-0.4
-0.6
-0.8
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades

Effect Size by Subject Grade – 2018

Assessment	Effect Size	Std Error of Effect Size	N
All Subjects	0.02	0.0004	1473094
Reading Grade 3	-0.00	0.0019	107523
Reading Grade 4	-0.02	0.0015	113488
Reading Grade 5	-0.05	0.0015	110570
Reading Grade 6	-0.01	0.0014	111232
Reading Grade 7	0.07	0.0014	105428
Reading Grade 8	0.04	0.0015	99424
English II	-0.00	0.0014	108298
Science Grade 8	0.04	0.0016	99730
Biology	0.09	0.0016	106824
Math Grade 5	0.01	0.0015	110423
Math Grade 6	0.01	0.0015	111137
Math Grade 7	0.04	0.0014	105281
Math Grade 8	0.02	0.0020	69874
NC Math 1	0.03	0.0015	113862
NC Math 3	.	.	0

Effect Size by Subject Grade – 2021

Assessment	Effect Size	Std Error of Effect Size	N
All Subjects	-0.26	0.0005	1447465
Reading Grade 3	-0.14	0.0023	89239
Reading Grade 4	-0.28	0.0022	91591
Reading Grade 5	-0.16	0.0017	97449
Reading Grade 6	-0.18	0.0016	98651
Reading Grade 7	-0.20	0.0015	103506
Reading Grade 8	-0.17	0.0015	100737
English II	0.06	0.0014	101764
Science Grade 8	-0.25	0.0017	101249
Biology	-0.30	0.0016	97040
Math Grade 5	-0.45	0.0020	97350
Math Grade 6	-0.45	0.0018	98551
Math Grade 7	-0.38	0.0017	103368
Math Grade 8	-0.52	0.0024	69764
NC Math 1	-0.37	0.0017	105622
NC Math 3	-0.11	0.0019	91584

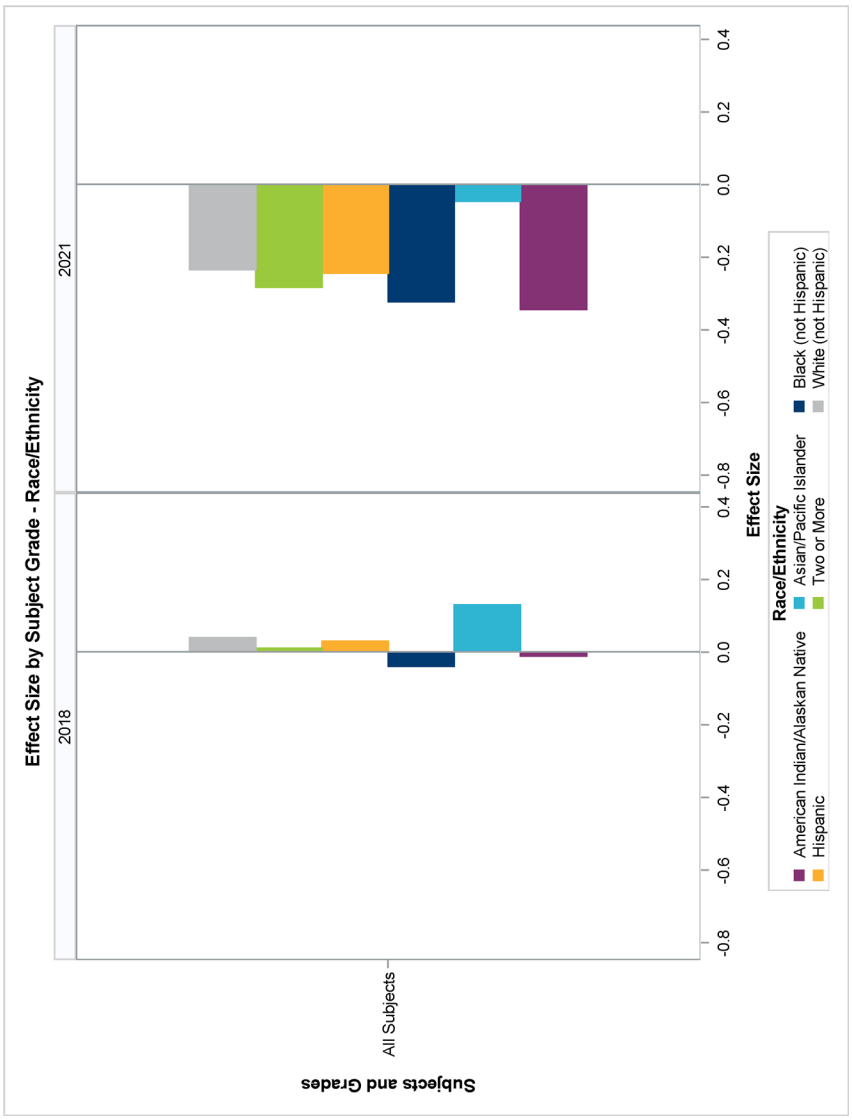

Effect Size by Subject Grade - Sex
2021
2018
0.4
0.2
0.0
-0.2
-0.4
-0.6
-0.8
Effect Size
Sex
F
M
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades

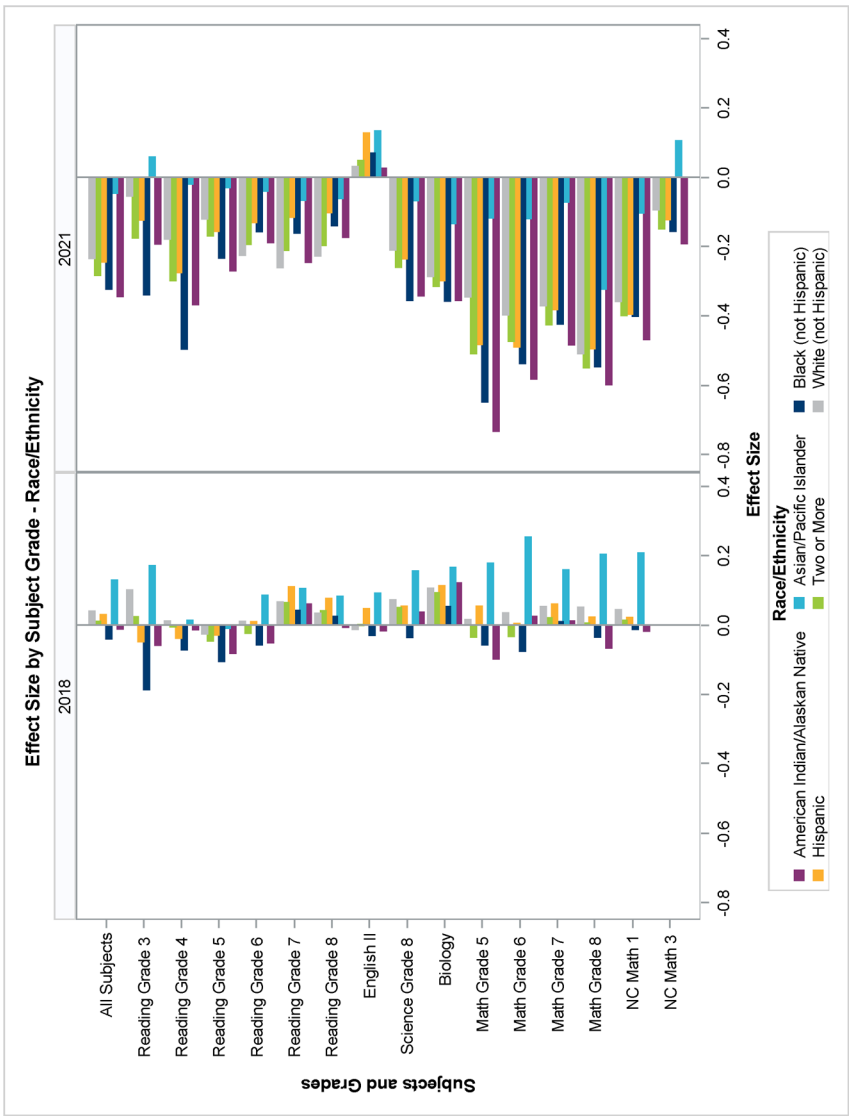
Effect Size by Subject Grade - Sex - 2018

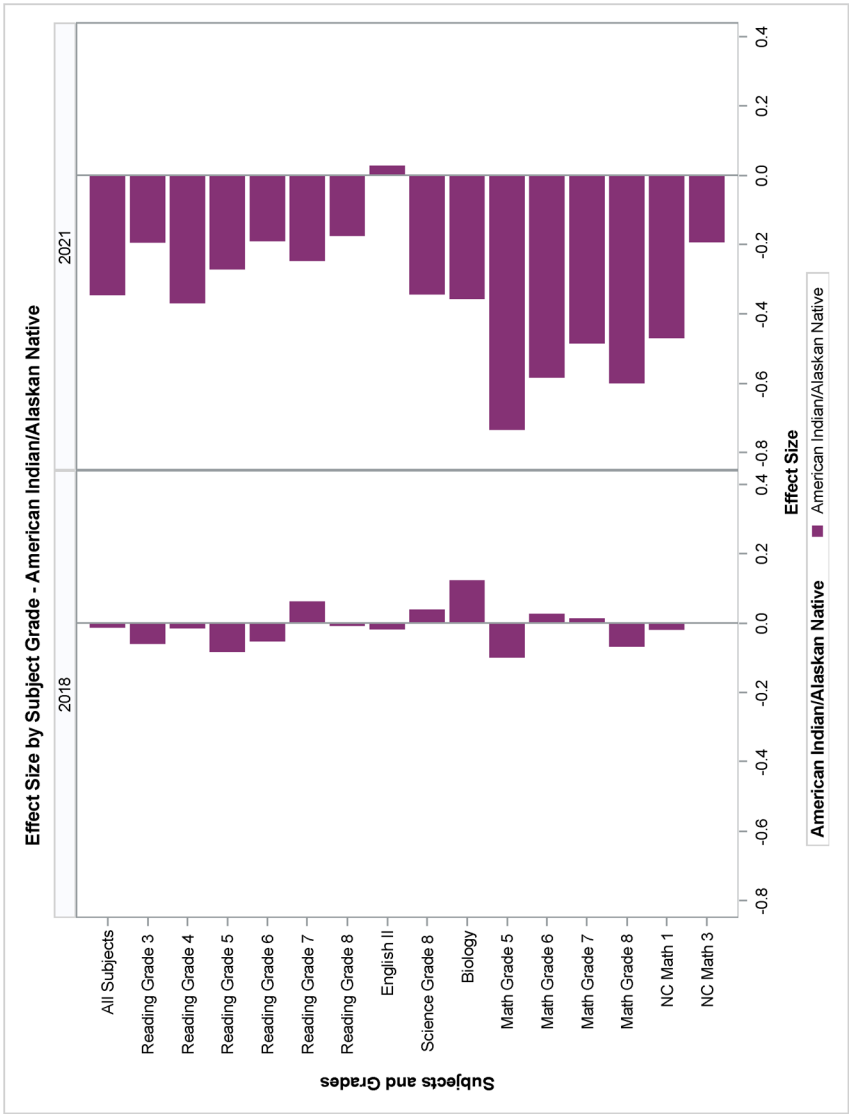
	Sex					
	F			M		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	0.05	0.0006	720097	-0.01	0.0006	752997
Reading Grade 3	0.00	0.0027	52459	-0.01	0.0028	55064
Reading Grade 4	0.01	0.0021	55590	-0.05	0.0021	57898
Reading Grade 5	-0.02	0.0020	54043	-0.07	0.0021	56527
Reading Grade 6	0.03	0.0019	54572	-0.04	0.0020	56660
Reading Grade 7	0.10	0.0020	51687	0.04	0.0021	53741
Reading Grade 8	0.10	0.0021	48464	-0.02	0.0022	50960
English II	0.08	0.0019	53173	-0.09	0.0021	55125
Science Grade 8	0.01	0.0022	48599	0.08	0.0024	51131
Biology	0.11	0.0022	52740	0.08	0.0023	54084
Math Grade 5	0.02	0.0021	53972	-0.00	0.0022	56451
Math Grade 6	0.03	0.0021	54523	-0.02	0.0021	56614
Math Grade 7	0.07	0.0020	51629	0.02	0.0020	53652
Math Grade 8	0.04	0.0029	33175	0.00	0.0029	36699
NC Math 1	0.06	0.0021	55471	0.00	0.0021	58391

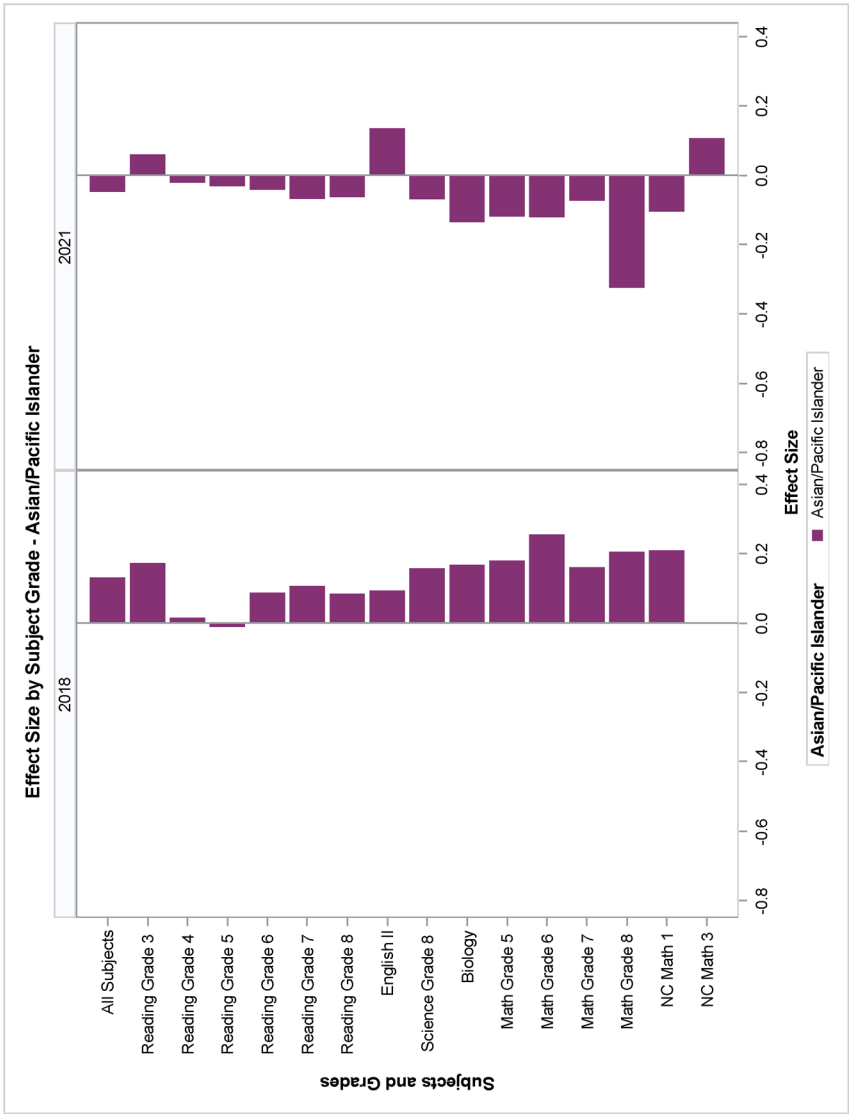
Effect Size by Subject Grade - Sex - 2021

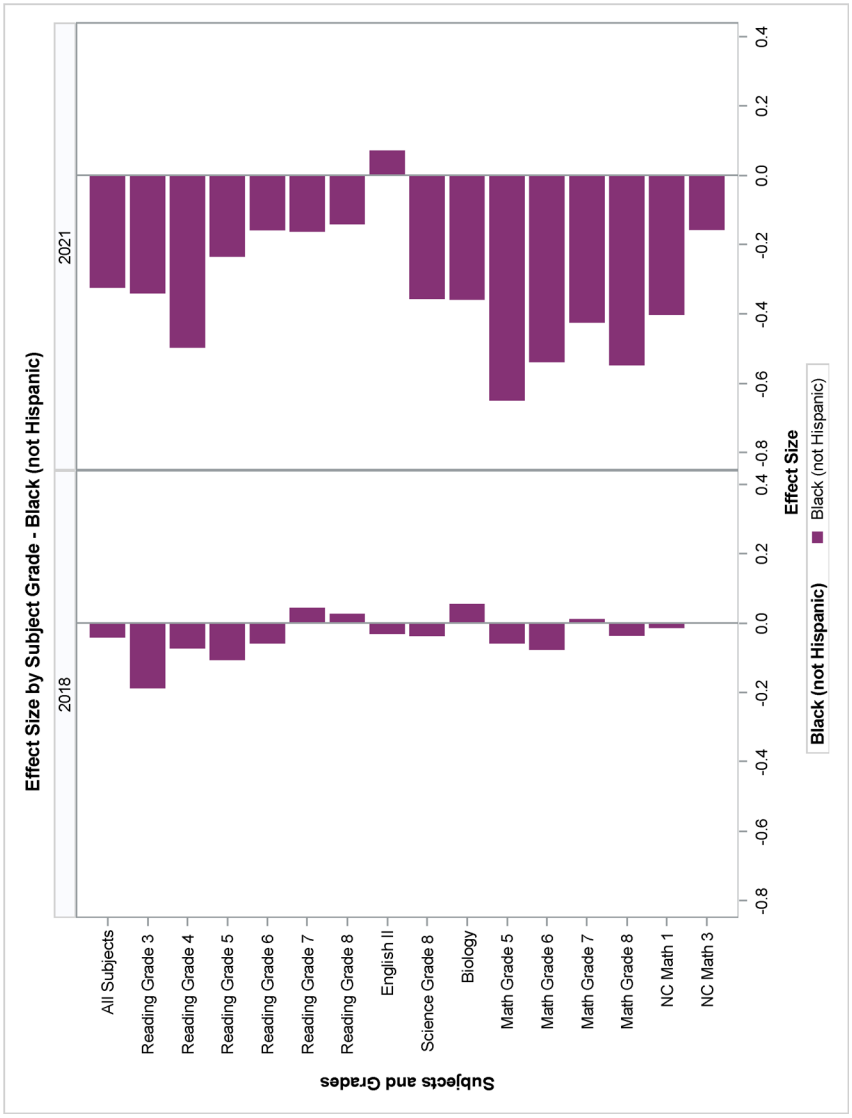
	Sex					
	F			M		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.26	0.0007	709647	-0.25	0.0007	737818
Reading Grade 3	-0.16	0.0033	43761	-0.13	0.0033	45478
Reading Grade 4	-0.30	0.0032	44835	-0.26	0.0032	46756
Reading Grade 5	-0.17	0.0024	47843	-0.14	0.0024	49606
Reading Grade 6	-0.16	0.0022	48032	-0.20	0.0022	50619
Reading Grade 7	-0.18	0.0021	50710	-0.22	0.0022	52796
Reading Grade 8	-0.15	0.0021	49224	-0.19	0.0021	51513
English II	0.10	0.0019	50208	0.02	0.0021	51556
Science Grade 8	-0.27	0.0023	49391	-0.23	0.0024	51858
Biology	-0.31	0.0023	48197	-0.30	0.0023	48843
Math Grade 5	-0.50	0.0028	47792	-0.41	0.0028	49558
Math Grade 6	-0.47	0.0026	47994	-0.42	0.0024	50557
Math Grade 7	-0.40	0.0024	50622	-0.36	0.0023	52746
Math Grade 8	-0.52	0.0034	33666	-0.51	0.0033	36098
NC Math 1	-0.37	0.0024	51185	-0.37	0.0023	54437
NC Math 3	-0.11	0.0027	46187	-0.11	0.0028	45397

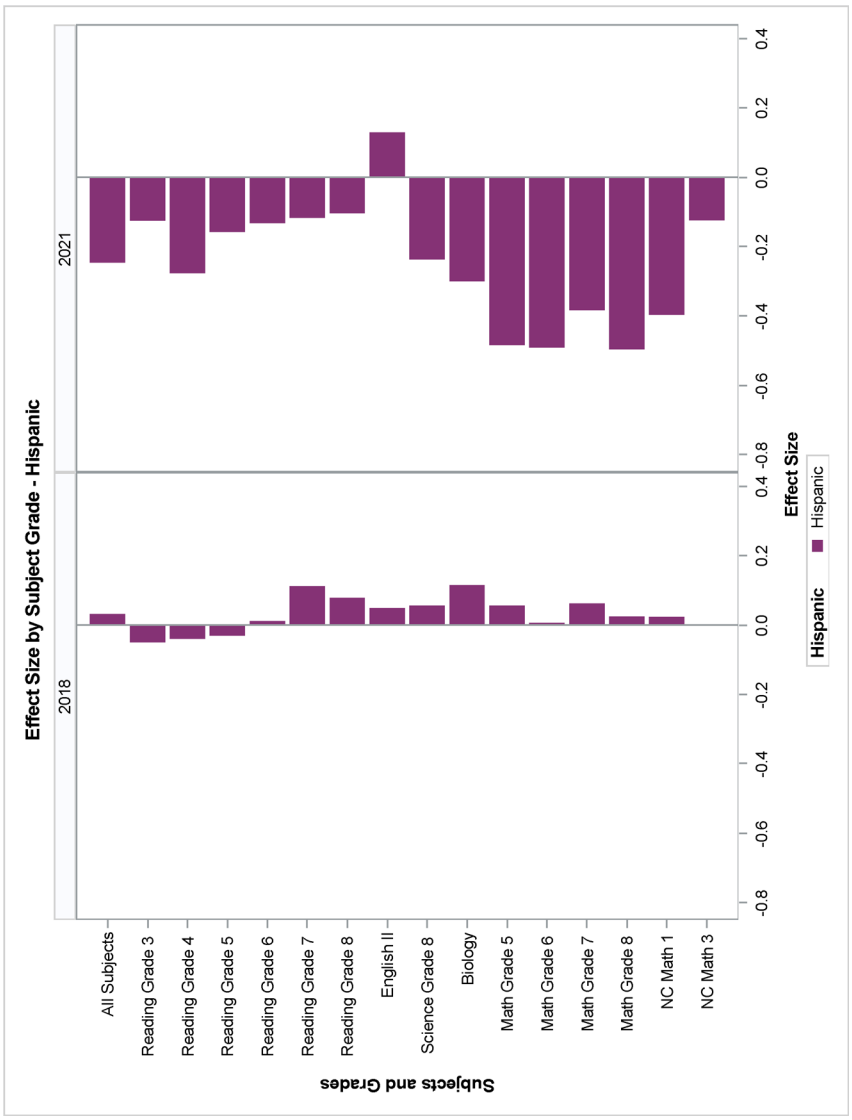

Effect Size by Subject Grade - Race/Ethnicity
2018
2021
All Subjects
Subjects and Grades
Effect Size
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Race/Ethnicity
American Indian/Alaskan Native
Asian/Pacific Islander
Black (not Hispanic)
Hispanic
Two or More
White (not Hispanic)

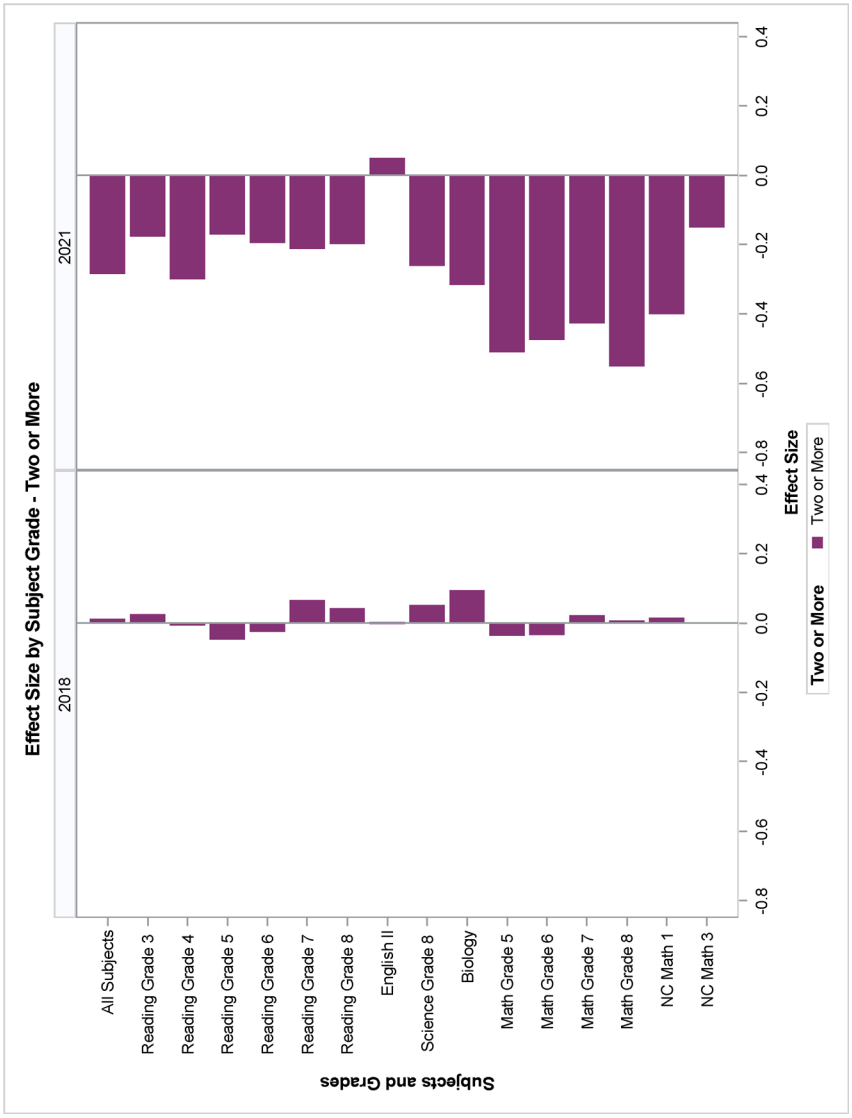

Effect Size by Subject Grade - Race/Ethnicity
2018
2021
Subjects and Grades
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Effect Size
0.4
0.2
0.0
-0.2
-0.4
-0.6
-0.8
Race/Ethnicity
American Indian/Alaskan Native
Asian/Pacific Islander
Black (not Hispanic)
Hispanic
Two or More
White (not Hispanic)

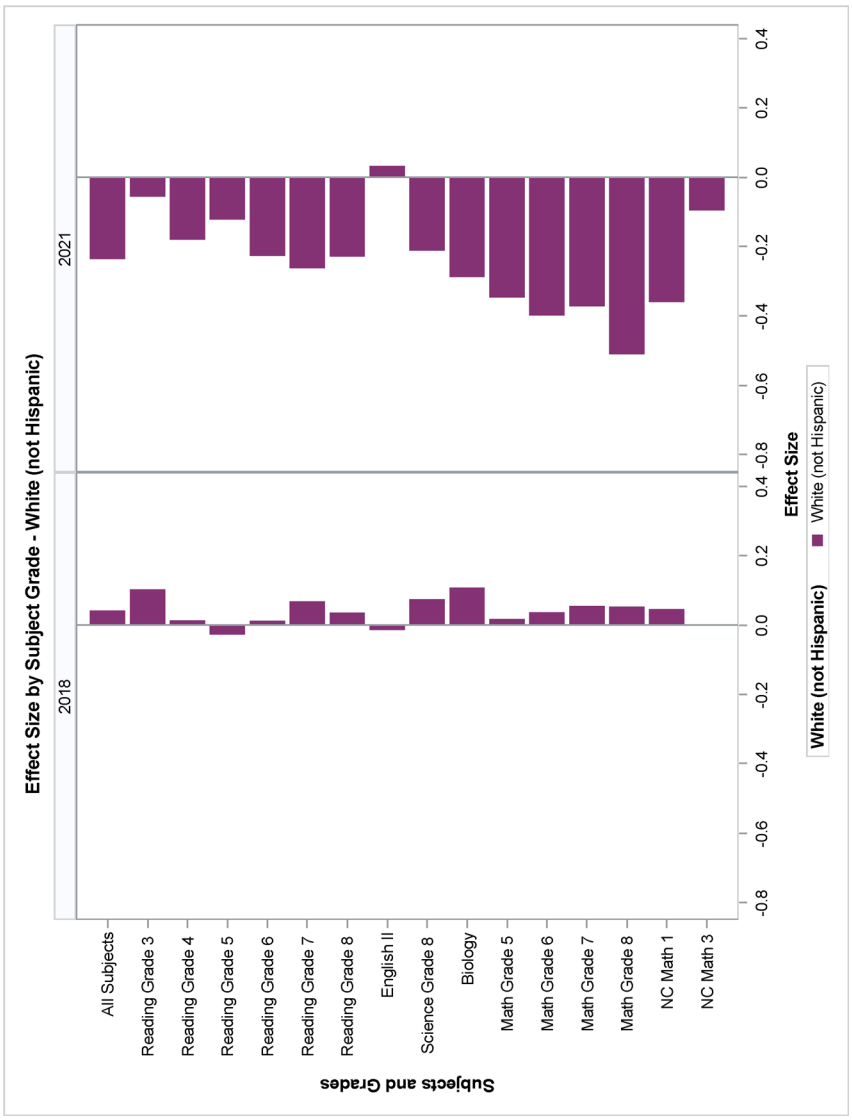

Effect Size by Subject Grade - American Indian/Alaskan Native
2021
2018
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
American Indian/Alaskan Native
American Indian/Alaskan Native


Effect Size by Subject Grade - Asian/Pacific Islander
2018
2021
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
Asian/Pacific Islander
Asian/Pacific Islander


Effect Size by Subject Grade - Black (not Hispanic)
2018
2021
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
Black (not Hispanic)
Black (not Hispanic)


Effect Size by Subject Grade - Hispanic
2021
2018
0.4
0.2
0.0
-0.2
-0.4
-0.6
-0.8
Effect Size
Hispanic
Hispanic
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades


Effect Size by Subject Grade - Two or More
2021
2018
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
0.4
0.2
0.0
-0.2
-0.4
-0.6
-0.8
Effect Size
Two or More
Two or More


Effect Size by Subject Grade - White (not Hispanic)
2018
2021
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
White (not Hispanic)
White (not Hispanic)

Effect Size by Subject Grade - Race/Ethnicity - 2018

	Race/Ethnicity								
	American Indian/Alaskan Native			Asian/Pacific Islander			Black (not Hispanic)		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.01	0.0039	18222	0.13	0.0022	45641	-0.04	0.0008	374099
Reading Grade 3	-0.06	0.0166	1410	0.17	0.0096	3698	-0.19	0.0037	27865
Reading Grade 4	-0.01	0.0144	1331	0.01	0.0078	3706	-0.07	0.0030	28963
Reading Grade 5	-0.08	0.0135	1376	-0.01	0.0076	3572	-0.10	0.0029	27727
Reading Grade 6	-0.05	0.0137	1287	0.09	0.0071	3713	-0.06	0.0029	27980
Reading Grade 7	0.06	0.0142	1290	0.10	0.0078	3206	0.04	0.0029	26227
Reading Grade 8	-0.01	0.0146	1203	0.08	0.0080	3037	0.02	0.0031	24409
English II	-0.02	0.0130	1381	0.09	0.0072	3218	-0.03	0.0028	27600
Science Grade 8	0.04	0.0150	1208	0.16	0.0088	3037	-0.04	0.0034	24484
Biology	0.12	0.0169	1291	0.17	0.0083	3383	0.05	0.0033	27516
Math Grade 5	-0.10	0.0142	1374	0.18	0.0076	3571	-0.06	0.0031	27675
Math Grade 6	0.02	0.0141	1285	0.25	0.0076	3713	-0.08	0.0030	27941
Math Grade 7	0.01	0.0136	1283	0.16	0.0078	3205	0.01	0.0030	26165
Math Grade 8	-0.07	0.0169	961	0.20	0.0163	1089	-0.03	0.0038	20431
NC Math 1	-0.02	0.0141	1542	0.21	0.0084	3493	-0.01	0.0030	29116

Effect Size by Subject Grade - Race/Ethnicity - 2018

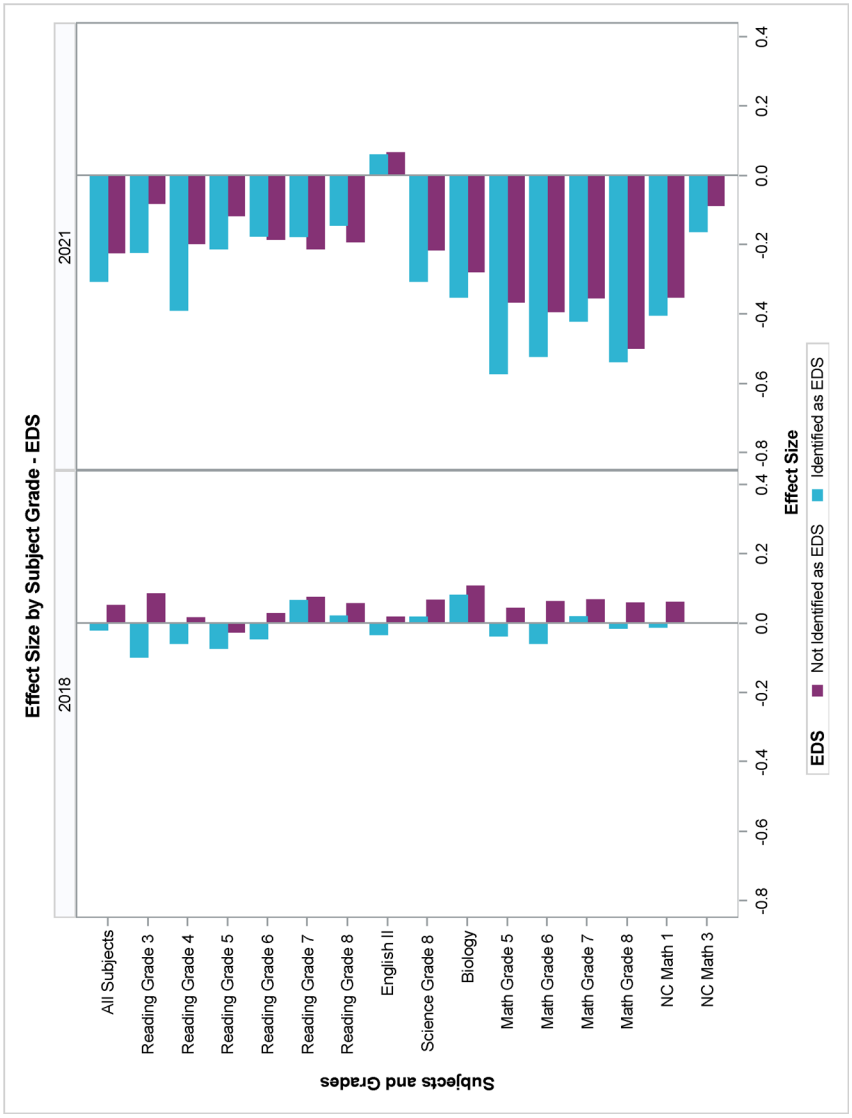
Race/Ethnicity								
Hispanic			Two or More			White (not Hispanic)		
Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
0.03	0.0010	256883	0.01	0.0020	63357	0.04	0.0006	714892
-0.05	0.0043	20118	0.02	0.0093	4588	0.10	0.0028	49844
-0.04	0.0034	20948	-0.01	0.0072	5148	0.01	0.0022	53392
-0.03	0.0033	20670	-0.05	0.0070	4856	-0.03	0.0021	52369
0.01	0.0032	20215	-0.02	0.0069	4851	0.01	0.0020	53186
0.11	0.0034	18338	0.06	0.0072	4389	0.07	0.0021	51978
0.08	0.0037	16272	0.04	0.0074	4378	0.03	0.0022	50125
0.05	0.0036	16928	-0.00	0.0071	4423	-0.01	0.0020	54748
0.05	0.0041	16306	0.05	0.0079	4392	0.07	0.0023	50303
0.11	0.0042	16357	0.09	0.0082	4235	0.11	0.0022	54042
0.05	0.0036	20637	-0.03	0.0076	4843	0.02	0.0022	52323
0.00	0.0035	20193	-0.03	0.0072	4843	0.03	0.0021	53162
0.06	0.0036	18304	0.02	0.0071	4381	0.05	0.0020	51943
0.02	0.0048	13043	0.01	0.0095	3113	0.05	0.0030	31237
0.02	0.0038	18554	0.01	0.0072	4917	0.04	0.0021	56240

Effect Size by Subject Grade - Race/Ethnicity - 2021

	Race/Ethnicity								
	American Indian/Alaskan Native			Asian/Pacific Islander			Black (not Hispanic)		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.34	0.0044	16931	-0.05	0.0025	50346	-0.32	0.0010	359391
Reading Grade 3	-0.19	0.0200	1042	0.06	0.0113	3429	-0.34	0.0046	21998
Reading Grade 4	-0.37	0.0190	1079	-0.02	0.0113	3469	-0.50	0.0044	22646
Reading Grade 5	-0.27	0.0156	1093	-0.03	0.0082	3660	-0.23	0.0034	24035
Reading Grade 6	-0.19	0.0148	1223	-0.04	0.0079	3526	-0.16	0.0031	24910
Reading Grade 7	-0.25	0.0146	1158	-0.07	0.0076	3557	-0.16	0.0030	25855
Reading Grade 8	-0.17	0.0137	1233	-0.06	0.0074	3457	-0.14	0.0030	24568
English II	0.03	0.0138	1108	0.13	0.0073	3347	0.07	0.0029	24719
Science Grade 8	-0.34	0.0157	1241	-0.07	0.0088	3447	-0.36	0.0033	24619
Biology	-0.36	0.0150	1057	-0.13	0.0091	3478	-0.36	0.0032	23497
Math Grade 5	-0.73	0.0180	1091	-0.12	0.0102	3658	-0.65	0.0037	23987
Math Grade 6	-0.58	0.0157	1222	-0.12	0.0100	3512	-0.54	0.0034	24897
Math Grade 7	-0.48	0.0156	1153	-0.07	0.0097	3555	-0.42	0.0032	25836
Math Grade 8	-0.60	0.0199	1053	-0.32	0.0205	1163	-0.55	0.0042	19909
NC Math 1	-0.47	0.0147	1173	-0.10	0.0104	3613	-0.40	0.0032	26509
NC Math 3	-0.19	0.0176	1005	0.10	0.0100	3475	-0.16	0.0038	21406

Effect Size by Subject Grade - Race/Ethnicity - 2021

Race/Ethnicity								
Hispanic			Two or More			White (not Hispanic)		
Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
-0.24	0.0011	280530	-0.28	0.0022	69624	-0.23	0.0007	670643
-0.12	0.0050	17478	-0.17	0.0101	4829	-0.05	0.0034	40463
-0.28	0.0049	17872	-0.30	0.0096	4901	-0.18	0.0032	41624
-0.16	0.0038	19296	-0.17	0.0077	4893	-0.12	0.0025	44472
-0.13	0.0035	19472	-0.19	0.0074	4742	-0.23	0.0023	44778
-0.11	0.0033	20409	-0.21	0.0068	5035	-0.26	0.0022	47492
-0.10	0.0033	19779	-0.20	0.0068	4741	-0.23	0.0022	46959
0.13	0.0033	18687	0.05	0.0072	4414	0.03	0.0021	49489
-0.23	0.0037	19859	-0.26	0.0077	4794	-0.21	0.0024	47289
-0.30	0.0039	17299	-0.31	0.0078	4304	-0.29	0.0023	47405
-0.48	0.0043	19288	-0.51	0.0090	4889	-0.34	0.0030	44437
-0.49	0.0039	19454	-0.47	0.0079	4752	-0.40	0.0026	44714
-0.38	0.0037	20419	-0.43	0.0076	5024	-0.37	0.0024	47381
-0.49	0.0051	15378	-0.55	0.0107	3448	-0.51	0.0038	28813
-0.39	0.0038	20179	-0.40	0.0079	4871	-0.36	0.0025	49277
-0.12	0.0046	15661	-0.15	0.0093	3987	-0.09	0.0028	46050

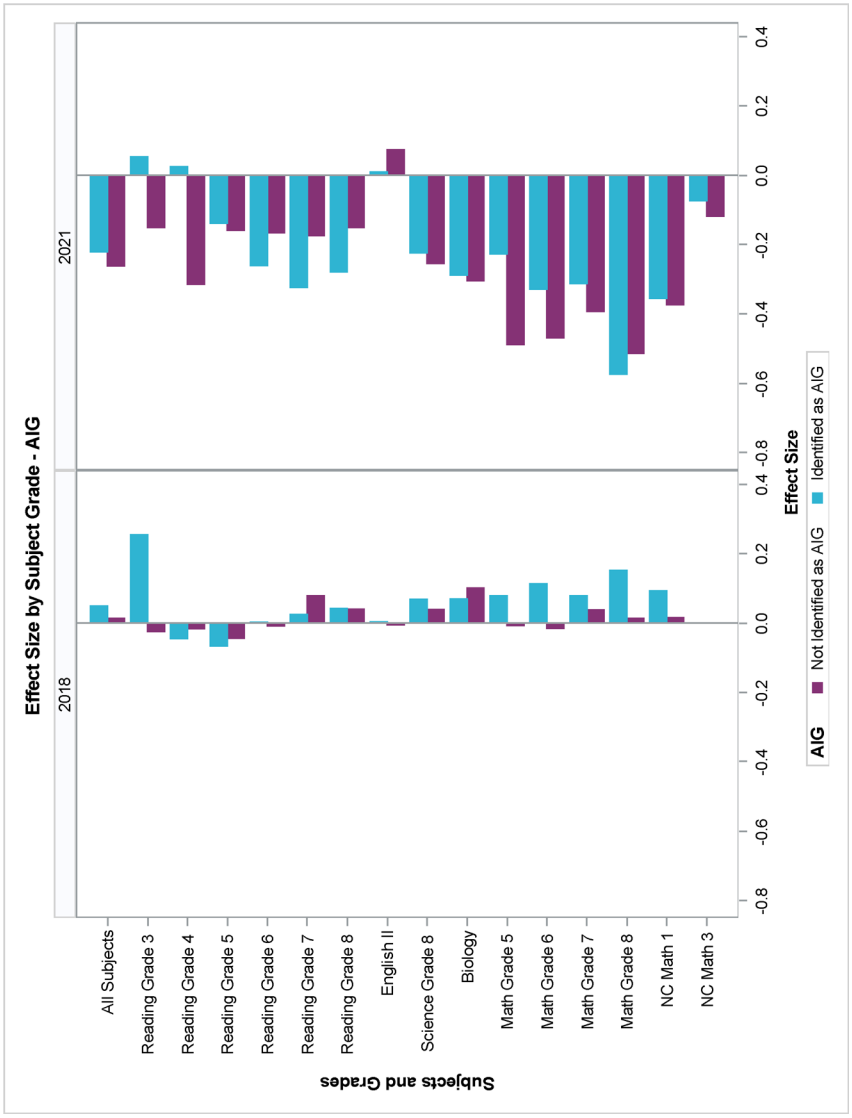

Effect Size by Subject Grade - EDS
2018
2021
Subjects and Grades
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Effect Size
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
EDS
Not Identified as EDS
Identified as EDS

Effect Size by Subject Grade - EDS - 2018

	EDS					
	Identified as EDS			Not Identified as EDS		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.02	0.0006	662992	0.05	0.0005	810102
Reading Grade 3	-0.10	0.0028	51959	0.08	0.0026	55564
Reading Grade 4	-0.06	0.0022	53352	0.01	0.0020	60136
Reading Grade 5	-0.07	0.0022	50892	-0.03	0.0019	59678
Reading Grade 6	-0.05	0.0021	51854	0.03	0.0019	59378
Reading Grade 7	0.06	0.0022	47000	0.07	0.0019	58428
Reading Grade 8	0.02	0.0024	42456	0.05	0.0020	56968
English II	-0.03	0.0023	44523	0.02	0.0018	63775
Science Grade 8	0.02	0.0026	42566	0.06	0.0021	57164
Biology	0.08	0.0027	42799	0.11	0.0020	64025
Math Grade 5	-0.04	0.0023	50791	0.04	0.0020	59632
Math Grade 6	-0.06	0.0022	51798	0.06	0.0020	59339
Math Grade 7	0.02	0.0022	46882	0.07	0.0019	58399
Math Grade 8	-0.01	0.0028	36336	0.06	0.0029	33538
NC Math 1	-0.01	0.0023	49784	0.06	0.0020	64078

Effect Size by Subject Grade - EDS - 2021

	EDS					
	Identified as EDS			Not Identified as EDS		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.31	0.0008	563182	-0.22	0.0006	884283
Reading Grade 3	-0.22	0.0035	38748	-0.08	0.0030	50491
Reading Grade 4	-0.39	0.0034	38909	-0.20	0.0029	52682
Reading Grade 5	-0.21	0.0026	40242	-0.12	0.0022	57207
Reading Grade 6	-0.18	0.0025	41070	-0.18	0.0020	57581
Reading Grade 7	-0.18	0.0024	41185	-0.21	0.0019	62321
Reading Grade 8	-0.14	0.0024	38375	-0.19	0.0019	62362
English II	0.06	0.0025	34107	0.06	0.0017	67657
Science Grade 8	-0.30	0.0027	38509	-0.21	0.0021	62740
Biology	-0.35	0.0028	31383	-0.28	0.0020	65657
Math Grade 5	-0.57	0.0030	40166	-0.37	0.0026	57184
Math Grade 6	-0.52	0.0027	41049	-0.39	0.0023	57502
Math Grade 7	-0.42	0.0026	41135	-0.35	0.0021	62233
Math Grade 8	-0.54	0.0034	32369	-0.50	0.0033	37395
NC Math 1	-0.40	0.0027	38859	-0.35	0.0021	66763
NC Math 3	-0.16	0.0035	27076	-0.09	0.0023	64508

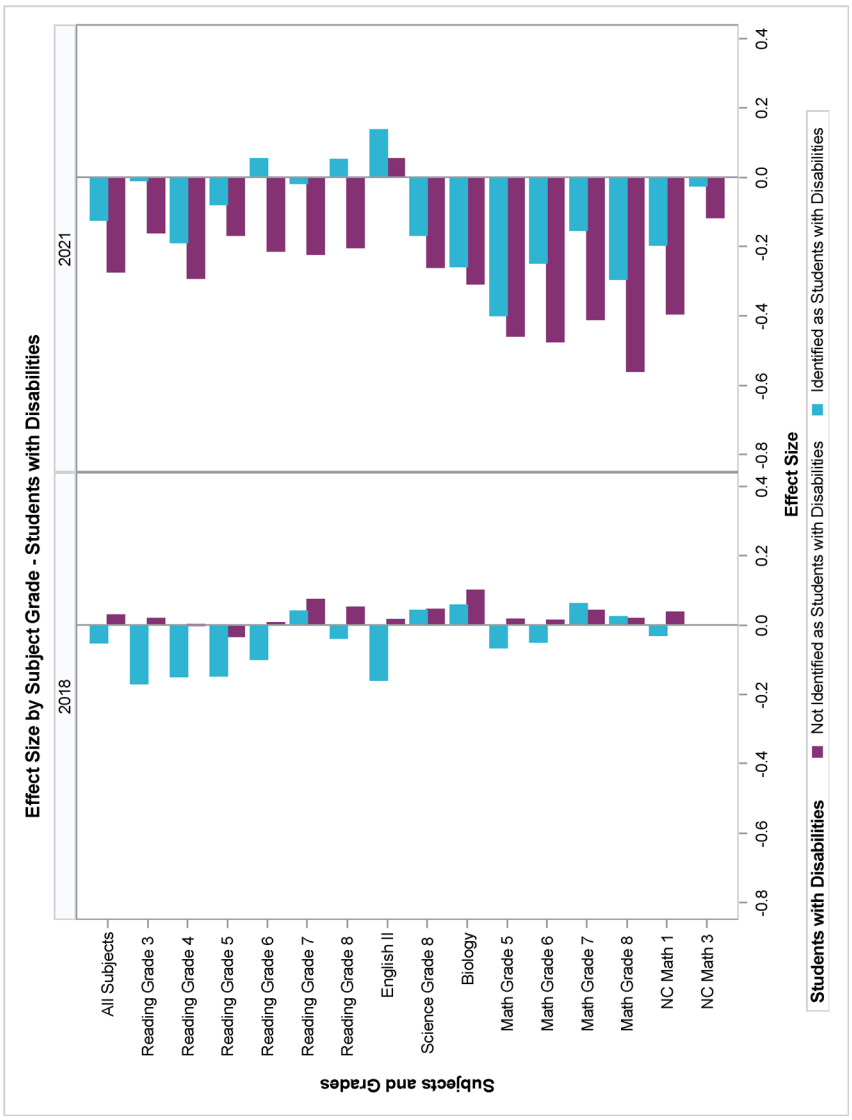

Effect Size by Subject Grade - AIG
2018
2021
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
AIG
Not Identified as AIG
Identified as AIG

Effect Size by Subject Grade - AIG - 2018

	AIG					
	Identified as AIG			Not Identified as AIG		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	0.05	0.0010	228757	0.01	0.0005	1244337
Reading Grade 3	0.25	0.0065	7950	-0.02	0.0020	99573
Reading Grade 4	-0.05	0.0038	14755	-0.02	0.0016	98733
Reading Grade 5	-0.07	0.0034	17534	-0.04	0.0016	93036
Reading Grade 6	-0.00	0.0032	17931	-0.01	0.0016	93301
Reading Grade 7	0.02	0.0032	18651	0.08	0.0016	86777
Reading Grade 8	0.04	0.0033	18076	0.04	0.0017	81348
English II	0.00	0.0029	19764	-0.01	0.0016	88534
Science Grade 8	0.07	0.0035	18124	0.04	0.0018	81606
Biology	0.07	0.0034	19648	0.10	0.0018	87176
Math Grade 5	0.08	0.0035	17530	-0.01	0.0017	92893
Math Grade 6	0.11	0.0034	17932	-0.02	0.0017	93205
Math Grade 7	0.08	0.0031	18644	0.04	0.0016	86637
Math Grade 8	0.15	0.0091	3256	0.01	0.0021	66618
NC Math 1	0.09	0.0034	18962	0.02	0.0017	94900

Effect Size by Subject Grade - AIG - 2021

	AIG					
	Identified as AIG			Not Identified as AIG		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.22	0.0012	217834	-0.26	0.0005	1229631
Reading Grade 3	0.05	0.0105	4088	-0.15	0.0024	85151
Reading Grade 4	0.02	0.0065	9862	-0.31	0.0023	81729
Reading Grade 5	-0.14	0.0042	14147	-0.16	0.0018	83302
Reading Grade 6	-0.26	0.0037	15634	-0.17	0.0017	83017
Reading Grade 7	-0.32	0.0034	16673	-0.17	0.0016	86833
Reading Grade 8	-0.28	0.0032	17669	-0.15	0.0017	83068
English II	0.01	0.0032	18084	0.07	0.0016	83680
Science Grade 8	-0.22	0.0038	17754	-0.25	0.0018	83495
Biology	-0.29	0.0038	17868	-0.30	0.0018	79172
Math Grade 5	-0.23	0.0053	14132	-0.49	0.0021	83218
Math Grade 6	-0.33	0.0046	15618	-0.47	0.0019	82933
Math Grade 7	-0.31	0.0043	16595	-0.39	0.0018	86773
Math Grade 8	-0.57	0.0130	3113	-0.51	0.0024	66651
NC Math 1	-0.36	0.0044	18364	-0.37	0.0018	87258
NC Math 3	-0.07	0.0045	18233	-0.12	0.0021	73351

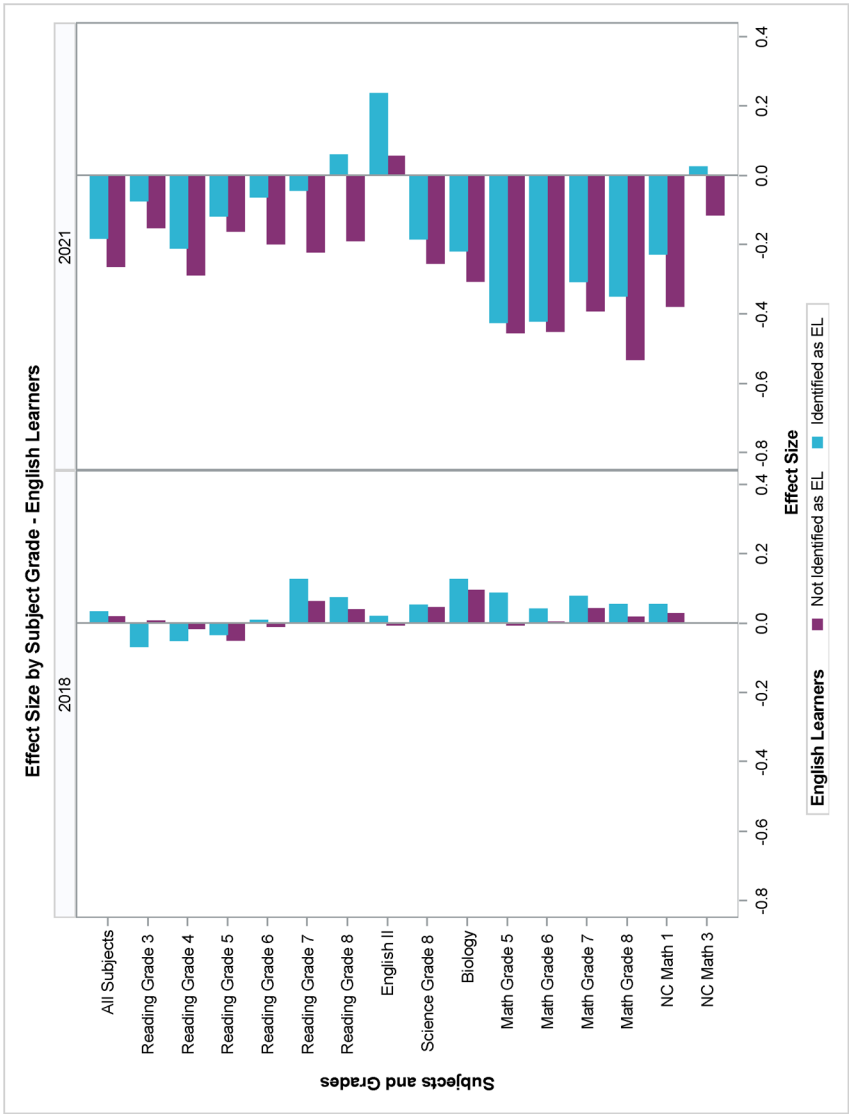

Effect Size by Subject Grade - Students with Disabilities
2018
2021
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
Students with Disabilities
Not Identified as Students with Disabilities
Identified as Students with Disabilities

Effect Size by Subject Grade - Students with Disabilities - 2018

	Students with Disabilities					
	Identified as Students with Disabilities			Not Identified as Students with Disabilities		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.05	0.0013	180424	0.03	0.0004	1292670
Reading Grade 3	-0.17	0.0056	12783	0.02	0.0020	94740
Reading Grade 4	-0.15	0.0046	14103	-0.00	0.0016	99385
Reading Grade 5	-0.15	0.0043	13848	-0.03	0.0015	96722
Reading Grade 6	-0.10	0.0043	13962	0.01	0.0015	97270
Reading Grade 7	0.04	0.0044	12739	0.07	0.0015	92689
Reading Grade 8	-0.04	0.0046	12201	0.05	0.0016	87223
English II	-0.16	0.0046	11773	0.01	0.0015	96525
Science Grade 8	0.04	0.0050	12228	0.04	0.0017	87502
Biology	0.06	0.0054	11193	0.10	0.0017	95631
Math Grade 5	-0.07	0.0045	13810	0.02	0.0016	96613
Math Grade 6	-0.05	0.0042	13918	0.01	0.0016	97219
Math Grade 7	0.06	0.0043	12702	0.04	0.0015	92579
Math Grade 8	0.02	0.0047	11834	0.02	0.0023	58040
NC Math 1	-0.03	0.0042	13330	0.04	0.0016	100532

Effect Size by Subject Grade - Students with Disabilities - 2021

	Students with Disabilities					
	Identified as Students with Disabilities			Not Identified as Students with Disabilities		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.12	0.0013	169740	-0.27	0.0005	1277725
Reading Grade 3	-0.01	0.0063	10526	-0.16	0.0025	78713
Reading Grade 4	-0.19	0.0062	11385	-0.29	0.0024	80206
Reading Grade 5	-0.08	0.0047	12038	-0.17	0.0018	85411
Reading Grade 6	0.05	0.0045	12000	-0.21	0.0017	86651
Reading Grade 7	-0.02	0.0043	12140	-0.22	0.0016	91366
Reading Grade 8	0.05	0.0043	11638	-0.20	0.0016	89099
English II	0.14	0.0045	10725	0.05	0.0015	91039
Science Grade 8	-0.17	0.0050	11706	-0.26	0.0018	89543
Biology	-0.26	0.0048	10422	-0.31	0.0017	86618
Math Grade 5	-0.40	0.0049	12057	-0.46	0.0022	85293
Math Grade 6	-0.25	0.0046	11987	-0.47	0.0019	86564
Math Grade 7	-0.15	0.0046	12149	-0.41	0.0018	91219
Math Grade 8	-0.29	0.0053	11219	-0.56	0.0026	58545
NC Math 1	-0.20	0.0043	12461	-0.39	0.0018	93161
NC Math 3	-0.02	0.0061	7287	-0.12	0.0020	84297

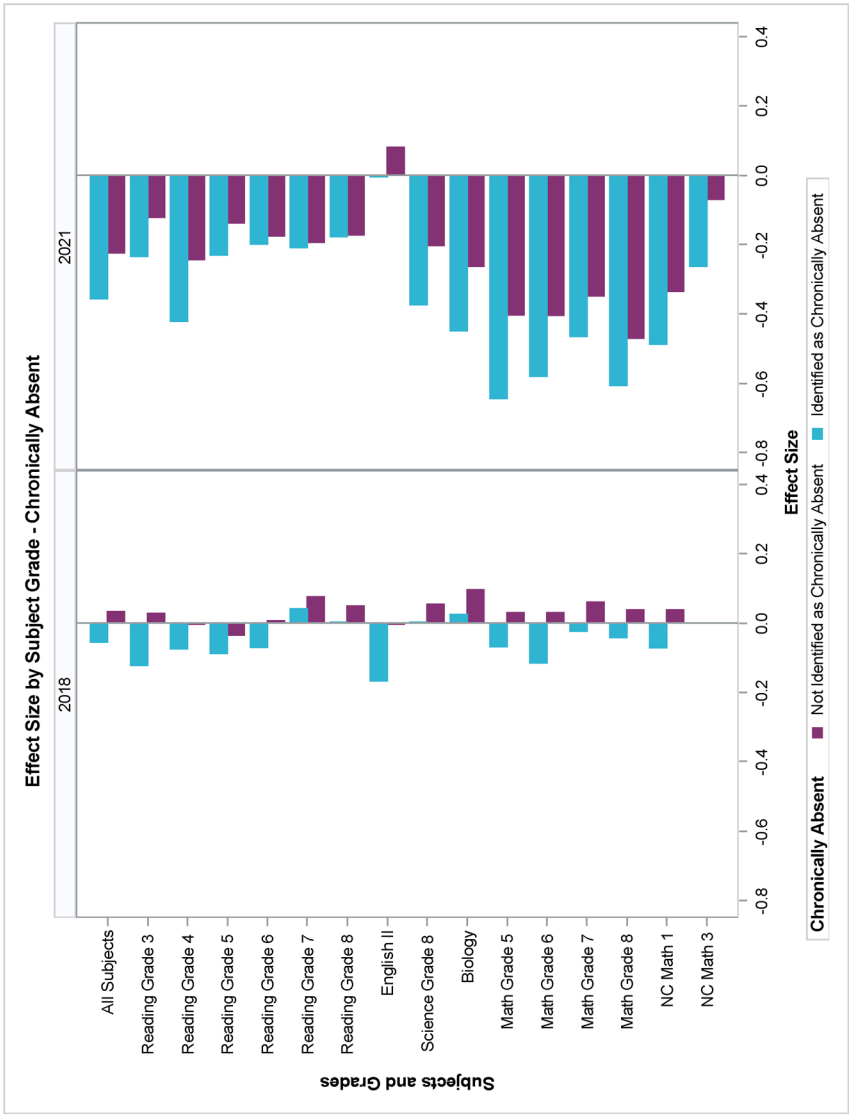

Effect Size by Subject Grade - English Learners
2021
2018
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
English Learners
Not Identified as EL
Identified as EL

Effect Size by Subject Grade - English Learners - 2018

	English Learners					
	Identified as EL			Not Identified as EL		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	0.03	0.0014	142876	0.02	0.0004	1330218
Reading Grade 3	-0.07	0.0052	13280	0.00	0.0021	94243
Reading Grade 4	-0.05	0.0041	14276	-0.02	0.0016	99212
Reading Grade 5	-0.03	0.0041	13390	-0.05	0.0016	97180
Reading Grade 6	0.01	0.0039	13565	-0.01	0.0015	97667
Reading Grade 7	0.13	0.0041	12361	0.06	0.0015	93067
Reading Grade 8	0.07	0.0059	6673	0.04	0.0016	92751
English II	0.02	0.0067	5394	-0.01	0.0015	102904
Science Grade 8	0.05	0.0067	6687	0.04	0.0017	93043
Biology	0.13	0.0080	5200	0.09	0.0016	101624
Math Grade 5	0.08	0.0045	13367	-0.00	0.0016	97056
Math Grade 6	0.04	0.0044	13555	0.00	0.0016	97582
Math Grade 7	0.08	0.0044	12339	0.04	0.0015	92942
Math Grade 8	0.05	0.0070	6040	0.02	0.0021	63834
NC Math 1	0.05	0.0064	6749	0.03	0.0016	107113

Effect Size by Subject Grade - English Learners - 2021

	English Learners					
	Identified as EL			Not Identified as EL		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.18	0.0016	130522	-0.26	0.0005	1316943
Reading Grade 3	-0.07	0.0065	10372	-0.15	0.0025	78867
Reading Grade 4	-0.21	0.0065	10941	-0.29	0.0024	80650
Reading Grade 5	-0.12	0.0048	11836	-0.16	0.0018	85613
Reading Grade 6	-0.06	0.0045	12032	-0.20	0.0017	86619
Reading Grade 7	-0.04	0.0041	13397	-0.22	0.0016	90109
Reading Grade 8	0.06	0.0060	6080	-0.19	0.0015	94657
English II	0.23	0.0070	4260	0.05	0.0015	97504
Science Grade 8	-0.18	0.0069	6101	-0.25	0.0017	95148
Biology	-0.22	0.0081	4201	-0.31	0.0017	92839
Math Grade 5	-0.42	0.0055	11833	-0.45	0.0021	85517
Math Grade 6	-0.42	0.0050	12026	-0.45	0.0019	86525
Math Grade 7	-0.31	0.0046	13407	-0.39	0.0018	89961
Math Grade 8	-0.35	0.0081	5508	-0.53	0.0025	64256
NC Math 1	-0.23	0.0076	5012	-0.38	0.0017	100610
NC Math 3	0.02	0.0093	3516	-0.11	0.0020	88068

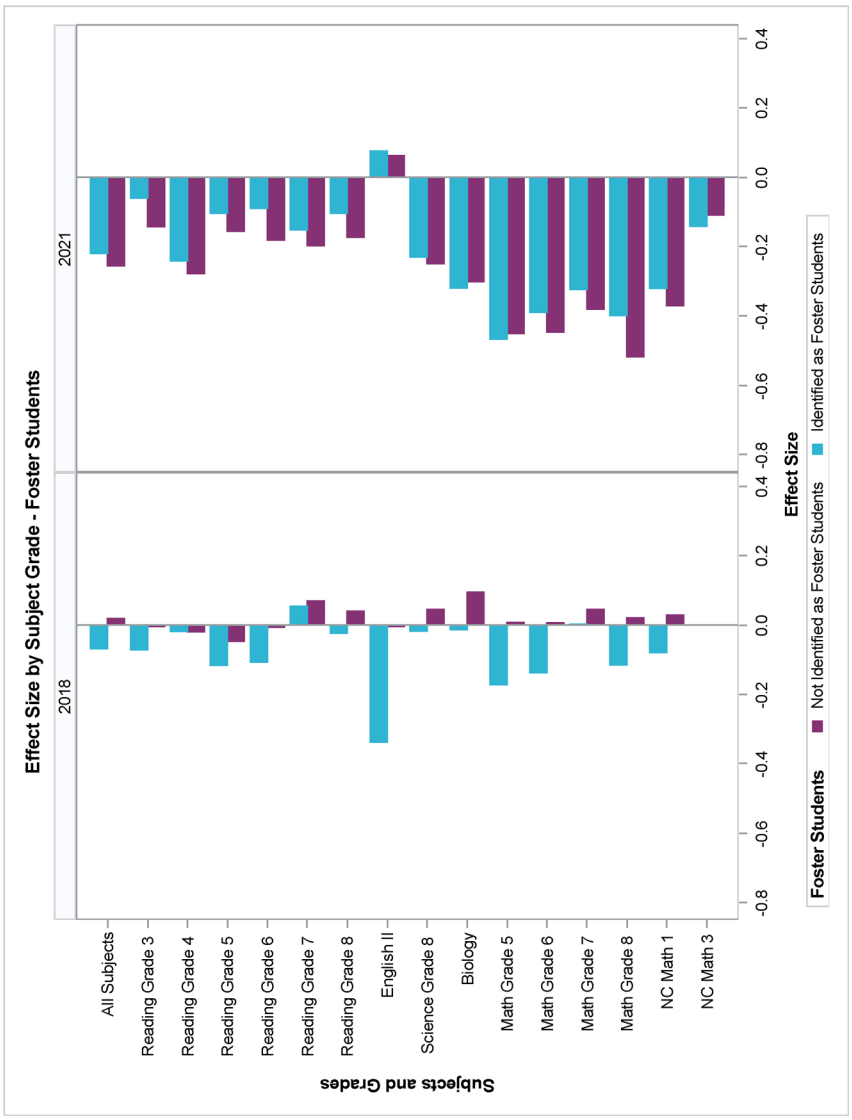

Effect Size by Subject Grade - Chronically Absent
2021
2018
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
Chronically Absent
Not Identified as Chronically Absent
Identified as Chronically Absent

Effect Size by Subject Grade - Chronically Absent - 2018

	Chronically Absent					
	Identified as Chronically Absent			Not Identified as Chronically Absent		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.05	0.0011	242676	0.03	0.0005	1230418
Reading Grade 3	-0.12	0.0042	22680	0.03	0.0022	84843
Reading Grade 4	-0.07	0.0032	26019	-0.00	0.0017	87469
Reading Grade 5	-0.09	0.0031	26310	-0.03	0.0016	84260
Reading Grade 6	-0.07	0.0036	18550	0.01	0.0015	92682
Reading Grade 7	0.04	0.0035	19847	0.08	0.0016	85581
Reading Grade 8	-0.00	0.0037	18630	0.05	0.0017	80794
English II	-0.17	0.0268	295	-0.00	0.0014	108003
Science Grade 8	0.00	0.0040	18693	0.05	0.0018	81037
Biology	0.02	0.0174	897	0.10	0.0016	105927
Math Grade 5	-0.07	0.0033	26261	0.03	0.0017	84162
Math Grade 6	-0.11	0.0037	18518	0.03	0.0016	92619
Math Grade 7	-0.02	0.0035	19801	0.06	0.0016	85480
Math Grade 8	-0.04	0.0043	16282	0.04	0.0023	53592
NC Math 1	-0.07	0.0052	9893	0.04	0.0016	103969

Effect Size by Subject Grade - Chronically Absent - 2021

	Chronically Absent					
	Identified as Chronically Absent			Not Identified as Chronically Absent		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.36	0.0010	340919	-0.22	0.0005	1106546
Reading Grade 3	-0.23	0.0054	16252	-0.12	0.0025	72987
Reading Grade 4	-0.42	0.0050	17863	-0.24	0.0025	73728
Reading Grade 5	-0.23	0.0039	19193	-0.14	0.0019	78256
Reading Grade 6	-0.20	0.0033	23931	-0.17	0.0018	74720
Reading Grade 7	-0.21	0.0030	27740	-0.19	0.0017	75766
Reading Grade 8	-0.18	0.0030	27526	-0.17	0.0017	73211
English II	-0.00	0.0033	22074	0.08	0.0016	79690
Science Grade 8	-0.37	0.0032	27633	-0.20	0.0019	73616
Biology	-0.45	0.0035	20458	-0.26	0.0018	76582
Math Grade 5	-0.64	0.0042	19151	-0.40	0.0022	78199
Math Grade 6	-0.58	0.0035	23937	-0.40	0.0020	74614
Math Grade 7	-0.46	0.0032	27793	-0.35	0.0019	75575
Math Grade 8	-0.61	0.0040	23830	-0.47	0.0029	45934
NC Math 1	-0.49	0.0034	24786	-0.33	0.0019	80836
NC Math 3	-0.26	0.0040	18752	-0.07	0.0022	72832

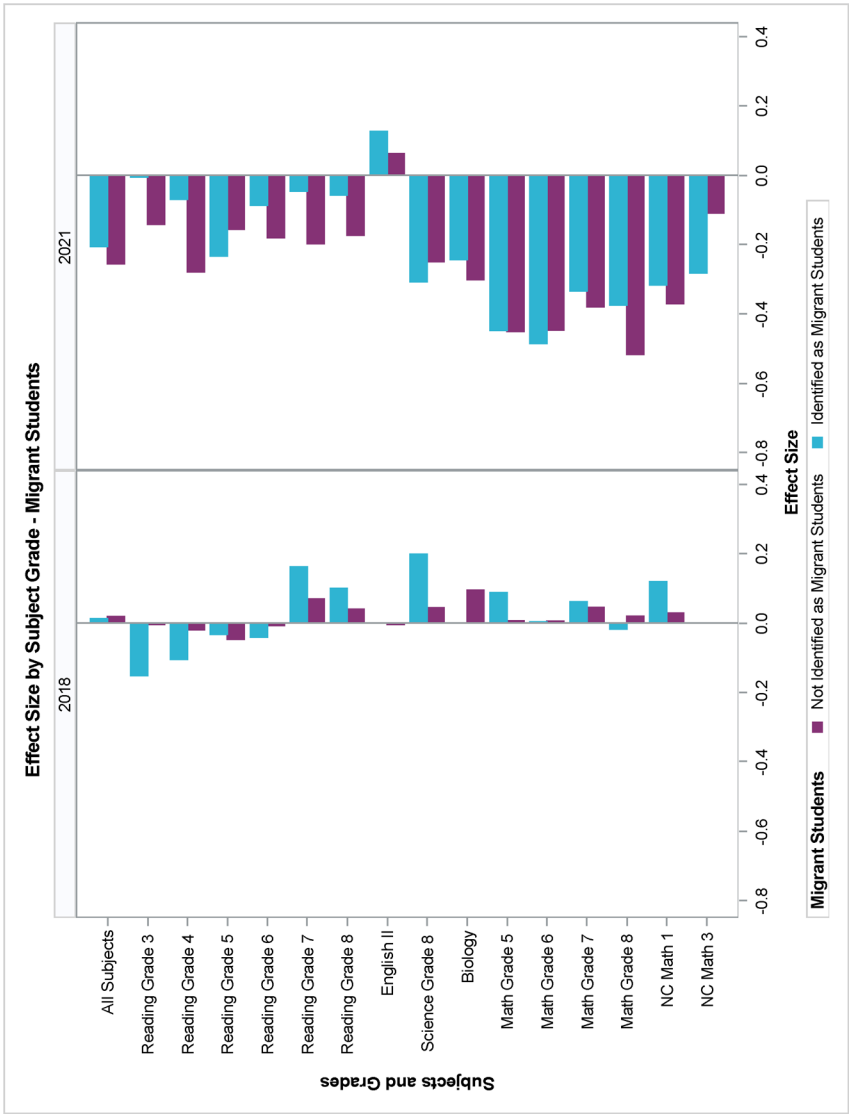

Effect Size by Subject Grade - Foster Students
2018
2021
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
Foster Students
Not Identified as Foster Students
Identified as Foster Students

Effect Size by Subject Grade - Foster Students - 2018

	Foster Students					
	Identified as Foster Students			Not Identified as Foster Students		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.07	0.0088	4056	0.02	0.0004	1469038
Reading Grade 3	-0.07	0.0304	435	-0.00	0.0019	107088
Reading Grade 4	-0.02	0.0278	433	-0.02	0.0015	113055
Reading Grade 5	-0.12	0.0273	408	-0.05	0.0015	110162
Reading Grade 6	-0.11	0.0293	356	-0.01	0.0014	110876
Reading Grade 7	0.05	0.0287	343	0.07	0.0015	105085
Reading Grade 8	-0.02	0.0315	294	0.04	0.0015	99130
English II	-0.34	0.2329	3	-0.00	0.0014	108295
Science Grade 8	-0.02	0.0314	295	0.04	0.0016	99435
Biology	-0.01	0.2275	5	0.09	0.0016	106819
Math Grade 5	-0.17	0.0260	407	0.01	0.0015	110016
Math Grade 6	-0.14	0.0280	357	0.01	0.0015	110780
Math Grade 7	0.00	0.0264	343	0.04	0.0015	104938
Math Grade 8	-0.12	0.0382	265	0.02	0.0020	69609
NC Math 1	-0.08	0.0491	112	0.03	0.0015	113750

Effect Size by Subject Grade - Foster Students - 2021

	Foster Students					
	Identified as Foster Students			Not Identified as Foster Students		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.22	0.0075	6555	-0.26	0.0005	1440910
Reading Grade 3	-0.06	0.0336	481	-0.14	0.0023	88758
Reading Grade 4	-0.24	0.0329	471	-0.28	0.0022	91120
Reading Grade 5	-0.10	0.0258	458	-0.16	0.0017	96991
Reading Grade 6	-0.09	0.0275	453	-0.18	0.0016	98198
Reading Grade 7	-0.15	0.0256	467	-0.20	0.0015	103039
Reading Grade 8	-0.10	0.0259	433	-0.17	0.0015	100304
English II	0.08	0.0229	402	0.06	0.0014	101362
Science Grade 8	-0.23	0.0271	445	-0.25	0.0017	100804
Biology	-0.32	0.0289	383	-0.30	0.0016	96657
Math Grade 5	-0.47	0.0276	457	-0.45	0.0020	96893
Math Grade 6	-0.39	0.0286	451	-0.45	0.0018	98100
Math Grade 7	-0.32	0.0253	471	-0.38	0.0017	102897
Math Grade 8	-0.40	0.0322	393	-0.52	0.0024	69371
NC Math 1	-0.32	0.0253	508	-0.37	0.0017	105114
NC Math 3	-0.14	0.0345	282	-0.11	0.0019	91302

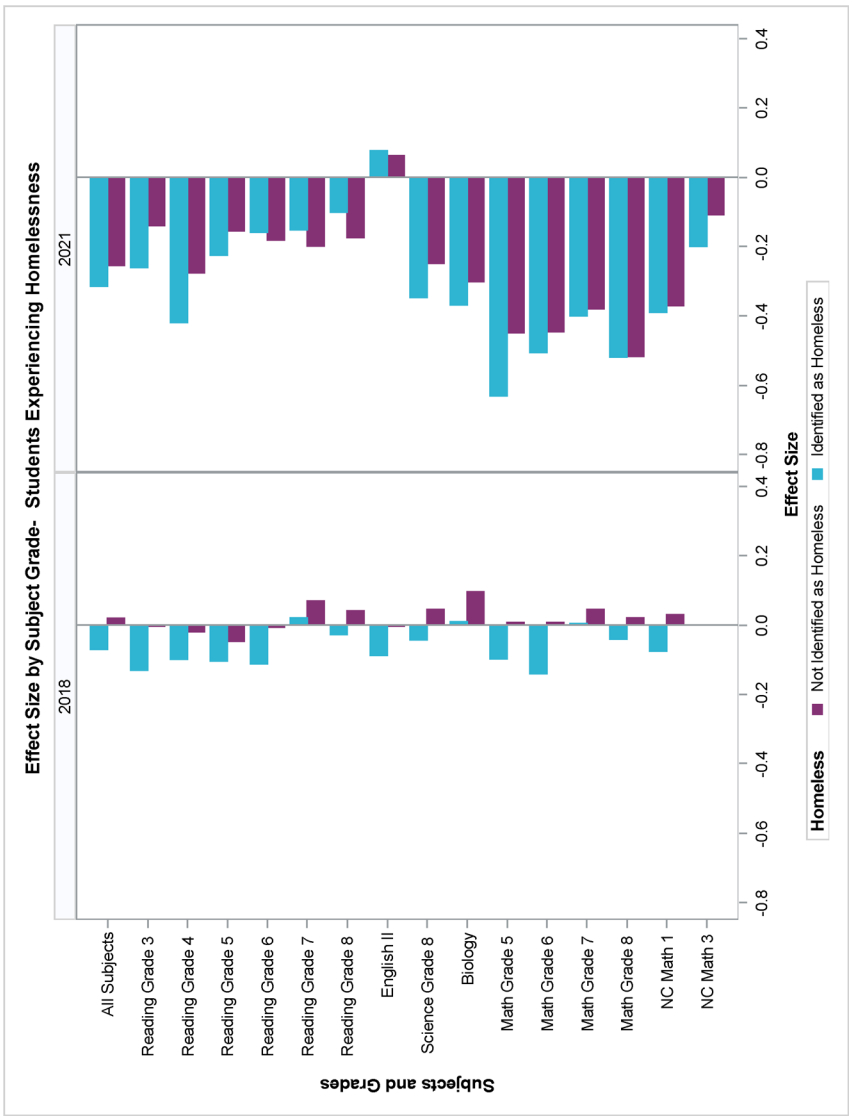

Effect Size by Subject Grade - Migrant Students
2018
2021
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
Migrant Students
Not Identified as Migrant Students
Identified as Migrant Students

Effect Size by Subject Grade - Migrant Students - 2018

	Migrant Students					
	Identified as Migrant Students			Not Identified as Migrant Students		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	0.01	0.0194	691	0.02	0.0004	1472403
Reading Grade 3	-0.15	0.0689	77	-0.00	0.0019	107446
Reading Grade 4	-0.11	0.0439	84	-0.02	0.0015	113404
Reading Grade 5	-0.03	0.0592	78	-0.05	0.0015	110492
Reading Grade 6	-0.04	0.0564	59	-0.01	0.0014	111173
Reading Grade 7	0.16	0.0511	50	0.07	0.0014	105378
Reading Grade 8	0.10	0.0689	45	0.04	0.0015	99379
English II	.	.	0	-0.00	0.0014	108298
Science Grade 8	0.20	0.0803	45	0.04	0.0016	99685
Biology	.	.	0	0.09	0.0016	106824
Math Grade 5	0.09	0.0585	78	0.01	0.0015	110345
Math Grade 6	0.00	0.0595	59	0.01	0.0015	111078
Math Grade 7	0.06	0.0627	50	0.04	0.0014	105231
Math Grade 8	-0.02	0.0855	40	0.02	0.0020	69834
NC Math 1	0.12	0.1615	26	0.03	0.0015	113836

Effect Size by Subject Grade - Migrant Students - 2021

	Migrant Students					
	Identified as Migrant Students			Not Identified as Migrant Students		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.21	0.0157	1464	-0.26	0.0005	1446001
Reading Grade 3	-0.01	0.0648	109	-0.14	0.0023	89130
Reading Grade 4	-0.07	0.0696	131	-0.28	0.0022	91460
Reading Grade 5	-0.23	0.0447	107	-0.16	0.0017	97342
Reading Grade 6	-0.09	0.0499	94	-0.18	0.0016	98557
Reading Grade 7	-0.05	0.0462	118	-0.20	0.0015	103388
Reading Grade 8	-0.06	0.0459	92	-0.17	0.0015	100645
English II	0.13	0.0495	87	0.06	0.0014	101677
Science Grade 8	-0.31	0.0550	99	-0.25	0.0017	101150
Biology	-0.24	0.0626	76	-0.30	0.0016	96964
Math Grade 5	-0.45	0.0634	109	-0.45	0.0020	97241
Math Grade 6	-0.49	0.0542	96	-0.45	0.0018	98455
Math Grade 7	-0.33	0.0570	117	-0.38	0.0017	103251
Math Grade 8	-0.37	0.0713	82	-0.52	0.0024	69682
NC Math 1	-0.32	0.0541	90	-0.37	0.0017	105532
NC Math 3	-0.28	0.0726	57	-0.11	0.0019	91527

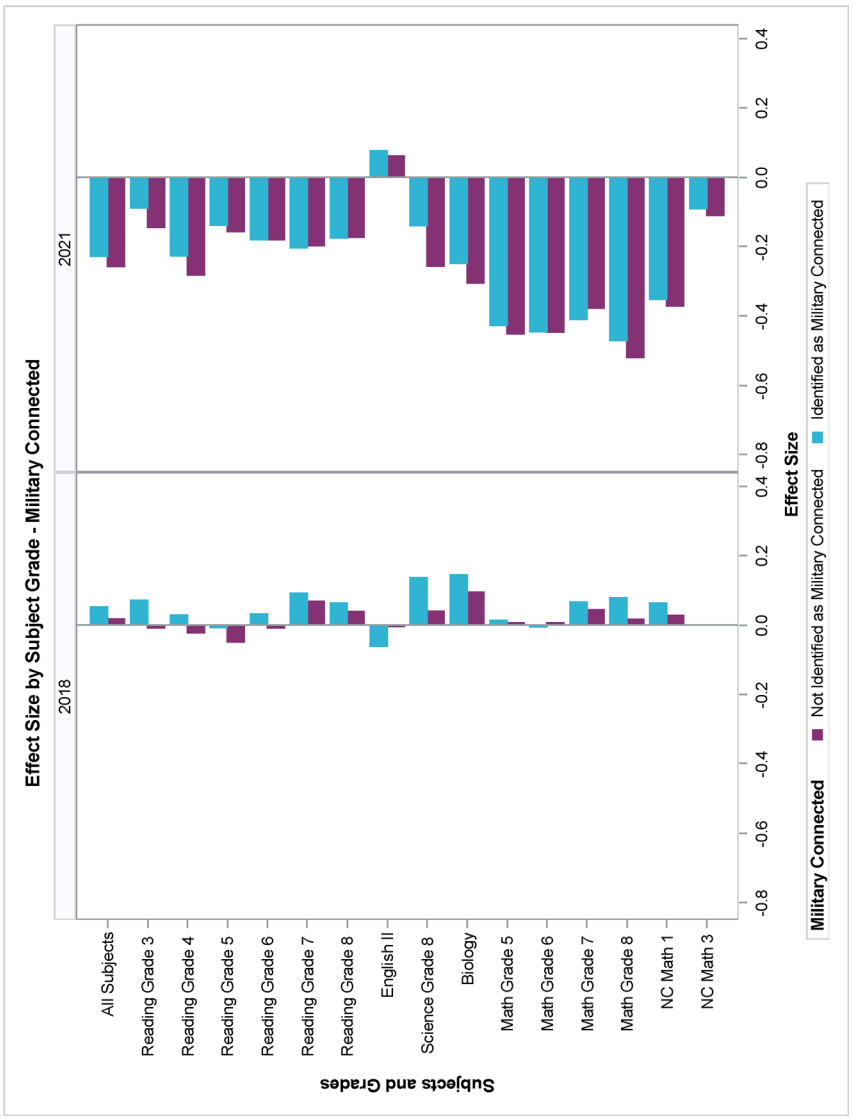

Effect Size by Subject Grade- Students Experiencing Homelessness
2018
2021
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
Homeless
Not Identified as Homeless
Identified as Homeless

Effect Size by Subject Grade - Homeless - 2018

	Homeless					
	Identified as Homeless			Not Identified as Homeless		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.07	0.0046	13572	0.02	0.0004	1459522
Reading Grade 3	-0.13	0.0193	1128	-0.00	0.0019	106395
Reading Grade 4	-0.10	0.0159	1143	-0.02	0.0015	112345
Reading Grade 5	-0.10	0.0151	1161	-0.05	0.0015	109409
Reading Grade 6	-0.11	0.0159	1028	-0.01	0.0014	110204
Reading Grade 7	0.02	0.0168	907	0.07	0.0015	104521
Reading Grade 8	-0.03	0.0173	887	0.04	0.0015	98537
English II	-0.09	0.0181	817	-0.00	0.0014	107481
Science Grade 8	-0.04	0.0180	883	0.04	0.0016	98847
Biology	0.01	0.0194	830	0.10	0.0016	105994
Math Grade 5	-0.10	0.0156	1157	0.01	0.0015	109266
Math Grade 6	-0.14	0.0155	1024	0.01	0.0015	110113
Math Grade 7	0.00	0.0160	901	0.04	0.0015	104380
Math Grade 8	-0.04	0.0190	819	0.02	0.0021	69055
NC Math 1	-0.08	0.0178	887	0.03	0.0015	112975

Effect Size by Subject Grade - Homeless - 2021

	Homeless					
	Identified as Homeless			Not Identified as Homeless		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.31	0.0047	15220	-0.25	0.0005	1432245
Reading Grade 3	-0.26	0.0191	1258	-0.14	0.0023	87981
Reading Grade 4	-0.42	0.0187	1192	-0.28	0.0022	90399
Reading Grade 5	-0.22	0.0156	1201	-0.15	0.0017	96248
Reading Grade 6	-0.16	0.0163	1019	-0.18	0.0016	97632
Reading Grade 7	-0.15	0.0149	1075	-0.20	0.0015	102431
Reading Grade 8	-0.10	0.0154	987	-0.17	0.0015	99750
English II	0.08	0.0171	804	0.06	0.0014	100960
Science Grade 8	-0.35	0.0169	997	-0.25	0.0017	100252
Biology	-0.37	0.0175	786	-0.30	0.0016	96254
Math Grade 5	-0.63	0.0167	1202	-0.45	0.0020	96148
Math Grade 6	-0.51	0.0172	1021	-0.45	0.0018	97530
Math Grade 7	-0.40	0.0161	1088	-0.38	0.0017	102280
Math Grade 8	-0.52	0.0200	915	-0.52	0.0024	68849
NC Math 1	-0.39	0.0167	929	-0.37	0.0017	104693
NC Math 3	-0.20	0.0206	746	-0.11	0.0019	90838

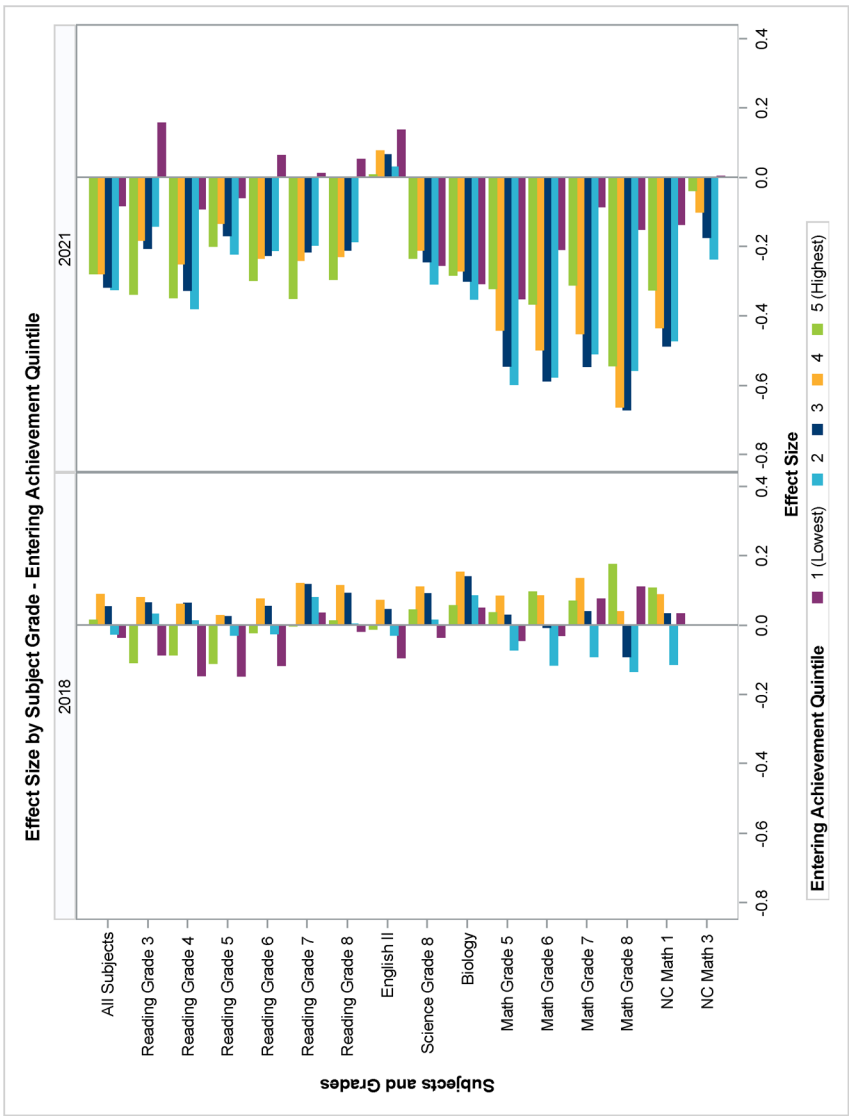

Effect Size by Subject Grade - Military Connected
2021
2018
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
Military Connected
Not Identified as Military Connected
Identified as Military Connected

Effect Size by Subject Grade - Military Connected - 2018

	Military Connected					
	Identified as Military Connected			Not Identified as Military Connected		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	0.05	0.0021	59997	0.02	0.0004	1413097
Reading Grade 3	0.07	0.0089	5095	-0.01	0.0020	102428
Reading Grade 4	0.03	0.0069	5303	-0.02	0.0015	108185
Reading Grade 5	-0.01	0.0067	5307	-0.05	0.0015	105263
Reading Grade 6	0.03	0.0067	5056	-0.01	0.0014	106176
Reading Grade 7	0.09	0.0061	5730	0.07	0.0015	99698
Reading Grade 8	0.06	0.0067	5019	0.04	0.0016	94405
English II	-0.06	0.0433	114	-0.00	0.0014	108184
Science Grade 8	0.14	0.0071	5046	0.04	0.0017	94684
Biology	0.14	0.0196	549	0.09	0.0016	106275
Math Grade 5	0.01	0.0070	5301	0.01	0.0016	105122
Math Grade 6	-0.01	0.0068	5055	0.01	0.0015	106082
Math Grade 7	0.07	0.0061	5723	0.04	0.0015	99558
Math Grade 8	0.08	0.0090	3463	0.02	0.0021	66411
NC Math 1	0.06	0.0087	3236	0.03	0.0015	110626

Effect Size by Subject Grade - Military Connected - 2021

	Military Connected					
	Identified as Military Connected			Not Identified as Military Connected		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.23	0.0019	89198	-0.26	0.0005	1358267
Reading Grade 3	-0.09	0.0095	5227	-0.14	0.0024	84012
Reading Grade 4	-0.23	0.0088	5766	-0.28	0.0023	85825
Reading Grade 5	-0.14	0.0068	5908	-0.16	0.0017	91541
Reading Grade 6	-0.18	0.0065	5748	-0.18	0.0016	92903
Reading Grade 7	-0.20	0.0061	6227	-0.20	0.0015	97279
Reading Grade 8	-0.17	0.0059	6077	-0.17	0.0015	94660
English II	0.08	0.0054	6941	0.06	0.0015	94823
Science Grade 8	-0.14	0.0067	6172	-0.26	0.0017	95077
Biology	-0.25	0.0062	6538	-0.31	0.0017	90502
Math Grade 5	-0.43	0.0082	5896	-0.45	0.0021	91454
Math Grade 6	-0.45	0.0072	5724	-0.45	0.0018	92827
Math Grade 7	-0.41	0.0067	6225	-0.38	0.0017	97143
Math Grade 8	-0.47	0.0097	4201	-0.52	0.0025	65563
NC Math 1	-0.35	0.0068	6420	-0.37	0.0017	99202
NC Math 3	-0.09	0.0079	6128	-0.11	0.0020	85456


Effect Size by Subject Grade - Entering Achievement Quintile
2021
2018
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
Entering Achievement Quintile
1 (Lowest)
2
3
4
5 (Highest)

Effect Size by Subject Grade - Entering Achievement Quintile - 2018

	Entering Achievement Quintile								
	1 (Lowest)			2			3		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.03	0.0010	294612	-0.03	0.0010	294623	0.05	0.0010	294621
Reading Grade 3	-0.09	0.0043	21504	0.03	0.0046	21505	0.06	0.0045	21505
Reading Grade 4	-0.15	0.0036	22697	0.01	0.0035	22698	0.06	0.0033	22698
Reading Grade 5	-0.15	0.0034	22114	-0.03	0.0035	22114	0.02	0.0032	22114
Reading Grade 6	-0.12	0.0033	22246	-0.02	0.0034	22247	0.05	0.0031	22246
Reading Grade 7	0.03	0.0034	21085	0.08	0.0034	21086	0.12	0.0032	21086
Reading Grade 8	-0.02	0.0036	19884	0.00	0.0037	19885	0.09	0.0034	19885
English II	-0.09	0.0035	21659	-0.03	0.0035	21660	0.04	0.0032	21660
Science Grade 8	-0.03	0.0038	19946	0.01	0.0040	19946	0.09	0.0037	19946
Biology	0.05	0.0040	21364	0.08	0.0039	21365	0.14	0.0035	21365
Math Grade 5	-0.04	0.0035	22084	-0.07	0.0037	22085	0.03	0.0035	22085
Math Grade 6	-0.03	0.0032	22227	-0.11	0.0036	22228	-0.01	0.0034	22227
Math Grade 7	0.07	0.0032	21056	-0.09	0.0036	21056	0.04	0.0034	21057
Math Grade 8	0.11	0.0040	13974	-0.13	0.0045	13975	-0.09	0.0049	13975
NC Math 1	0.03	0.0032	22772	-0.11	0.0037	22773	0.03	0.0036	22772

Effect Size by Subject Grade - Entering Achievement Quintile - 2018

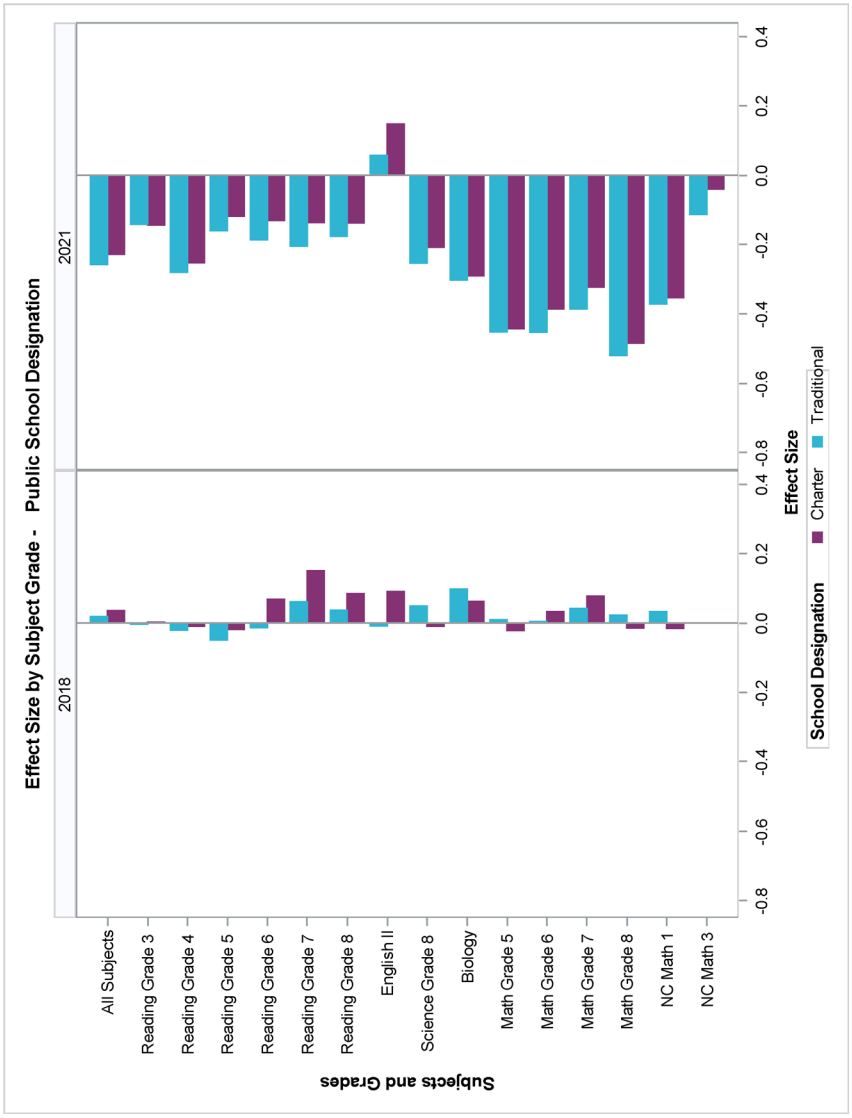
Entering Achievement Quintile					
4			5 (Highest)		
Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
0.09	0.0009	294623	0.01	0.0008	294615
0.08	0.0042	21505	-0.11	0.0038	21504
0.06	0.0031	22698	-0.09	0.0030	22697
0.03	0.0030	22114	-0.11	0.0030	22114
0.07	0.0030	22247	-0.02	0.0028	22246
0.12	0.0031	21086	-0.00	0.0030	21085
0.11	0.0032	19885	0.01	0.0031	19885
0.07	0.0029	21660	-0.01	0.0027	21659
0.11	0.0034	19946	0.04	0.0033	19946
0.15	0.0032	21365	0.05	0.0032	21365
0.08	0.0032	22085	0.03	0.0031	22084
0.08	0.0032	22228	0.09	0.0030	22227
0.13	0.0029	21056	0.07	0.0028	21056
0.04	0.0047	13975	0.17	0.0042	13975
0.09	0.0032	22773	0.11	0.0031	22772

Effect Size by Subject Grade - Entering Achievement Quintile - 2021

	Entering Achievement Quintile								
	1 (Lowest)			2			3		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.08	0.0009	289483	-0.32	0.0010	289503	-0.32	0.0011	289503
Reading Grade 3	0.15	0.0043	17847	-0.14	0.0051	17848	-0.20	0.0053	17846
Reading Grade 4	-0.09	0.0046	18317	-0.38	0.0050	18319	-0.33	0.0051	18319
Reading Grade 5	-0.06	0.0035	19488	-0.22	0.0040	19495	-0.17	0.0040	19480
Reading Grade 6	0.06	0.0032	19730	-0.21	0.0035	19730	-0.22	0.0037	19731
Reading Grade 7	0.01	0.0031	20701	-0.20	0.0034	20701	-0.21	0.0034	20702
Reading Grade 8	0.05	0.0031	20147	-0.19	0.0034	20148	-0.21	0.0033	20147
English II	0.14	0.0032	20352	0.03	0.0035	20353	0.06	0.0033	20353
Science Grade 8	-0.25	0.0036	20249	-0.31	0.0040	20250	-0.24	0.0037	20250
Biology	-0.31	0.0035	19408	-0.35	0.0037	19408	-0.30	0.0036	19408
Math Grade 5	-0.35	0.0034	19469	-0.60	0.0041	19472	-0.54	0.0048	19488
Math Grade 6	-0.21	0.0031	19710	-0.58	0.0035	19710	-0.59	0.0040	19711
Math Grade 7	-0.08	0.0029	20673	-0.51	0.0031	20674	-0.55	0.0037	20674
Math Grade 8	-0.15	0.0039	13952	-0.56	0.0042	13953	-0.67	0.0049	13953
NC Math 1	-0.14	0.0029	21124	-0.47	0.0033	21125	-0.49	0.0038	21124
NC Math 3	0.00	0.0034	18316	-0.24	0.0040	18317	-0.17	0.0047	18317

Effect Size by Subject Grade - Entering Achievement Quintile - 2021

Entering Achievement Quintile					
4			5 (Highest)		
Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
-0.28	0.0011	289476	-0.28	0.0011	289500
-0.18	0.0052	17850	-0.34	0.0050	17848
-0.25	0.0050	18318	-0.35	0.0049	18318
-0.13	0.0038	19489	-0.20	0.0036	19497
-0.23	0.0034	19730	-0.30	0.0033	19730
-0.24	0.0033	20701	-0.35	0.0030	20701
-0.23	0.0032	20148	-0.29	0.0030	20147
0.08	0.0031	20353	0.01	0.0029	20353
-0.21	0.0036	20250	-0.23	0.0036	20250
-0.27	0.0036	19408	-0.28	0.0037	19408
-0.44	0.0049	19450	-0.32	0.0046	19471
-0.50	0.0042	19710	-0.37	0.0042	19710
-0.45	0.0039	20674	-0.31	0.0039	20673
-0.66	0.0056	13953	-0.54	0.0062	13953
-0.43	0.0040	21125	-0.32	0.0042	21124
-0.10	0.0049	18317	-0.04	0.0043	18317

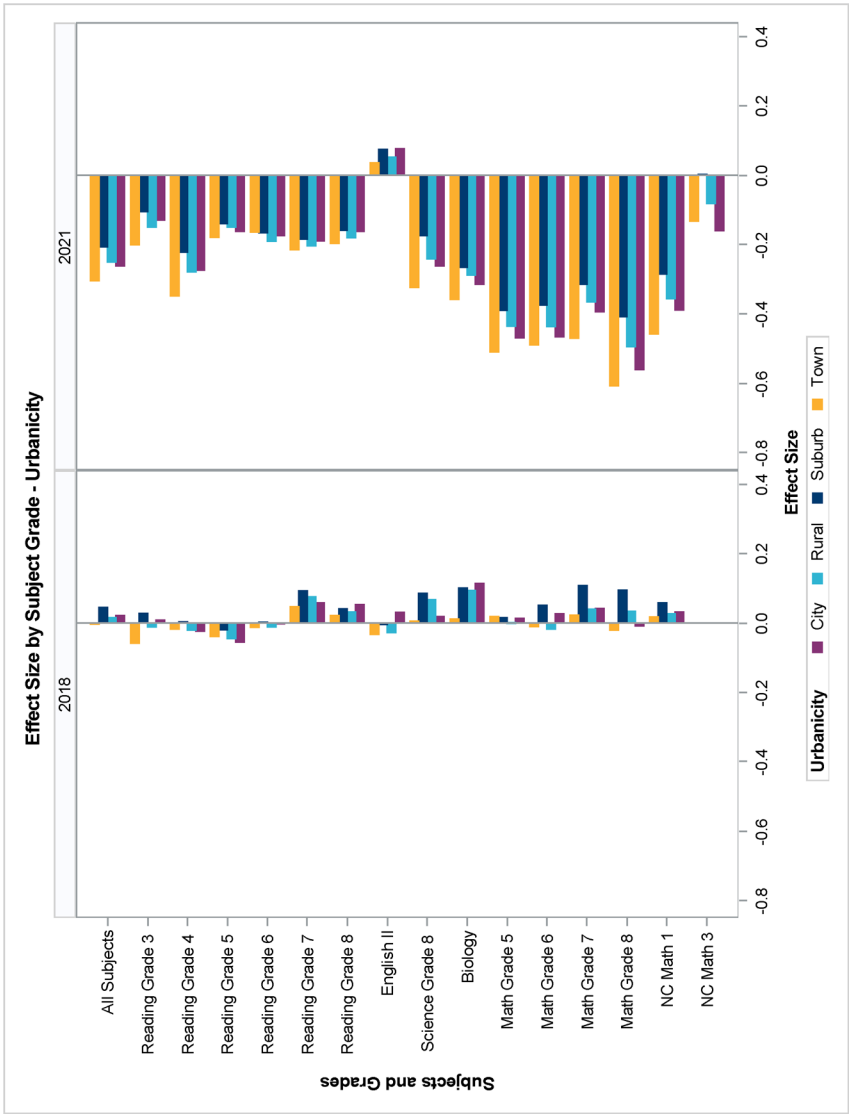

Effect Size by Subject Grade - Public School Designation
2021
2018
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
School Designation
Charter
Traditional

Effect Size by Subject Grade - School Designation - 2018

	School Designation					
	Charter			Traditional		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	0.04	0.0016	96373	0.02	0.0004	1363321
Reading Grade 3	-0.00	0.0090	5514	-0.00	0.0020	100947
Reading Grade 4	-0.01	0.0058	7808	-0.02	0.0016	104527
Reading Grade 5	-0.02	0.0055	7858	-0.05	0.0015	101603
Reading Grade 6	0.07	0.0049	8785	-0.01	0.0015	101785
Reading Grade 7	0.15	0.0051	7984	0.06	0.0015	96730
Reading Grade 8	0.08	0.0056	7044	0.04	0.0016	91653
English II	0.09	0.0067	4471	-0.01	0.0015	102424
Science Grade 8	-0.01	0.0060	7069	0.05	0.0017	91933
Biology	0.06	0.0071	4826	0.10	0.0016	100579
Math Grade 5	-0.02	0.0059	7845	0.01	0.0016	101471
Math Grade 6	0.03	0.0053	8772	0.00	0.0016	101706
Math Grade 7	0.08	0.0052	7977	0.04	0.0015	96595
Math Grade 8	-0.01	0.0083	4322	0.02	0.0021	64926
NC Math 1	-0.02	0.0064	6098	0.03	0.0016	106442

Effect Size by Subject Grade - School Designation - 2021

	School Designation					
	Charter			Traditional		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.23	0.0017	115102	-0.26	0.0005	1331561
Reading Grade 3	-0.14	0.0091	6244	-0.14	0.0024	82956
Reading Grade 4	-0.25	0.0090	6123	-0.28	0.0023	85436
Reading Grade 5	-0.12	0.0056	9302	-0.16	0.0018	88034
Reading Grade 6	-0.13	0.0050	9901	-0.19	0.0017	88711
Reading Grade 7	-0.14	0.0049	9735	-0.20	0.0016	93716
Reading Grade 8	-0.14	0.0051	8547	-0.18	0.0016	92131
English II	0.15	0.0061	5337	0.06	0.0015	96386
Science Grade 8	-0.21	0.0056	8626	-0.25	0.0017	92563
Biology	-0.29	0.0066	5224	-0.30	0.0017	91775
Math Grade 5	-0.44	0.0065	9303	-0.45	0.0021	87933
Math Grade 6	-0.39	0.0056	9872	-0.45	0.0019	88640
Math Grade 7	-0.32	0.0053	9716	-0.39	0.0018	93597
Math Grade 8	-0.48	0.0086	5698	-0.52	0.0025	64010
NC Math 1	-0.35	0.0064	6821	-0.37	0.0017	98764
NC Math 3	-0.04	0.0085	4653	-0.11	0.0020	86909

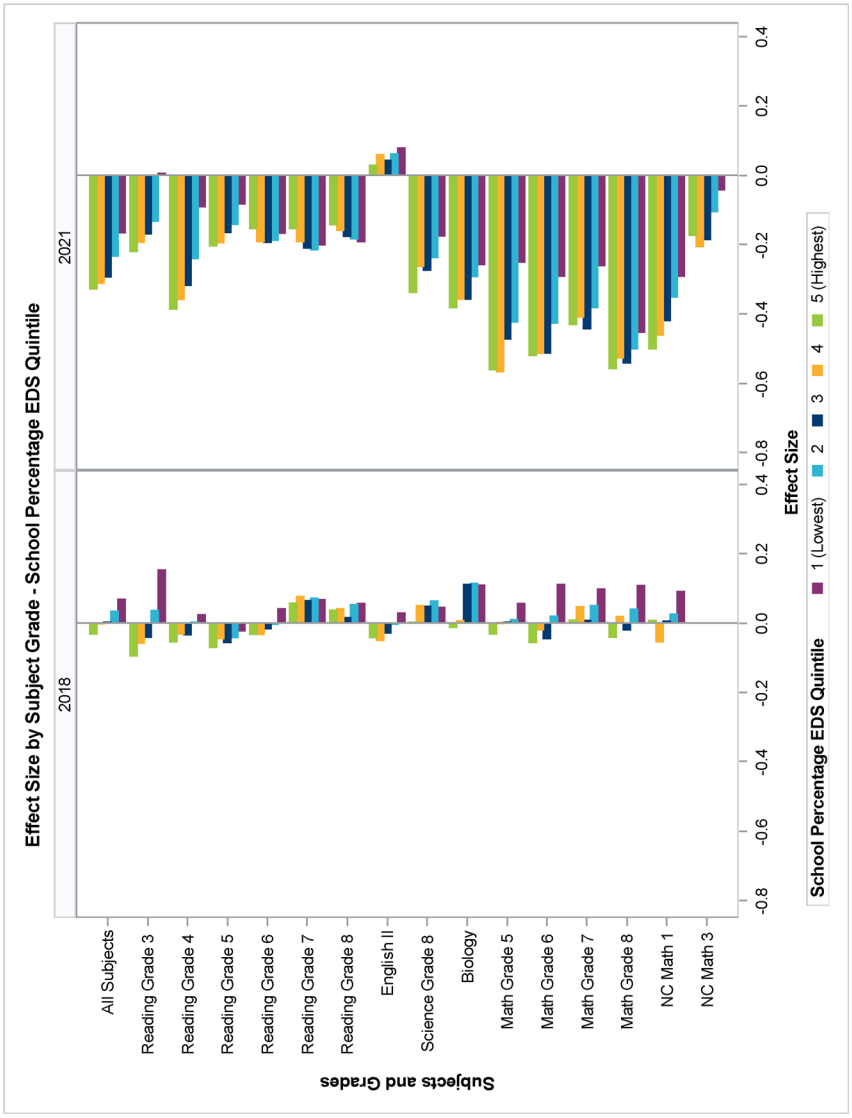

Effect Size by Subject Grade - Urbanicity
2021
2018
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
Urbanicity
City
Rural
Suburb
Town

Effect Size by Subject Grade - Urbanicity - 2018

	Urbanicity											
	City			Rural			Suburb			Town		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	0.02	0.0007	574728	0.02	0.0006	664897	0.04	0.0015	115365	-0.00	0.0016	104964
Reading Grade 3	0.01	0.0030	44196	-0.01	0.0029	47436	0.03	0.0071	7635	-0.06	0.0074	7208
Reading Grade 4	-0.02	0.0024	45841	-0.02	0.0023	50004	0.00	0.0055	8699	-0.02	0.0057	7806
Reading Grade 5	-0.06	0.0023	43832	-0.04	0.0022	49258	-0.02	0.0054	8536	-0.04	0.0055	7835
Reading Grade 6	-0.00	0.0022	44123	-0.01	0.0021	49701	0.00	0.0050	8683	-0.01	0.0052	8078
Reading Grade 7	0.06	0.0023	40978	0.08	0.0022	47911	0.09	0.0052	8244	0.05	0.0054	7597
Reading Grade 8	0.05	0.0024	38487	0.03	0.0023	45058	0.04	0.0054	8008	0.02	0.0057	7152
English II	0.03	0.0023	40580	-0.03	0.0021	49642	-0.00	0.0050	8751	-0.03	0.0052	7979
Science Grade 8	0.02	0.0026	38607	0.07	0.0025	45211	0.08	0.0055	8025	0.00	0.0062	7167
Biology	0.11	0.0025	41581	0.09	0.0024	47890	0.10	0.0055	8573	0.01	0.0060	7414
Math Grade 5	0.01	0.0024	43781	-0.00	0.0023	49181	0.01	0.0055	8532	0.02	0.0057	7822
Math Grade 6	0.03	0.0024	44077	-0.02	0.0022	49661	0.05	0.0053	8680	-0.01	0.0055	8075
Math Grade 7	0.04	0.0023	40936	0.04	0.0021	47843	0.11	0.0053	8225	0.02	0.0057	7584
Math Grade 8	-0.01	0.0035	24015	0.03	0.0029	34586	0.09	0.0070	6009	-0.02	0.0078	4641
NC Math 1	0.03	0.0024	43694	0.03	0.0022	51515	0.06	0.0055	8765	0.02	0.0059	8606

Effect Size by Subject Grade - Urbanicity - 2021

	Urbanicity											
	City			Rural			Suburb			Town		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.26	0.0008	547212	-0.25	0.0007	679264	-0.21	0.0017	114147	-0.30	0.0018	106740
Reading Grade 3	-0.13	0.0037	34979	-0.15	0.0034	41111	-0.11	0.0082	6783	-0.20	0.0086	6363
Reading Grade 4	-0.27	0.0036	35972	-0.28	0.0033	42052	-0.22	0.0081	6860	-0.35	0.0083	6707
Reading Grade 5	-0.16	0.0027	37937	-0.15	0.0025	44739	-0.14	0.0061	7625	-0.18	0.0063	7144
Reading Grade 6	-0.17	0.0025	37285	-0.19	0.0023	46344	-0.17	0.0056	7751	-0.16	0.0059	7267
Reading Grade 7	-0.19	0.0025	38635	-0.20	0.0022	48711	-0.18	0.0053	8311	-0.21	0.0054	7843
Reading Grade 8	-0.16	0.0025	36702	-0.18	0.0022	48063	-0.16	0.0051	8203	-0.20	0.0054	7756
English II	0.08	0.0024	38984	0.05	0.0021	47872	0.07	0.0052	7667	0.04	0.0054	7229
Science Grade 8	-0.26	0.0027	36758	-0.24	0.0024	48400	-0.17	0.0056	8271	-0.32	0.0060	7807
Biology	-0.31	0.0027	38393	-0.29	0.0024	44401	-0.27	0.0057	7435	-0.36	0.0059	6801
Math Grade 5	-0.47	0.0032	37865	-0.44	0.0030	44715	-0.39	0.0070	7638	-0.51	0.0074	7128
Math Grade 6	-0.47	0.0029	37231	-0.44	0.0026	46311	-0.37	0.0062	7740	-0.49	0.0064	7265
Math Grade 7	-0.39	0.0027	38557	-0.37	0.0024	48662	-0.31	0.0059	8292	-0.47	0.0058	7851
Math Grade 8	-0.56	0.0041	22399	-0.49	0.0033	35896	-0.41	0.0082	6088	-0.61	0.0085	5368
NC Math 1	-0.39	0.0028	39812	-0.36	0.0024	49775	-0.29	0.0058	8422	-0.46	0.0061	7607
NC Math 3	-0.16	0.0031	35703	-0.08	0.0028	42212	0.00	0.0069	7061	-0.13	0.0073	6604


Effect Size by Subject Grade - School Percentage EDS Quintile
2021
2018
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
School Percentage EDS Quintile
1 (Lowest)
2
3
4
5 (Highest)

Effect Size by Subject Grade - School Percentage EDS Quintile - 2018

	School Percentage EDS Quintile								
	1 (Lowest)			2			3		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	0.07	0.0008	349972	0.03	0.0009	323000	0.00	0.0009	316333
Reading Grade 3	0.15	0.0041	22257	0.04	0.0048	17293	-0.04	0.0044	20835
Reading Grade 4	0.02	0.0031	24489	-0.00	0.0037	18433	-0.03	0.0034	21783
Reading Grade 5	-0.02	0.0031	23742	-0.04	0.0036	18369	-0.06	0.0033	21434
Reading Grade 6	0.04	0.0029	24073	-0.00	0.0031	22406	-0.02	0.0029	26400
Reading Grade 7	0.07	0.0030	23137	0.07	0.0032	21666	0.06	0.0030	24527
Reading Grade 8	0.06	0.0031	22588	0.05	0.0034	20173	0.01	0.0032	23077
English II	0.03	0.0024	34831	-0.00	0.0025	36838	-0.03	0.0033	21242
Science Grade 8	0.04	0.0033	22644	0.06	0.0035	20247	0.05	0.0035	23147
Biology	0.11	0.0026	35102	0.11	0.0027	36210	0.11	0.0039	20244
Math Grade 5	0.06	0.0032	23724	0.01	0.0038	18343	0.00	0.0035	21408
Math Grade 6	0.11	0.0032	24064	0.02	0.0033	22387	-0.05	0.0030	26384
Math Grade 7	0.10	0.0029	23127	0.05	0.0031	21648	0.01	0.0030	24488
Math Grade 8	0.11	0.0047	12650	0.04	0.0048	12906	-0.02	0.0041	17439
NC Math 1	0.09	0.0027	33544	0.02	0.0026	36081	0.01	0.0033	23925

Effect Size by Subject Grade - School Percentage EDS Quintile - 2018

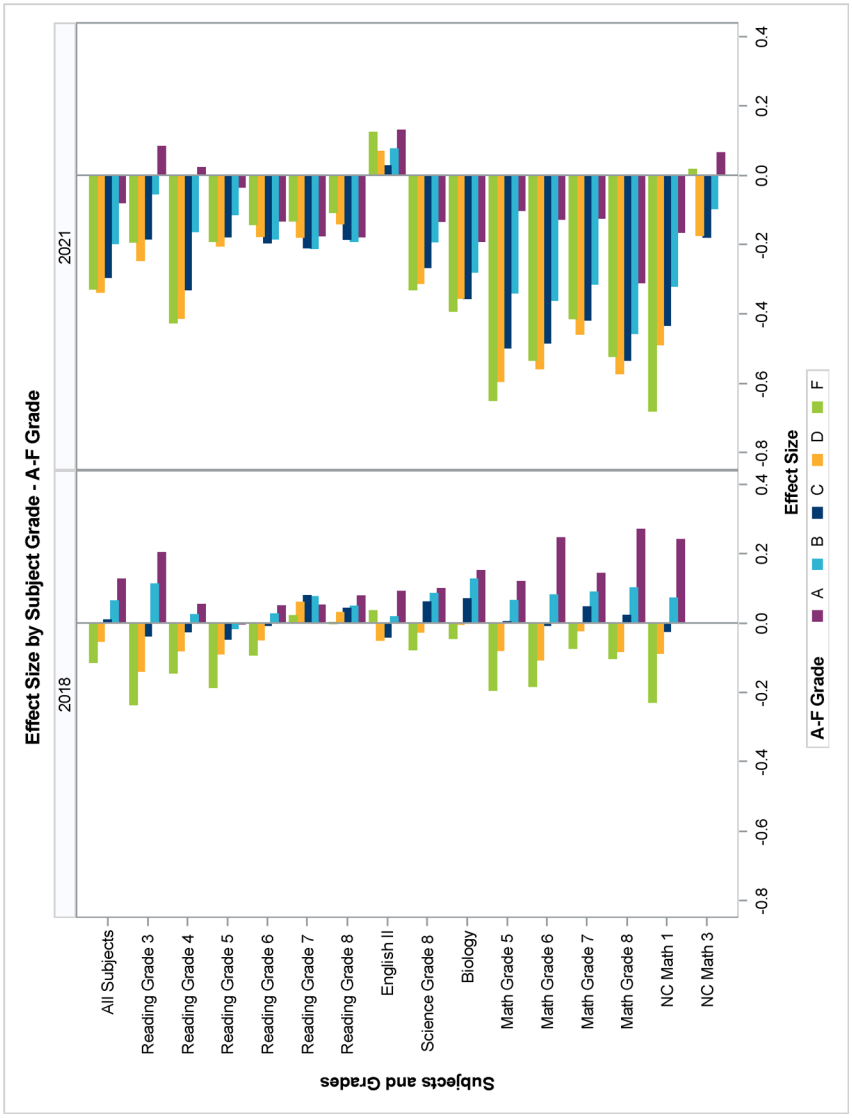
School Percentage EDS Quintile					
4			5 (Highest)		
Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
-0.00	0.0010	275877	-0.03	0.0012	194440
-0.06	0.0041	23352	-0.09	0.0042	22738
-0.03	0.0032	24812	-0.05	0.0034	22833
-0.04	0.0032	24018	-0.07	0.0033	21898
-0.03	0.0032	22731	-0.03	0.0039	14958
0.08	0.0032	22273	0.06	0.0042	13108
0.04	0.0034	20680	0.04	0.0044	12149
-0.05	0.0048	9959	-0.04	0.0079	4032
0.05	0.0037	20731	0.00	0.0048	12203
0.01	0.0054	9569	-0.01	0.0087	4292
-0.00	0.0033	23984	-0.03	0.0035	21857
-0.02	0.0033	22715	-0.06	0.0042	14927
0.05	0.0032	22232	0.01	0.0042	13075
0.02	0.0042	16232	-0.04	0.0055	9995
-0.05	0.0045	12589	0.01	0.0072	6375

Effect Size by Subject Grade - School Percentage EDS Quintile - 2021

	School Percentage EDS Quintile								
	1 (Lowest)			2			3		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.17	0.0009	364548	-0.23	0.0010	327797	-0.29	0.0010	307079
Reading Grade 3	0.00	0.0049	19226	-0.13	0.0057	14400	-0.17	0.0052	17354
Reading Grade 4	-0.09	0.0047	20049	-0.24	0.0055	14950	-0.32	0.0050	17781
Reading Grade 5	-0.08	0.0034	22586	-0.14	0.0042	16214	-0.17	0.0039	18561
Reading Grade 6	-0.17	0.0032	22338	-0.19	0.0035	19667	-0.19	0.0033	22629
Reading Grade 7	-0.20	0.0031	23786	-0.21	0.0034	20657	-0.21	0.0031	23744
Reading Grade 8	-0.19	0.0030	22759	-0.18	0.0033	20552	-0.18	0.0031	23059
English II	0.08	0.0024	34025	0.06	0.0025	34716	0.04	0.0033	19921
Science Grade 8	-0.17	0.0035	22872	-0.24	0.0037	20662	-0.27	0.0034	23178
Biology	-0.26	0.0028	33266	-0.29	0.0028	32761	-0.36	0.0037	18688
Math Grade 5	-0.25	0.0041	22556	-0.42	0.0048	16203	-0.47	0.0045	18541
Math Grade 6	-0.29	0.0038	22308	-0.43	0.0039	19634	-0.51	0.0036	22637
Math Grade 7	-0.26	0.0035	23719	-0.38	0.0037	20644	-0.44	0.0034	23739
Math Grade 8	-0.45	0.0059	12163	-0.50	0.0056	13080	-0.54	0.0047	17040
NC Math 1	-0.29	0.0032	30977	-0.35	0.0029	32578	-0.42	0.0035	23018
NC Math 3	-0.04	0.0033	31918	-0.10	0.0033	31079	-0.18	0.0043	17189

Effect Size by Subject Grade - School Percentage EDS Quintile - 2021

School Percentage EDS Quintile					
4			5 (Highest)		
Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
-0.31	0.0011	270846	-0.33	0.0014	177093
-0.19	0.0049	19777	-0.22	0.0050	18479
-0.36	0.0046	20370	-0.39	0.0049	18441
-0.19	0.0036	21397	-0.20	0.0039	18687
-0.19	0.0035	21012	-0.15	0.0044	13001
-0.19	0.0032	22496	-0.15	0.0042	12817
-0.16	0.0032	22207	-0.14	0.0043	12147
0.06	0.0048	9222	0.03	0.0075	3868
-0.26	0.0035	22328	-0.34	0.0048	12196
-0.36	0.0052	8935	-0.38	0.0087	3380
-0.57	0.0042	21375	-0.56	0.0044	18671
-0.51	0.0038	20995	-0.52	0.0048	12973
-0.41	0.0036	22466	-0.43	0.0046	12794
-0.53	0.0047	17453	-0.56	0.0061	10015
-0.46	0.0049	12694	-0.50	0.0068	6349
-0.21	0.0063	8119	-0.17	0.0101	3275


Effect Size by Subject Grade - A-F Grade
2021
2018
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
A-F Grade
A
B
C
D
F

Effect Size by Subject Grade - A-F Grade - 2018

	A-F Grade								
	A			B			C		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	0.13	0.0015	107350	0.06	0.0007	450610	0.01	0.0007	608398
Reading Grade 3	0.20	0.0075	6327	0.11	0.0035	31721	-0.04	0.0030	44851
Reading Grade 4	0.05	0.0061	6416	0.02	0.0027	34175	-0.02	0.0023	47072
Reading Grade 5	-0.00	0.0056	6719	-0.02	0.0027	32256	-0.05	0.0022	46985
Reading Grade 6	0.05	0.0051	7571	0.03	0.0028	28209	-0.01	0.0021	48031
Reading Grade 7	0.05	0.0053	7164	0.07	0.0028	27446	0.08	0.0022	44322
Reading Grade 8	0.08	0.0054	7092	0.05	0.0029	25975	0.04	0.0024	41761
English II	0.09	0.0038	11906	0.02	0.0021	47583	-0.04	0.0024	40138
Science Grade 8	0.10	0.0058	7113	0.08	0.0031	26036	0.06	0.0025	41906
Biology	0.15	0.0044	12014	0.13	0.0023	47700	0.07	0.0028	38240
Math Grade 5	0.12	0.0058	6710	0.06	0.0027	32241	0.00	0.0023	46929
Math Grade 6	0.24	0.0055	7570	0.08	0.0029	28197	-0.01	0.0022	48010
Math Grade 7	0.14	0.0050	7162	0.09	0.0027	27434	0.05	0.0022	44254
Math Grade 8	0.27	0.0091	3220	0.10	0.0040	16466	0.02	0.0031	30305
NC Math 1	0.24	0.0048	10366	0.07	0.0023	45171	-0.02	0.0024	45594

Effect Size by Subject Grade - A-F Grade - 2018

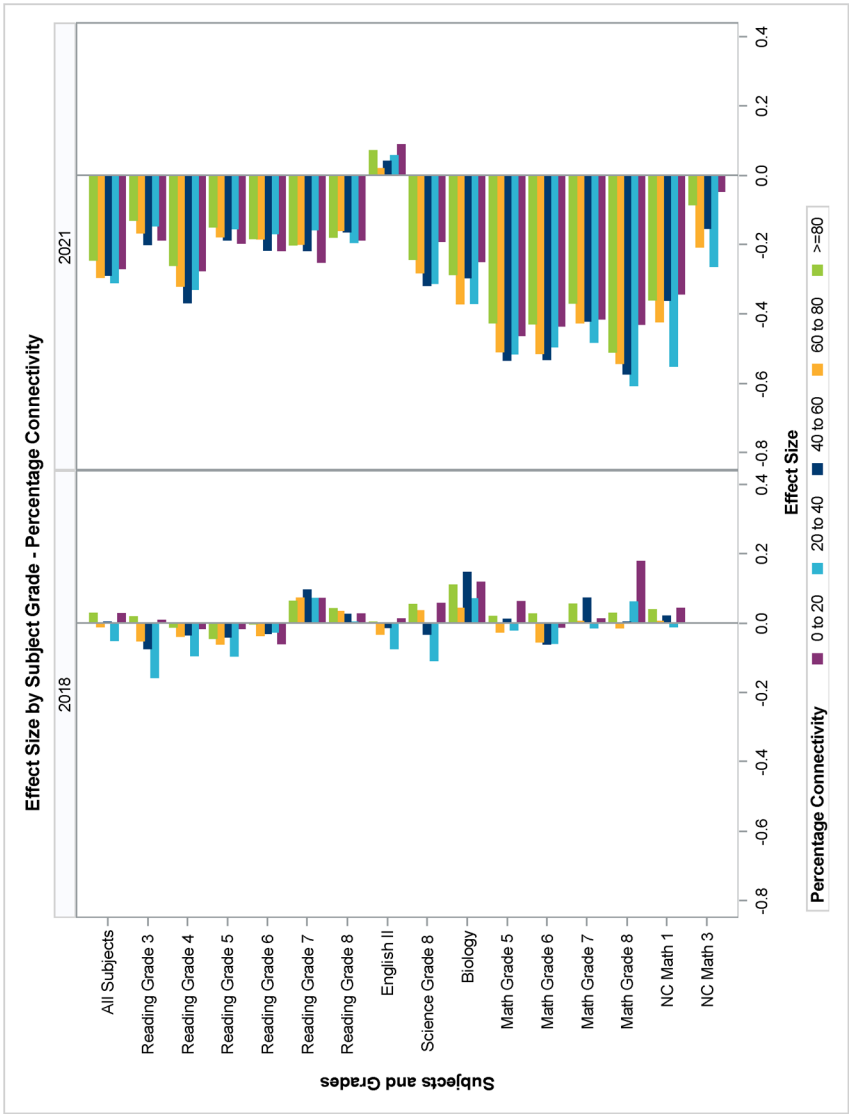
A-F Grade					
D			F		
Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
-0.05	0.0010	249707	-0.11	0.0027	36798
-0.14	0.0044	20898	-0.24	0.0122	2653
-0.08	0.0035	21653	-0.14	0.0096	2996
-0.09	0.0035	20164	-0.19	0.0088	3304
-0.05	0.0032	22844	-0.09	0.0081	3622
0.06	0.0032	21648	0.02	0.0081	3644
0.03	0.0035	19900	-0.00	0.0086	3271
-0.05	0.0062	6175	0.03	0.0641	72
-0.03	0.0038	19972	-0.08	0.0095	3283
-0.00	0.0069	6305	-0.04	0.0632	82
-0.08	0.0037	20116	-0.19	0.0091	3287
-0.11	0.0033	22798	-0.18	0.0084	3610
-0.02	0.0033	21605	-0.07	0.0081	3631
-0.08	0.0043	15785	-0.10	0.0105	2794
-0.09	0.0050	9844	-0.23	0.0215	549

Effect Size by Subject Grade - A-F Grade - 2021

A-F Grade					
D			F		
Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
-0.34	0.0012	234144	-0.33	0.0030	36277
-0.25	0.0052	16984	-0.19	0.0151	1978
-0.41	0.0051	17405	-0.42	0.0141	2223
-0.20	0.0040	17979	-0.19	0.0104	2535
-0.18	0.0036	19740	-0.14	0.0081	3838
-0.18	0.0034	20799	-0.13	0.0077	3971
-0.14	0.0034	19951	-0.11	0.0079	3668
0.07	0.0059	6128	0.12	0.0430	96
-0.31	0.0038	20076	-0.33	0.0087	3679
-0.35	0.0065	5708	-0.39	0.0426	104
-0.59	0.0045	17979	-0.65	0.0110	2530
-0.56	0.0038	19712	-0.53	0.0088	3830
-0.46	0.0037	20756	-0.41	0.0084	3968
-0.57	0.0048	15647	-0.52	0.0105	3160
-0.49	0.0055	10158	-0.68	0.0224	621
-0.17	0.0078	5122	0.02	0.0684	76

Effect Size by Subject Grade - A-F Grade - 2021

	A-F Grade								
	A			B			C		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.08	0.0016	112188	-0.20	0.0008	452618	-0.29	0.0007	580239
Reading Grade 3	0.08	0.0091	5383	-0.05	0.0042	26293	-0.18	0.0036	36338
Reading Grade 4	0.02	0.0088	5309	-0.16	0.0040	27188	-0.33	0.0034	37161
Reading Grade 5	-0.03	0.0065	6018	-0.11	0.0031	28698	-0.18	0.0026	40026
Reading Grade 6	-0.13	0.0057	6602	-0.18	0.0031	24753	-0.19	0.0024	41504
Reading Grade 7	-0.17	0.0054	7230	-0.21	0.0029	26633	-0.21	0.0023	42680
Reading Grade 8	-0.18	0.0053	7188	-0.19	0.0029	25820	-0.18	0.0023	42128
English II	0.13	0.0039	11508	0.07	0.0021	45818	0.03	0.0024	35934
Science Grade 8	-0.13	0.0062	7187	-0.19	0.0032	25910	-0.27	0.0025	42365
Biology	-0.19	0.0048	11490	-0.28	0.0024	43644	-0.35	0.0027	33940
Math Grade 5	-0.10	0.0077	6013	-0.34	0.0037	28682	-0.50	0.0030	39969
Math Grade 6	-0.13	0.0068	6589	-0.36	0.0035	24709	-0.48	0.0026	41508
Math Grade 7	-0.12	0.0066	7193	-0.31	0.0032	26587	-0.42	0.0025	42686
Math Grade 8	-0.31	0.0129	2851	-0.46	0.0050	15969	-0.53	0.0036	30621
NC Math 1	-0.16	0.0057	9953	-0.32	0.0027	40883	-0.43	0.0026	41766
NC Math 3	0.06	0.0055	11674	-0.10	0.0029	41031	-0.18	0.0032	31613


Effect Size by Subject Grade - Percentage Connectivity
2021
2018
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
Percentage Connectivity
0 to 20
20 to 40
40 to 60
60 to 80
>=80

Effect Size by Subject Grade - Percentage Connectivity - 2018

Percentage Connectivity					
60 to 80			>=80		
Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
-0.01	0.0010	266558	0.03	0.0005	1068493
-0.05	0.0046	19674	0.02	0.0023	75907
-0.04	0.0035	21074	-0.01	0.0018	79033
-0.06	0.0034	21261	-0.04	0.0017	77037
-0.04	0.0034	19566	-0.00	0.0016	81684
0.07	0.0035	18087	0.06	0.0017	77842
0.03	0.0037	17137	0.04	0.0018	73563
-0.03	0.0033	20178	0.00	0.0017	79908
0.03	0.0040	17184	0.05	0.0019	73786
0.04	0.0037	19717	0.11	0.0019	79039
-0.03	0.0035	21221	0.02	0.0018	76945
-0.05	0.0036	19545	0.02	0.0017	81629
0.00	0.0036	18053	0.05	0.0017	77746
-0.01	0.0046	13499	0.03	0.0024	50377
0.00	0.0037	20362	0.04	0.0017	83997

Effect Size by Subject Grade - Percentage Connectivity - 2021

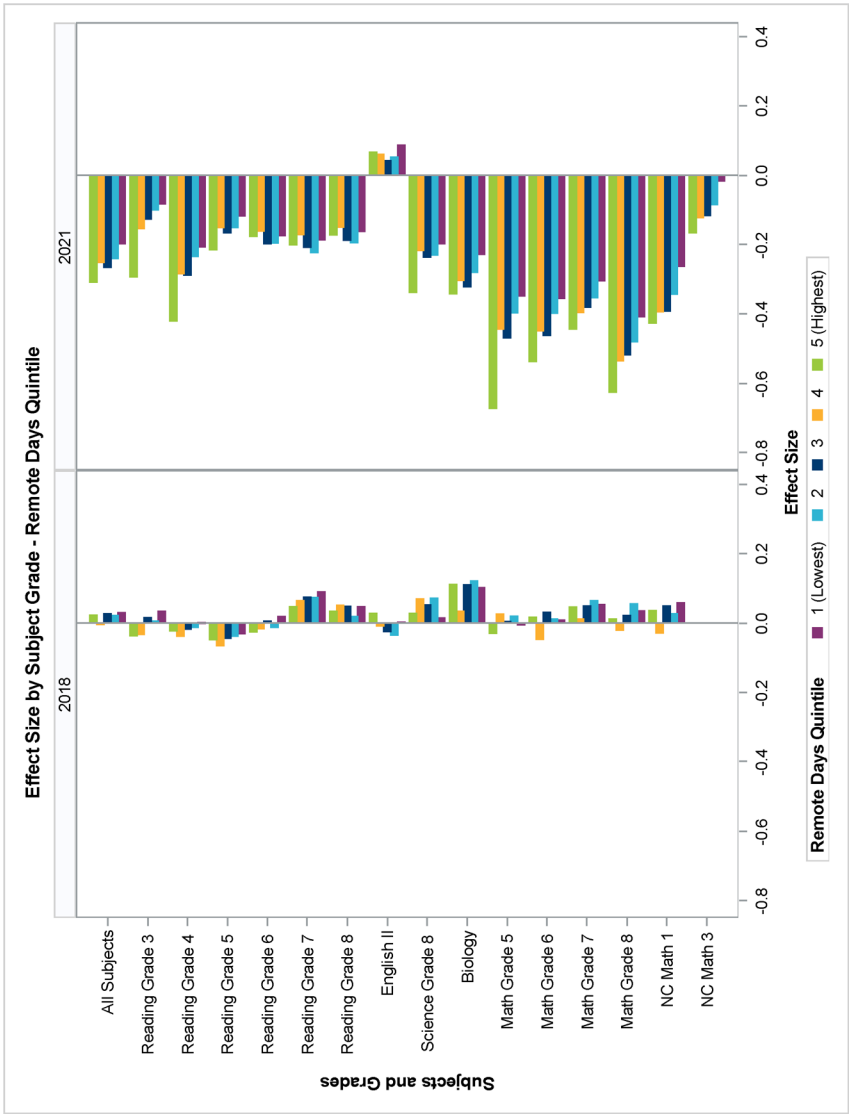
	Percentage Connectivity								
	0 to 20			20 to 40			40 to 60		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.27	0.0043	18100	-0.31	0.0051	13774	-0.29	0.0028	44145
Reading Grade 3	-0.19	0.0209	1264	-0.15	0.0175	1584	-0.20	0.0110	3795
Reading Grade 4	-0.27	0.0189	1345	-0.33	0.0169	1540	-0.37	0.0109	3780
Reading Grade 5	-0.20	0.0149	1340	-0.15	0.0135	1600	-0.19	0.0091	3311
Reading Grade 6	-0.22	0.0130	1507	-0.17	0.0184	799	-0.22	0.0106	2351
Reading Grade 7	-0.25	0.0126	1487	-0.16	0.0162	915	-0.22	0.0094	2672
Reading Grade 8	-0.19	0.0123	1381	-0.19	0.0174	872	-0.16	0.0096	2430
English II	0.09	0.0162	723	0.06	0.0222	366	0.04	0.0077	3472
Science Grade 8	-0.19	0.0138	1393	-0.31	0.0174	879	-0.32	0.0105	2422
Biology	-0.25	0.0195	688	-0.37	0.0236	403	-0.30	0.0085	3477
Math Grade 5	-0.46	0.0170	1335	-0.52	0.0149	1597	-0.53	0.0105	3299
Math Grade 6	-0.43	0.0144	1502	-0.49	0.0191	802	-0.53	0.0116	2345
Math Grade 7	-0.41	0.0138	1493	-0.48	0.0166	923	-0.42	0.0106	2672
Math Grade 8	-0.43	0.0220	803	-0.61	0.0238	679	-0.57	0.0145	1854
NC Math 1	-0.34	0.0155	1164	-0.55	0.0237	504	-0.36	0.0095	3213
NC Math 3	-0.05	0.0218	675	-0.26	0.0305	311	-0.15	0.0100	3052

Effect Size by Subject Grade - Percentage Connectivity - 2021

Percentage Connectivity					
60 to 80			>=80		
Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
-0.29	0.0011	257653	-0.24	0.0006	1058217
-0.17	0.0053	16486	-0.13	0.0027	63234
-0.32	0.0051	17039	-0.26	0.0026	64999
-0.18	0.0039	18158	-0.15	0.0020	68336
-0.18	0.0038	16700	-0.18	0.0018	72538
-0.20	0.0036	17562	-0.20	0.0017	76077
-0.16	0.0037	17189	-0.18	0.0017	74725
0.02	0.0035	18536	0.07	0.0016	76212
-0.28	0.0040	17318	-0.24	0.0019	75060
-0.37	0.0038	17723	-0.29	0.0019	72278
-0.51	0.0044	18155	-0.43	0.0024	68271
-0.51	0.0042	16709	-0.43	0.0021	72459
-0.43	0.0040	17511	-0.37	0.0019	75977
-0.54	0.0053	13489	-0.51	0.0028	50134
-0.42	0.0038	18752	-0.36	0.0020	78789
-0.21	0.0045	16326	-0.09	0.0022	69128

Effect Size by Subject Grade - Percentage Connectivity - 2018

	Percentage Connectivity								
	0 to 20			20 to 40			40 to 60		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	0.03	0.0037	18677	-0.05	0.0040	16866	0.00	0.0025	45633
Reading Grade 3	0.01	0.0161	1592	-0.16	0.0142	2045	-0.07	0.0093	4838
Reading Grade 4	-0.02	0.0125	1634	-0.09	0.0113	2096	-0.03	0.0074	4670
Reading Grade 5	-0.02	0.0123	1497	-0.10	0.0107	1952	-0.04	0.0078	3901
Reading Grade 6	-0.06	0.0119	1496	-0.03	0.0132	1230	-0.03	0.0091	2777
Reading Grade 7	0.07	0.0124	1426	0.07	0.0145	1146	0.09	0.0092	2614
Reading Grade 8	0.02	0.0125	1372	0.00	0.0155	973	0.02	0.0096	2491
English II	0.01	0.0154	857	-0.07	0.0247	385	-0.01	0.0079	3747
Science Grade 8	0.06	0.0135	1378	-0.11	0.0172	977	-0.03	0.0099	2509
Biology	0.12	0.0170	856	0.07	0.0280	408	0.15	0.0094	3339
Math Grade 5	0.06	0.0124	1496	-0.02	0.0112	1953	0.01	0.0087	3897
Math Grade 6	-0.01	0.0127	1495	-0.06	0.0132	1221	-0.06	0.0094	2773
Math Grade 7	0.01	0.0115	1422	-0.01	0.0133	1146	0.07	0.0094	2613
Math Grade 8	0.18	0.0193	811	0.06	0.0193	752	-0.00	0.0124	1867
NC Math 1	0.04	0.0138	1345	-0.01	0.0212	582	0.02	0.0091	3597


Effect Size by Subject Grade - Remote Days Quintile
2018
2021
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
Remote Days Quintile
1 (Lowest)
2
3
4
5 (Highest)

Effect Size by Subject Grade Remote Days Quintile - 2018

	Percentage Remote Quintile								
	1 (Lowest)			2			3		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	0.03	0.0010	272805	0.02	0.0010	251748	0.03	0.0009	311603
Reading Grade 3	0.03	0.0046	18888	0.01	0.0042	22639	0.02	0.0043	22085
Reading Grade 4	-0.00	0.0035	20982	-0.01	0.0033	23824	-0.02	0.0033	22703
Reading Grade 5	-0.03	0.0034	20320	-0.04	0.0032	23792	-0.04	0.0032	22150
Reading Grade 6	0.02	0.0032	20781	-0.01	0.0035	17864	0.01	0.0030	24288
Reading Grade 7	0.09	0.0033	20066	0.07	0.0037	16391	0.07	0.0031	22981
Reading Grade 8	0.05	0.0035	18624	0.02	0.0039	15726	0.05	0.0032	21585
English II	0.00	0.0033	19617	-0.04	0.0039	14855	-0.03	0.0031	22996
Science Grade 8	0.01	0.0038	18690	0.07	0.0041	15782	0.05	0.0034	21653
Biology	0.10	0.0037	19181	0.12	0.0042	14605	0.11	0.0036	22414
Math Grade 5	-0.01	0.0035	20289	0.02	0.0033	23769	0.00	0.0034	22130
Math Grade 6	0.01	0.0034	20767	0.01	0.0037	17859	0.03	0.0032	24267
Math Grade 7	0.05	0.0033	20041	0.06	0.0037	16366	0.05	0.0031	22950
Math Grade 8	0.03	0.0045	13829	0.05	0.0048	12240	0.02	0.0045	14354
NC Math 1	0.06	0.0035	20730	0.03	0.0039	16036	0.05	0.0032	25047

Effect Size by Subject Grade Remote Days Quintile - 2018

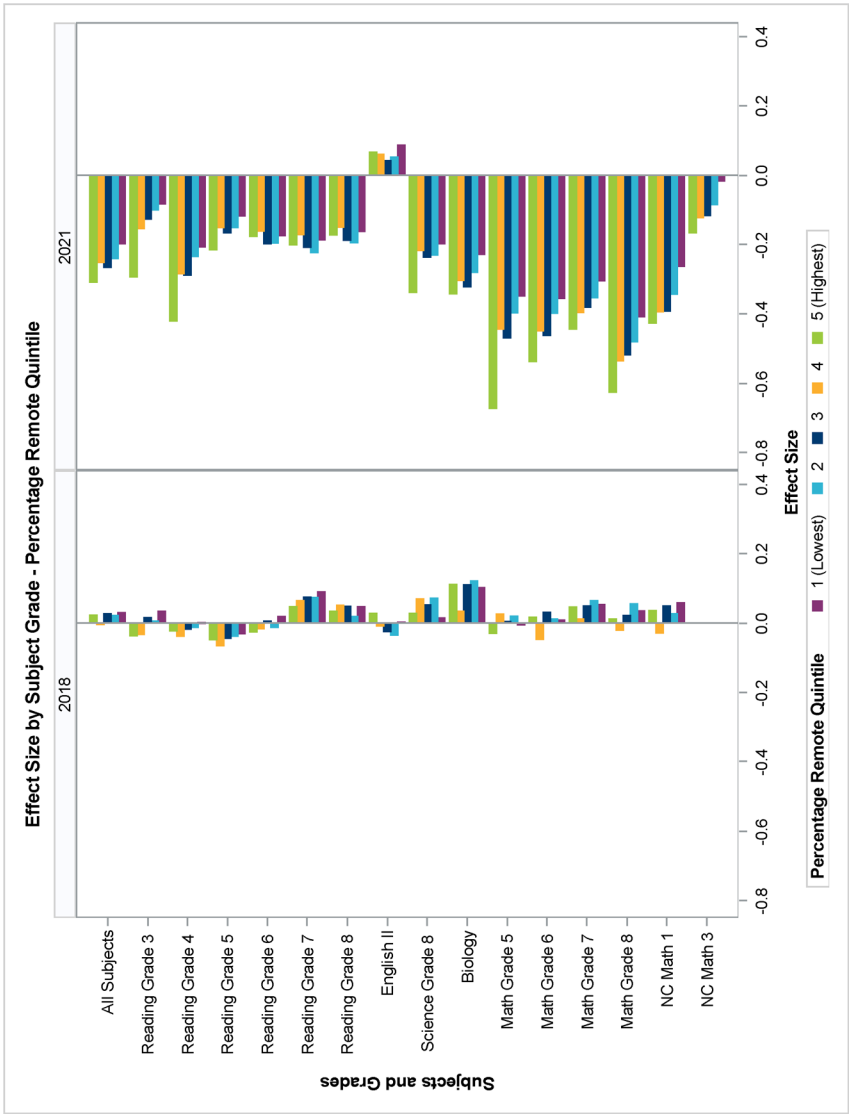
Percentage Remote Quintile					
4			5 (Highest)		
Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
-0.00	0.0009	299748	0.02	0.0009	323836
-0.03	0.0036	29443	-0.04	0.0056	13400
-0.04	0.0029	30641	-0.02	0.0044	14176
-0.07	0.0028	29501	-0.05	0.0042	13676
-0.02	0.0034	19447	-0.03	0.0028	28181
0.06	0.0034	18427	0.05	0.0029	26844
0.05	0.0036	17644	0.03	0.0031	25114
-0.01	0.0033	19394	0.03	0.0027	30090
0.07	0.0039	17687	0.03	0.0034	25186
0.03	0.0036	19347	0.11	0.0031	29911
0.02	0.0030	29464	-0.03	0.0045	13642
-0.05	0.0035	19424	0.02	0.0030	28152
0.01	0.0034	18412	0.05	0.0029	26798
-0.02	0.0050	11588	0.01	0.0042	17231
-0.03	0.0036	19329	0.04	0.0029	31435

Effect Size by Subject Grade - Remote Days Quintile - 2021

	Remote Days Quintile								
	1 (Lowest)			2			3		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.20	0.0011	277006	-0.24	0.0012	248110	-0.27	0.0010	306516
Reading Grade 3	-0.08	0.0054	16068	-0.10	0.0049	19466	-0.13	0.0050	18500
Reading Grade 4	-0.21	0.0052	16455	-0.23	0.0047	20000	-0.29	0.0049	18755
Reading Grade 5	-0.12	0.0039	18861	-0.15	0.0036	21138	-0.17	0.0038	19172
Reading Grade 6	-0.17	0.0035	19649	-0.20	0.0039	16204	-0.20	0.0034	21454
Reading Grade 7	-0.19	0.0033	20548	-0.22	0.0038	16132	-0.21	0.0032	22779
Reading Grade 8	-0.16	0.0033	19867	-0.19	0.0037	16315	-0.19	0.0032	22166
English II	0.09	0.0033	18752	0.05	0.0038	14519	0.04	0.0032	20716
Science Grade 8	-0.20	0.0038	20013	-0.23	0.0041	16430	-0.24	0.0035	22208
Biology	-0.23	0.0038	16942	-0.28	0.0042	13846	-0.32	0.0036	20182
Math Grade 5	-0.35	0.0045	18852	-0.40	0.0043	21148	-0.47	0.0044	19162
Math Grade 6	-0.36	0.0040	19639	-0.40	0.0043	16179	-0.46	0.0037	21461
Math Grade 7	-0.30	0.0037	20546	-0.35	0.0042	16092	-0.38	0.0035	22764
Math Grade 8	-0.41	0.0054	14554	-0.48	0.0057	12363	-0.52	0.0051	14767
NC Math 1	-0.26	0.0039	19478	-0.34	0.0043	15732	-0.39	0.0035	23321
NC Math 3	-0.02	0.0045	16782	-0.08	0.0051	12546	-0.12	0.0042	19109

Effect Size by Subject Grade - Remote Days Quintile - 2021

Remote Days Quintile					
4			5 (Highest)		
Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
-0.25	0.0011	284137	-0.31	0.0010	331411
-0.15	0.0044	23568	-0.29	0.0066	11632
-0.28	0.0043	24194	-0.42	0.0062	12185
-0.15	0.0033	25145	-0.21	0.0046	13106
-0.16	0.0037	16955	-0.18	0.0032	24365
-0.17	0.0036	17623	-0.20	0.0030	26400
-0.15	0.0035	17240	-0.17	0.0030	25117
0.06	0.0034	18528	0.07	0.0027	29237
-0.22	0.0039	17369	-0.34	0.0033	25197
-0.30	0.0037	18000	-0.34	0.0031	28060
-0.44	0.0039	25091	-0.67	0.0053	13070
-0.45	0.0042	16941	-0.54	0.0036	24307
-0.40	0.0040	17615	-0.44	0.0033	26327
-0.54	0.0057	11263	-0.63	0.0047	16787
-0.39	0.0040	18011	-0.43	0.0032	29072
-0.12	0.0045	16594	-0.17	0.0036	26549

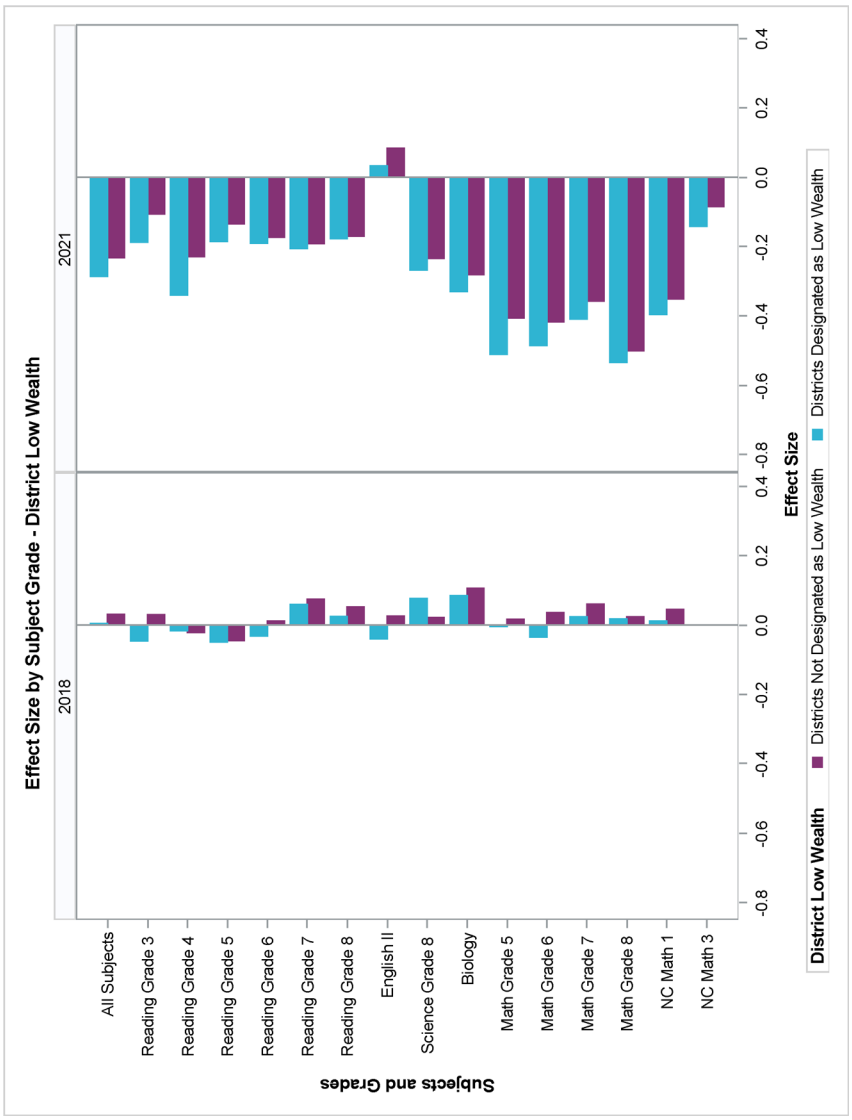

Effect Size by Subject Grade - Percentage Remote Quintile
2021
2018
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
Percentage Remote Quintile
1 (Lowest)
2
3
4
5 (Highest)

Effect Size by Subject Grade - Percentage Remote Quintile - 2021

	Percentage Remote Quintile								
	1 (Lowest)			2			3		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.20	0.0011	277006	-0.24	0.0012	248110	-0.27	0.0010	306516
Reading Grade 3	-0.08	0.0054	16068	-0.10	0.0049	19466	-0.13	0.0050	18500
Reading Grade 4	-0.21	0.0052	16455	-0.23	0.0047	20000	-0.29	0.0049	18755
Reading Grade 5	-0.12	0.0039	18861	-0.15	0.0036	21138	-0.17	0.0038	19172
Reading Grade 6	-0.17	0.0035	19649	-0.20	0.0039	16204	-0.20	0.0034	21454
Reading Grade 7	-0.19	0.0033	20548	-0.22	0.0038	16132	-0.21	0.0032	22779
Reading Grade 8	-0.16	0.0033	19867	-0.19	0.0037	16315	-0.19	0.0032	22166
English II	0.09	0.0033	18752	0.05	0.0038	14519	0.04	0.0032	20716
Science Grade 8	-0.20	0.0038	20013	-0.23	0.0041	16430	-0.24	0.0035	22208
Biology	-0.23	0.0038	16942	-0.28	0.0042	13846	-0.32	0.0036	20182
Math Grade 5	-0.35	0.0045	18852	-0.40	0.0043	21148	-0.47	0.0044	19162
Math Grade 6	-0.36	0.0040	19639	-0.40	0.0043	16179	-0.46	0.0037	21461
Math Grade 7	-0.30	0.0037	20546	-0.35	0.0042	16092	-0.38	0.0035	22764
Math Grade 8	-0.41	0.0054	14554	-0.48	0.0057	12363	-0.52	0.0051	14767
NC Math 1	-0.26	0.0039	19478	-0.34	0.0043	15732	-0.39	0.0035	23321
NC Math 3	-0.02	0.0045	16782	-0.08	0.0051	12546	-0.12	0.0042	19109

Effect Size by Subject Grade - Percentage Remote Quintile - 2021

Percentage Remote Quintile					
4			5 (Highest)		
Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
-0.25	0.0011	284137	-0.31	0.0010	331411
-0.15	0.0044	23568	-0.29	0.0066	11632
-0.28	0.0043	24194	-0.42	0.0062	12185
-0.15	0.0033	25145	-0.21	0.0046	13106
-0.16	0.0037	16955	-0.18	0.0032	24365
-0.17	0.0036	17623	-0.20	0.0030	26400
-0.15	0.0035	17240	-0.17	0.0030	25117
0.06	0.0034	18528	0.07	0.0027	29237
-0.22	0.0039	17369	-0.34	0.0033	25197
-0.30	0.0037	18000	-0.34	0.0031	28060
-0.44	0.0039	25091	-0.67	0.0053	13070
-0.45	0.0042	16941	-0.54	0.0036	24307
-0.40	0.0040	17615	-0.44	0.0033	26327
-0.54	0.0057	11263	-0.63	0.0047	16787
-0.39	0.0040	18011	-0.43	0.0032	29072
-0.12	0.0045	16594	-0.17	0.0036	26549

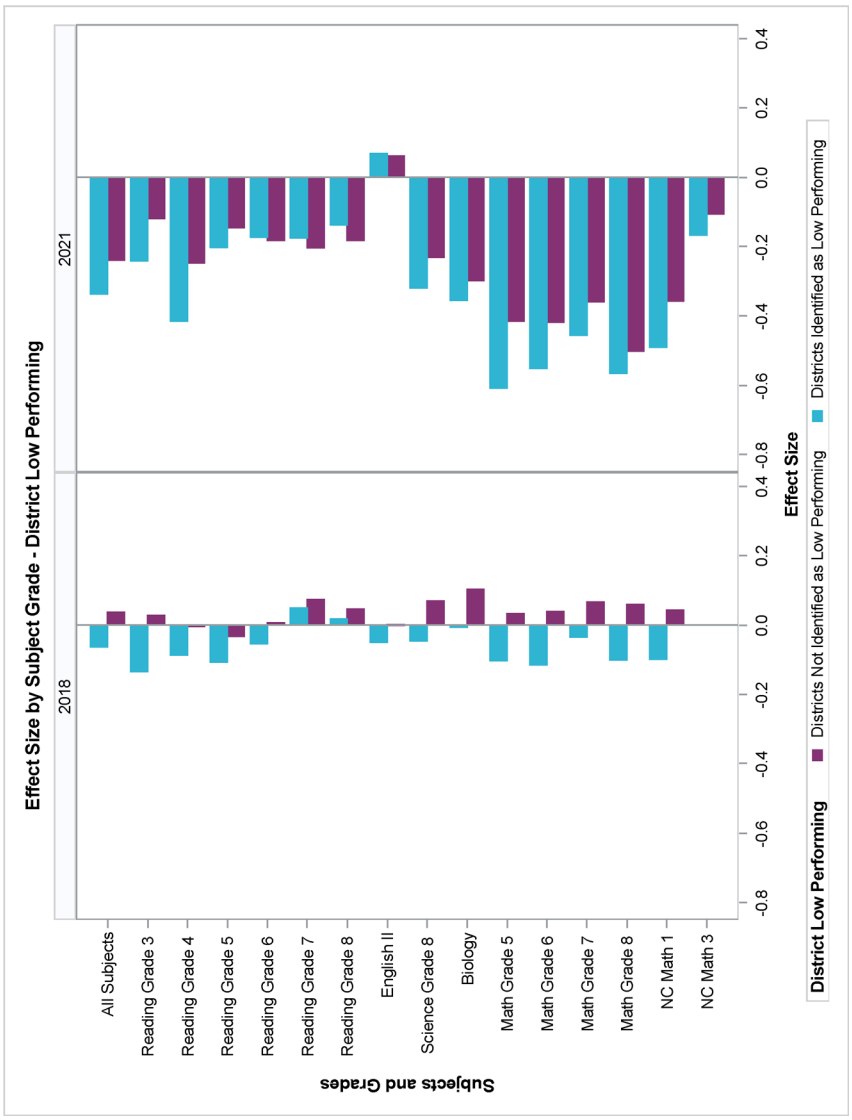

Effect Size by Subject Grade - District Low Wealth
2018
2021
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
District Low Wealth
Districts Not Designated as Low Wealth
Districts Designated as Low Wealth

Effect Size by Subject Grade - District Low Wealth - 2018

	District Low Wealth					
	Districts Designated as Low Wealth			Districts Not Designated as Low Wealth		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	0.00	0.0007	625254	0.03	0.0006	834700
Reading Grade 3	-0.05	0.0029	46308	0.03	0.0026	60167
Reading Grade 4	-0.02	0.0023	47944	-0.02	0.0020	64406
Reading Grade 5	-0.05	0.0023	46877	-0.04	0.0019	62584
Reading Grade 6	-0.03	0.0022	46458	0.01	0.0018	64127
Reading Grade 7	0.06	0.0023	44030	0.07	0.0019	60700
Reading Grade 8	0.02	0.0024	41597	0.05	0.0020	57108
English II	-0.04	0.0022	47447	0.03	0.0019	59505
Science Grade 8	0.08	0.0026	41760	0.02	0.0021	57250
Biology	0.08	0.0025	45050	0.11	0.0021	60408
Math Grade 5	-0.00	0.0024	46797	0.02	0.0020	62519
Math Grade 6	-0.03	0.0023	46431	0.03	0.0020	64062
Math Grade 7	0.02	0.0023	43954	0.06	0.0019	60634
Math Grade 8	0.02	0.0030	32160	0.02	0.0028	37091
NC Math 1	0.01	0.0023	48441	0.04	0.0020	64139

Effect Size by Subject Grade - District Low Wealth - 2021

	District Low Wealth					
	Districts Designated as Low Wealth			Districts Not Designated as Low Wealth		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.29	0.0007	629569	-0.23	0.0006	817794
Reading Grade 3	-0.19	0.0034	38979	-0.11	0.0031	50257
Reading Grade 4	-0.34	0.0033	40352	-0.23	0.0030	51239
Reading Grade 5	-0.18	0.0026	41433	-0.13	0.0022	56012
Reading Grade 6	-0.19	0.0024	42531	-0.17	0.0021	56116
Reading Grade 7	-0.21	0.0023	44969	-0.19	0.0020	58531
Reading Grade 8	-0.18	0.0022	44294	-0.17	0.0020	56430
English II	0.03	0.0022	43880	0.08	0.0019	57872
Science Grade 8	-0.27	0.0025	44662	-0.23	0.0022	56574
Biology	-0.33	0.0025	40659	-0.28	0.0021	56371
Math Grade 5	-0.51	0.0030	41411	-0.41	0.0026	55935
Math Grade 6	-0.49	0.0026	42529	-0.42	0.0024	56018
Math Grade 7	-0.41	0.0025	44969	-0.36	0.0022	58393
Math Grade 8	-0.53	0.0034	33949	-0.50	0.0033	35802
NC Math 1	-0.40	0.0024	46228	-0.35	0.0023	59388
NC Math 3	-0.14	0.0029	38724	-0.09	0.0026	52856

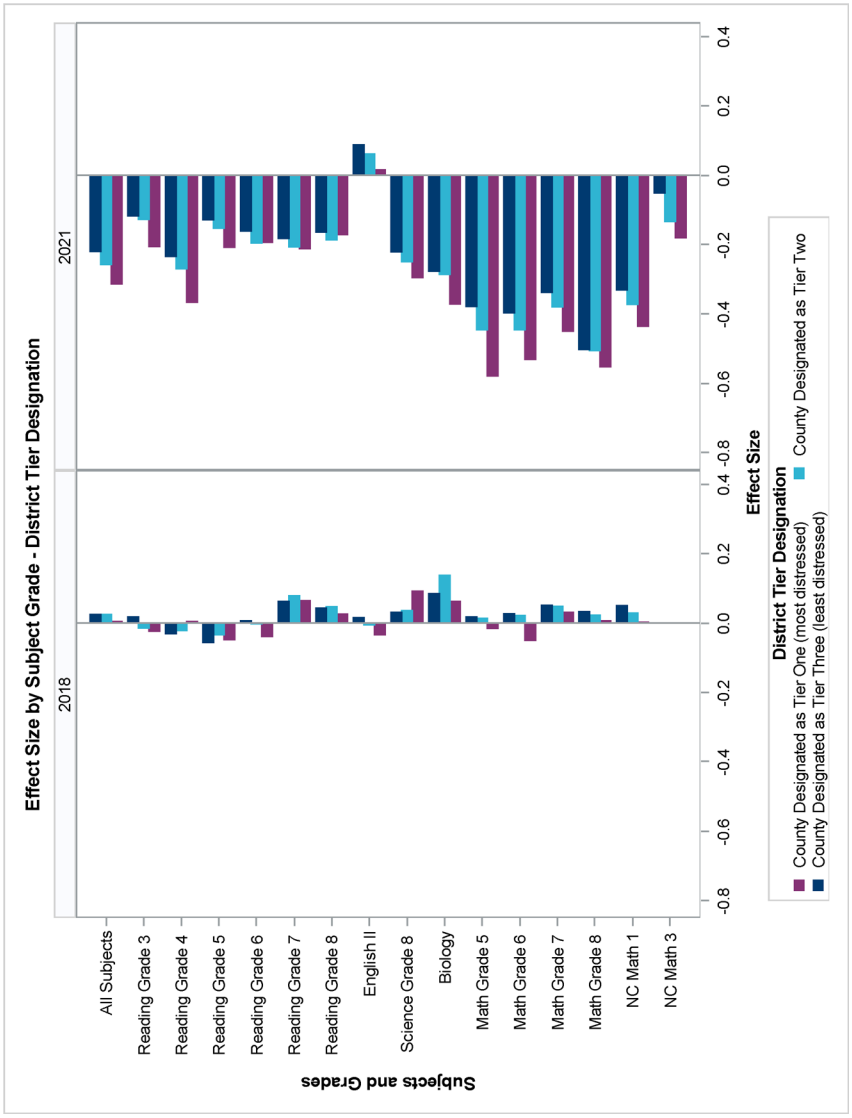

Effect Size by Subject Grade - District Low Performing
2018
2021
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
District Low Performing
Districts Not Identified as Low Performing
Districts Identified as Low Performing

Effect Size by Subject Grade - District Low Performing - 2018

	District Low Performing					
	Districts Identified as Low Performing			Districts Not Identified as Low Performing		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.06	0.0010	254540	0.04	0.0005	1205414
Reading Grade 3	-0.13	0.0044	20393	0.03	0.0021	86082
Reading Grade 4	-0.09	0.0035	21185	-0.00	0.0017	91165
Reading Grade 5	-0.11	0.0035	20430	-0.03	0.0016	89031
Reading Grade 6	-0.05	0.0032	23410	0.01	0.0016	87175
Reading Grade 7	0.05	0.0032	22515	0.07	0.0016	82215
Reading Grade 8	0.02	0.0034	20730	0.05	0.0017	77975
English II	-0.05	0.0062	6160	-0.00	0.0015	100792
Science Grade 8	-0.05	0.0037	20816	0.07	0.0018	78194
Biology	-0.01	0.0070	6287	0.10	0.0016	99171
Math Grade 5	-0.10	0.0037	20374	0.03	0.0017	88942
Math Grade 6	-0.11	0.0033	23361	0.04	0.0017	87132
Math Grade 7	-0.03	0.0032	22465	0.07	0.0016	82123
Math Grade 8	-0.10	0.0041	16664	0.06	0.0023	52587
NC Math 1	-0.10	0.0050	9750	0.04	0.0016	102830

Effect Size by Subject Grade - District Low Performing - 2021

	District Low Performing					
	Districts Identified as Low Performing			Districts Not Identified as Low Performing		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.34	0.0012	240593	-0.24	0.0005	1206770
Reading Grade 3	-0.24	0.0053	16581	-0.12	0.0025	72655
Reading Grade 4	-0.41	0.0052	17016	-0.25	0.0025	74575
Reading Grade 5	-0.20	0.0040	17760	-0.15	0.0019	79685
Reading Grade 6	-0.17	0.0035	20793	-0.18	0.0018	77854
Reading Grade 7	-0.18	0.0033	21932	-0.20	0.0017	81568
Reading Grade 8	-0.14	0.0033	21018	-0.18	0.0017	79706
English II	0.07	0.0059	6160	0.06	0.0015	95592
Science Grade 8	-0.32	0.0037	21148	-0.23	0.0019	80088
Biology	-0.35	0.0064	5731	-0.30	0.0017	91299
Math Grade 5	-0.61	0.0044	17758	-0.42	0.0022	79588
Math Grade 6	-0.55	0.0037	20767	-0.42	0.0020	77780
Math Grade 7	-0.46	0.0036	21895	-0.36	0.0019	81467
Math Grade 8	-0.57	0.0046	16810	-0.50	0.0028	52941
NC Math 1	-0.49	0.0055	10084	-0.36	0.0018	95532
NC Math 3	-0.17	0.0078	5140	-0.11	0.0020	86440

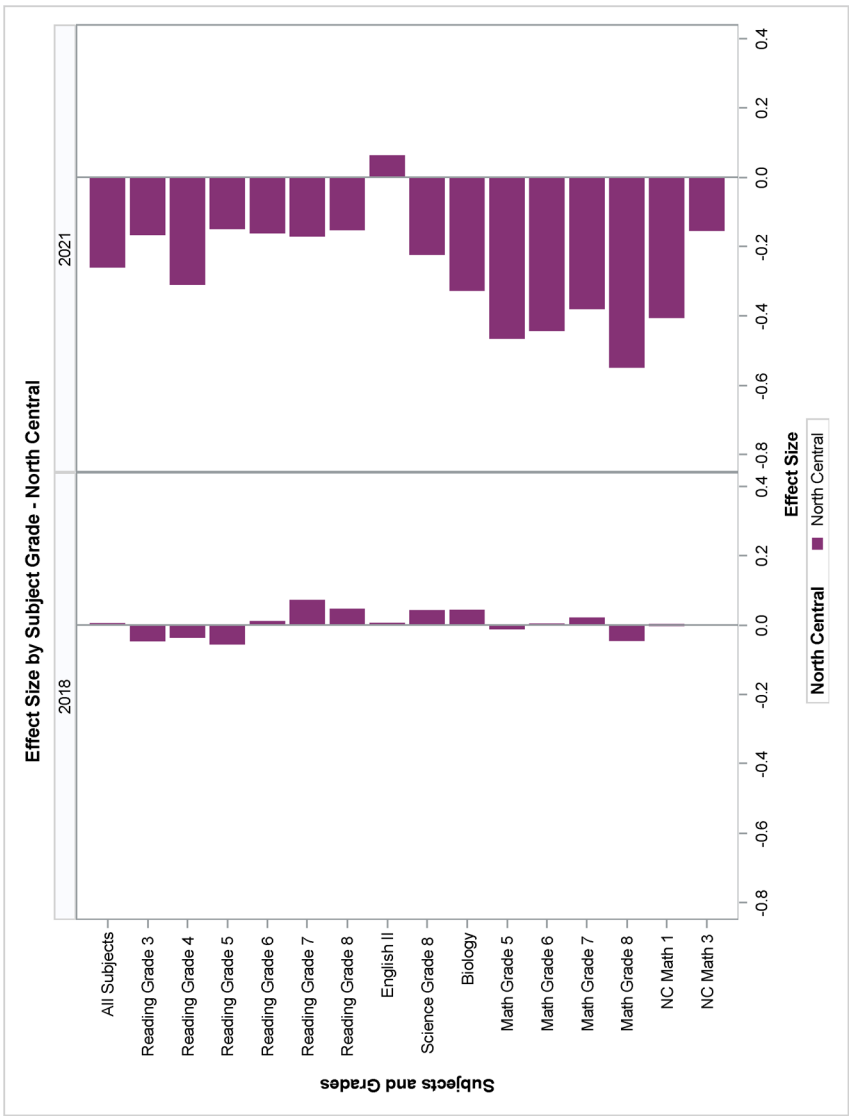

Effect Size by Subject Grade - District Tier Designation
2018
2021
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
District Tier Designation
County Designated as Tier One (most distressed)
County Designated as Tier Two
County Designated as Tier Three (least distressed)

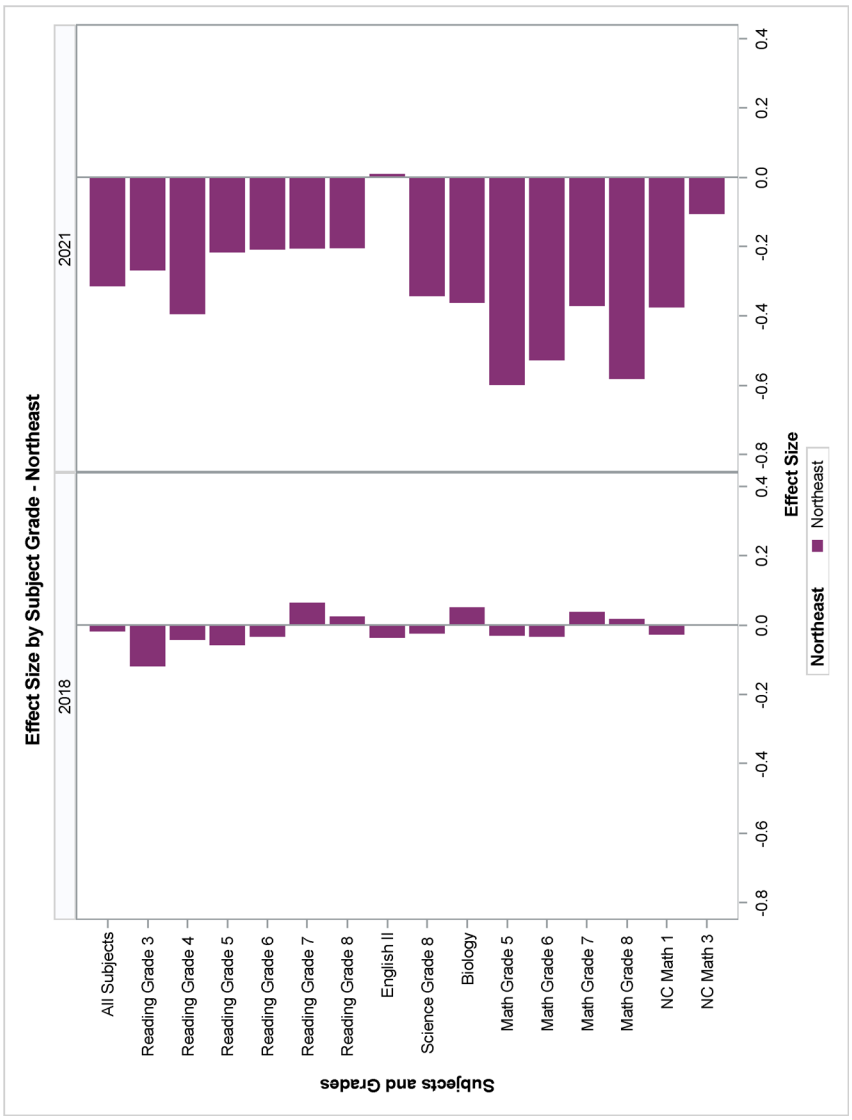
Effect Size by Subject Grade - District Tier Designation - 2018

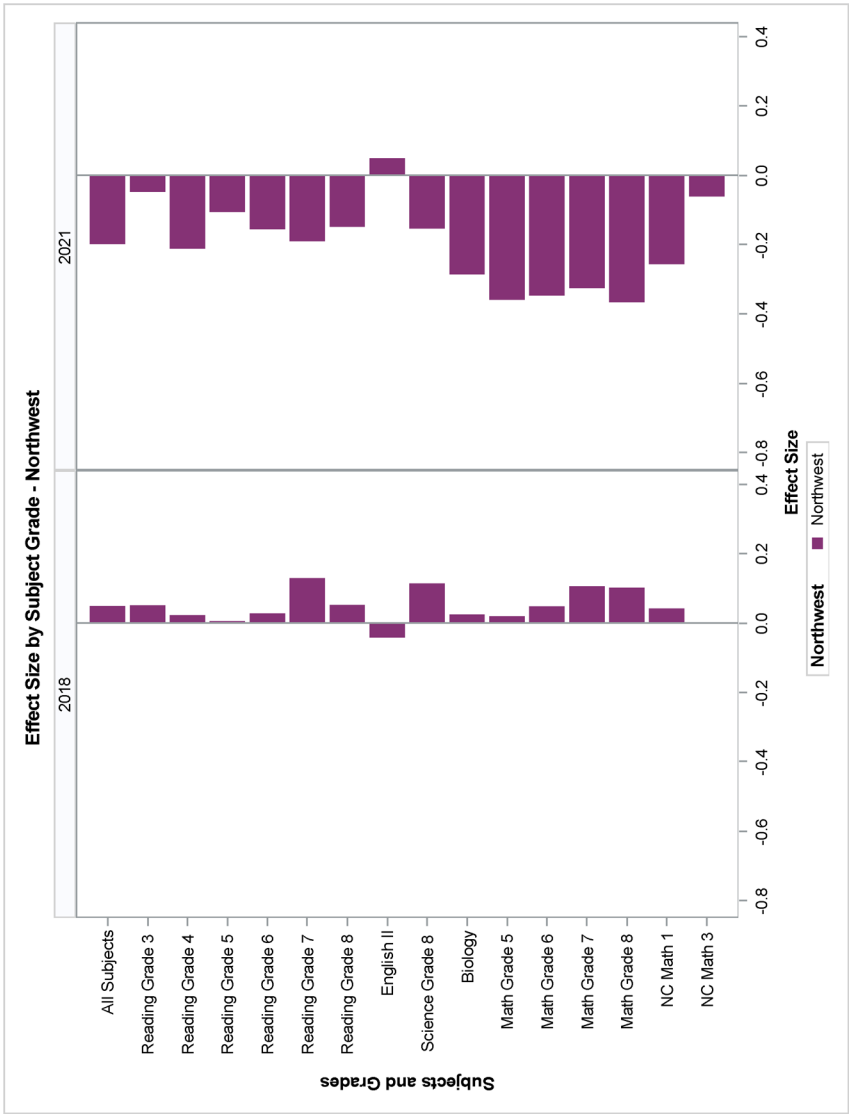
	District Tier Designation								
	County Designated as Tier One (most distressed)			County Designated as Tier Three (least distressed)			County Designated as Tier Two		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	0.00	0.0009	346295	0.02	0.0006	607345	0.02	0.0007	502121
Reading Grade 3	-0.02	0.0040	24890	0.02	0.0030	44540	-0.01	0.0033	36907
Reading Grade 4	0.00	0.0031	26434	-0.03	0.0023	46808	-0.02	0.0026	38879
Reading Grade 5	-0.05	0.0031	25953	-0.06	0.0022	45411	-0.03	0.0025	37854
Reading Grade 6	-0.04	0.0030	25811	0.01	0.0022	46620	-0.00	0.0024	37867
Reading Grade 7	0.06	0.0030	24559	0.06	0.0022	43918	0.08	0.0025	35926
Reading Grade 8	0.03	0.0032	23119	0.04	0.0023	41540	0.05	0.0027	33695
English II	-0.03	0.0029	26186	0.01	0.0022	43656	-0.01	0.0025	36771
Science Grade 8	0.09	0.0035	23219	0.03	0.0025	41636	0.04	0.0028	33803
Biology	0.06	0.0034	25295	0.08	0.0024	43766	0.14	0.0028	36002
Math Grade 5	-0.02	0.0032	25900	0.02	0.0024	45362	0.01	0.0026	37813
Math Grade 6	-0.05	0.0031	25788	0.03	0.0023	46564	0.02	0.0026	37857
Math Grade 7	0.03	0.0031	24503	0.05	0.0022	43875	0.05	0.0025	35887
Math Grade 8	0.01	0.0041	17507	0.03	0.0033	26766	0.02	0.0034	24670
NC Math 1	0.00	0.0031	27131	0.05	0.0023	46883	0.03	0.0026	38190

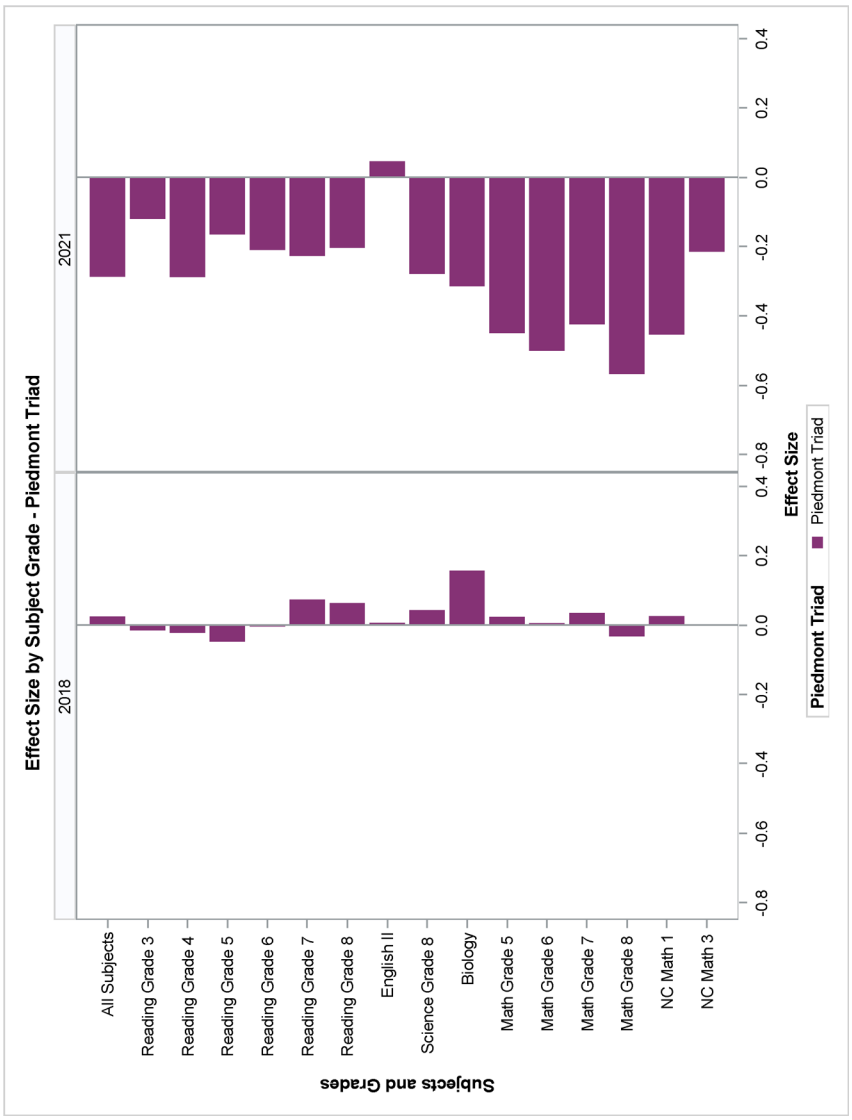
Effect Size by Subject Grade - District Tier Designation - 2021

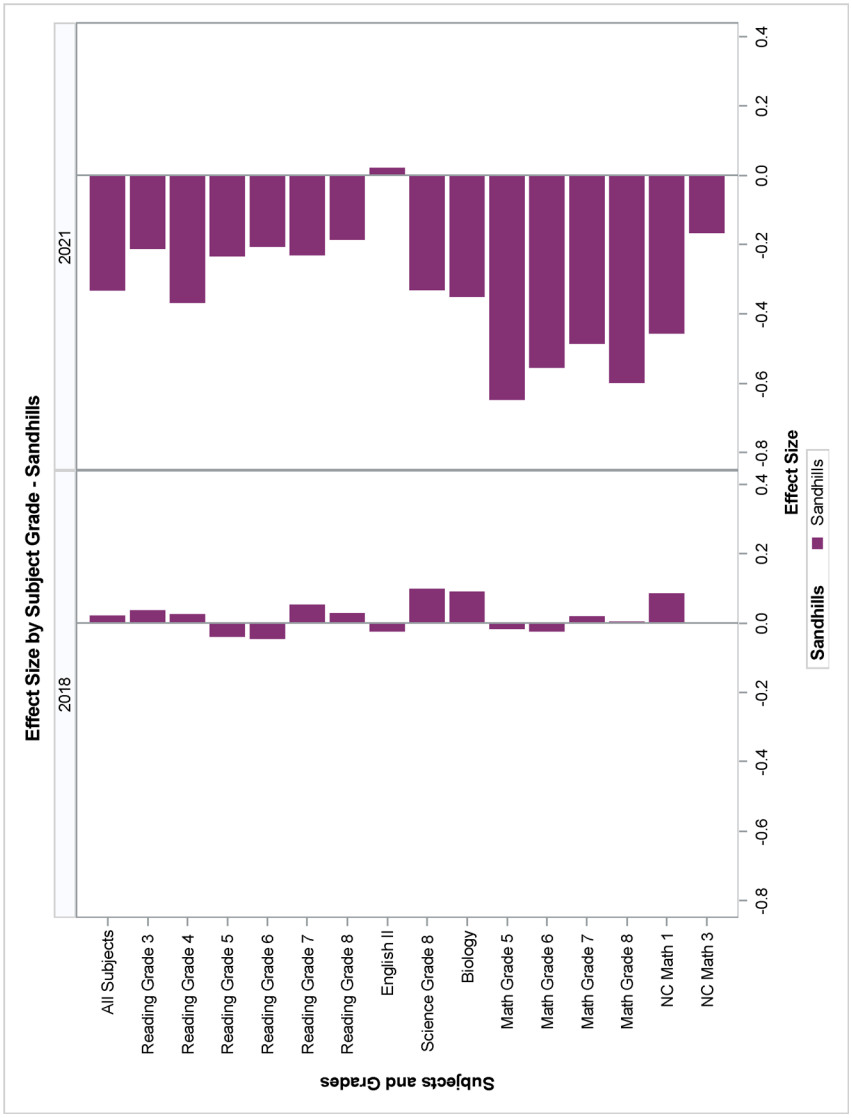
	District Tier Designation								
	County Designated as Tier One (most distressed)			County Designated as Tier Three (least distressed)			County Designated as Tier Two		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.31	0.0010	348217	-0.22	0.0007	586939	-0.26	0.0008	507109
Reading Grade 3	-0.21	0.0047	21129	-0.12	0.0036	36493	-0.13	0.0039	31514
Reading Grade 4	-0.37	0.0045	21729	-0.23	0.0035	37404	-0.27	0.0037	32308
Reading Grade 5	-0.21	0.0035	23137	-0.13	0.0026	39870	-0.15	0.0029	34144
Reading Grade 6	-0.19	0.0033	23804	-0.16	0.0025	39715	-0.20	0.0027	34746
Reading Grade 7	-0.21	0.0030	25298	-0.18	0.0023	41435	-0.21	0.0026	36359
Reading Grade 8	-0.17	0.0030	24497	-0.16	0.0023	40037	-0.19	0.0025	35803
English II	0.01	0.0030	23794	0.09	0.0022	42497	0.06	0.0024	35052
Science Grade 8	-0.30	0.0034	24749	-0.22	0.0026	40081	-0.25	0.0028	36013
Biology	-0.37	0.0033	22421	-0.28	0.0025	41252	-0.29	0.0028	32937
Math Grade 5	-0.58	0.0040	23112	-0.38	0.0031	39800	-0.45	0.0033	34141
Math Grade 6	-0.53	0.0035	23758	-0.40	0.0028	39657	-0.45	0.0029	34752
Math Grade 7	-0.45	0.0033	25260	-0.34	0.0027	41332	-0.38	0.0028	36362
Math Grade 8	-0.55	0.0046	18324	-0.50	0.0040	24714	-0.51	0.0039	26385
NC Math 1	-0.44	0.0032	25984	-0.33	0.0027	43381	-0.37	0.0029	35865
NC Math 3	-0.18	0.0039	21221	-0.05	0.0030	39271	-0.13	0.0033	30728

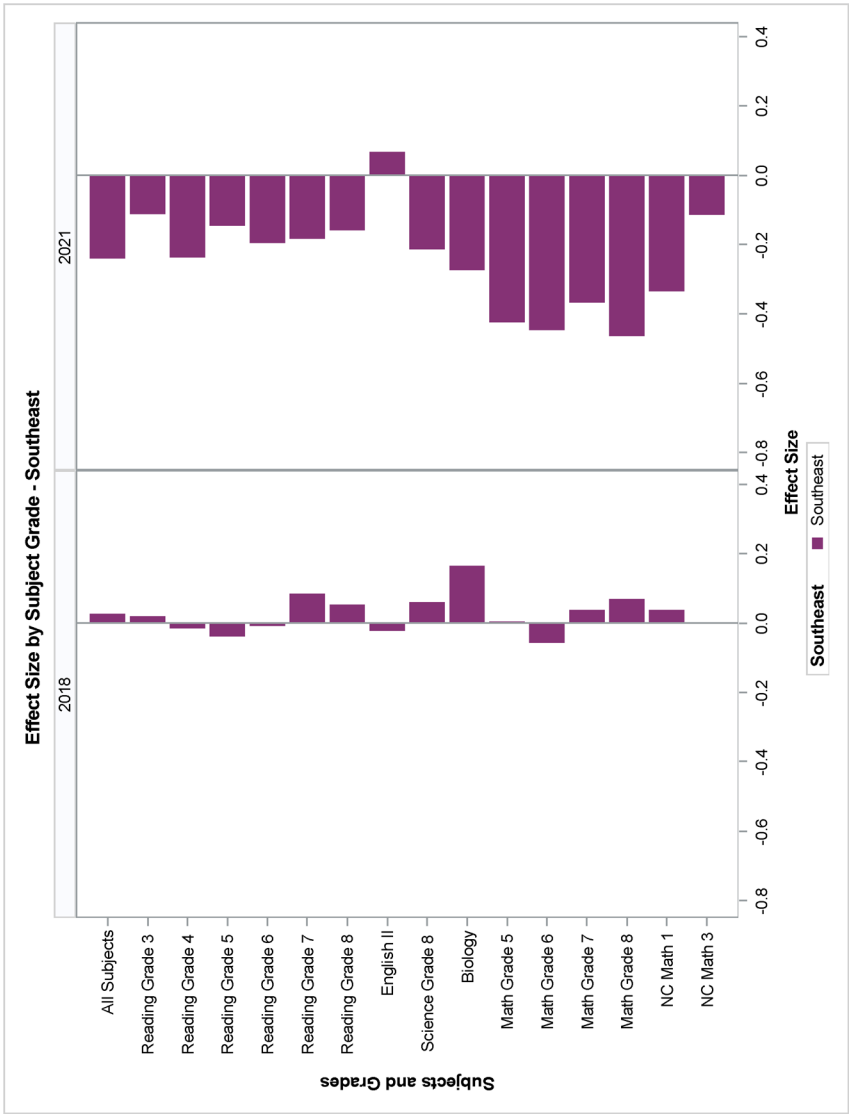

Effect Size by Subject Grade - North Central
2018
2021
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
North Central
North Central

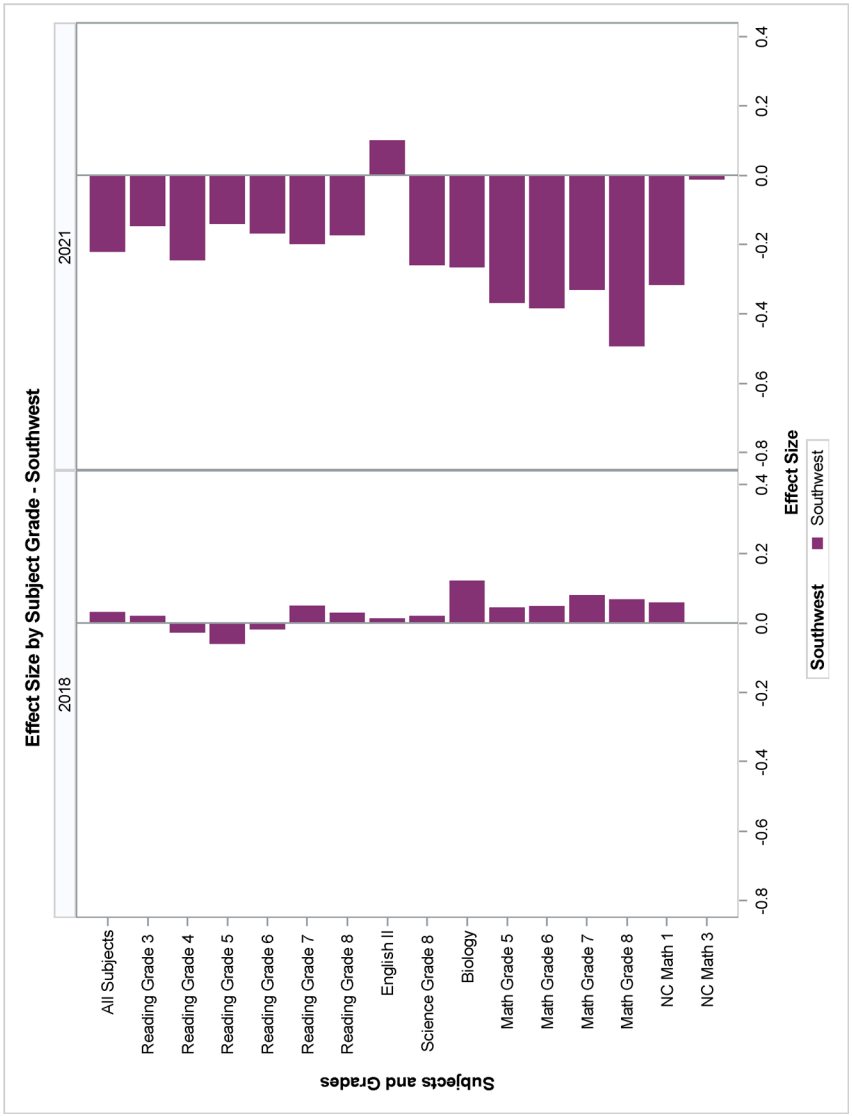

Effect Size by Subject Grade - Northeast
2021
2018
0.4
0.2
0.0
-0.2
-0.4
-0.6
-0.8
Effect Size
Northeast
Northeast
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades

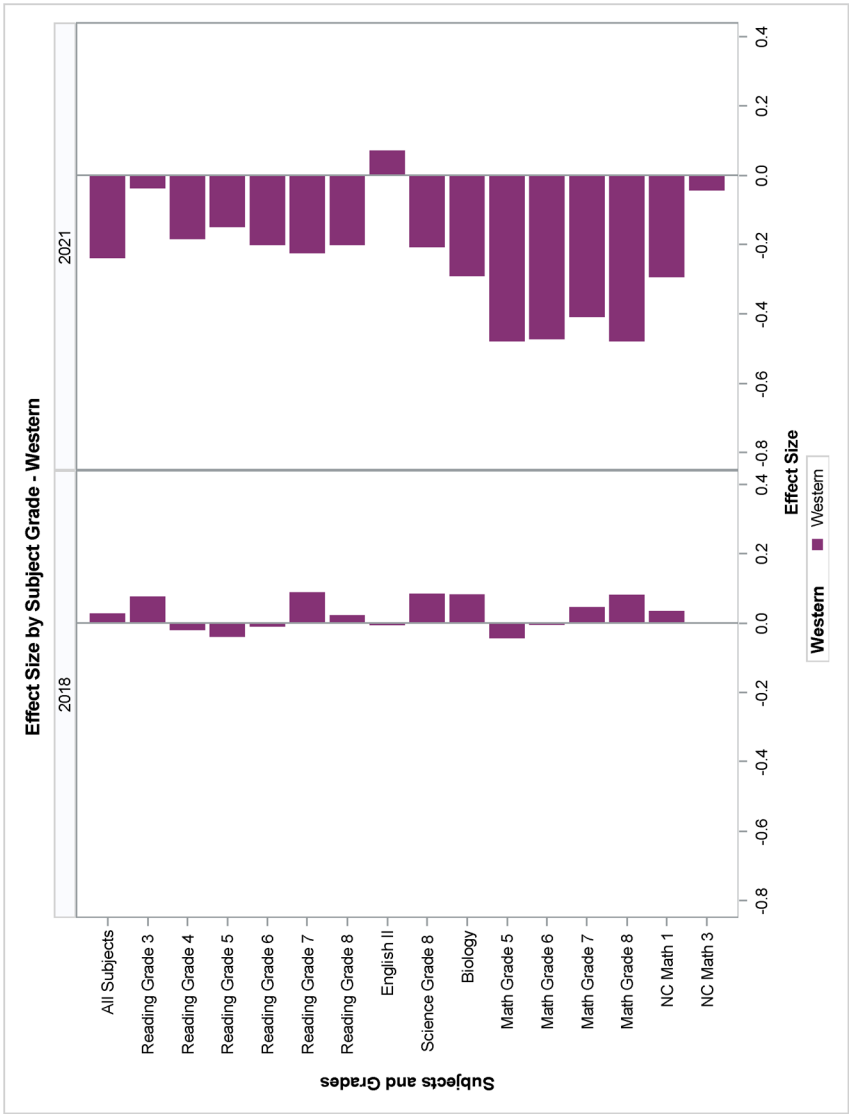

Effect Size by Subject Grade - Northwest
2018
2021
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
Northwest
Northwest


Effect Size by Subject Grade - Piedmont Triad
2018
2021
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
Piedmont Triad
Piedmont Triad


Effect Size by Subject Grade - Sandhills
2021
2018
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
Sandhills
Sandhills


Effect Size by Subject Grade - Southeast
2021
2018
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
Southeast
Southeast


Effect Size by Subject Grade - Southwest
2018
2021
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
Southwest
Southwest


Effect Size by Subject Grade - Western
2018
2021
All Subjects
Reading Grade 3
Reading Grade 4
Reading Grade 5
Reading Grade 6
Reading Grade 7
Reading Grade 8
English II
Science Grade 8
Biology
Math Grade 5
Math Grade 6
Math Grade 7
Math Grade 8
NC Math 1
NC Math 3
Subjects and Grades
-0.8
-0.6
-0.4
-0.2
0.0
0.2
0.4
Effect Size
Western
Western

Effect Size by Subject Grade - SBE Region - 2018

	SBE Region											
	North Central			Northeast			Northwest			Piedmont Triad		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	0.00	0.0008	364270	-0.02	0.0019	70890	0.05	0.0017	82763	0.02	0.0010	244200
Reading Grade 3	-0.05	0.0039	26702	-0.12	0.0091	5065	0.05	0.0080	5784	-0.01	0.0048	17643
Reading Grade 4	-0.04	0.0030	28155	-0.04	0.0069	5444	0.02	0.0063	6204	-0.02	0.0037	18669
Reading Grade 5	-0.05	0.0029	27619	-0.06	0.0067	5358	0.00	0.0062	6131	-0.05	0.0036	18012
Reading Grade 6	0.01	0.0028	27926	-0.03	0.0065	5265	0.03	0.0058	6233	-0.00	0.0035	18300
Reading Grade 7	0.07	0.0029	25990	0.06	0.0068	4987	0.13	0.0060	5965	0.07	0.0036	17597
Reading Grade 8	0.04	0.0030	24864	0.02	0.0070	4785	0.05	0.0065	5464	0.06	0.0038	16623
English II	0.00	0.0029	26586	-0.03	0.0062	5425	-0.04	0.0059	6226	0.00	0.0035	18164
Science Grade 8	0.04	0.0032	24936	-0.02	0.0076	4793	0.11	0.0066	5483	0.04	0.0041	16656
Biology	0.04	0.0032	26339	0.05	0.0073	5054	0.02	0.0063	6142	0.15	0.0039	18403
Math Grade 5	-0.01	0.0031	27584	-0.03	0.0070	5350	0.02	0.0064	6123	0.02	0.0037	17987
Math Grade 6	-0.00	0.0030	27888	-0.03	0.0069	5262	0.05	0.0060	6228	0.00	0.0037	18290
Math Grade 7	0.02	0.0029	25953	0.04	0.0068	4976	0.10	0.0060	5953	0.03	0.0036	17580
Math Grade 8	-0.04	0.0043	15470	0.01	0.0094	3354	0.10	0.0075	4562	-0.03	0.0050	11206
NC Math 1	-0.00	0.0029	28258	-0.03	0.0066	5772	0.04	0.0062	6265	0.02	0.0037	19070

Effect Size by Subject Grade - SBE Region - 2018

SBE Region											
Sandhills			Southeast			Southwest			Western		
Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
0.02	0.0015	124999	0.02	0.0014	133708	0.03	0.0009	356336	0.03	0.0018	82788
0.03	0.0066	9357	0.02	0.0064	10105	0.02	0.0039	26148	0.07	0.0084	5671
0.02	0.0052	9624	-0.01	0.0049	10584	-0.03	0.0031	27220	-0.02	0.0064	6450
-0.04	0.0051	9386	-0.04	0.0048	10300	-0.06	0.0030	26421	-0.04	0.0063	6234
-0.04	0.0050	9490	-0.01	0.0047	10166	-0.02	0.0029	27077	-0.01	0.0059	6128
0.05	0.0051	8815	0.08	0.0048	9516	0.05	0.0029	25964	0.09	0.0060	5896
0.03	0.0053	8310	0.05	0.0052	8590	0.03	0.0031	24347	0.02	0.0066	5722
-0.02	0.0048	9214	-0.02	0.0047	9529	0.01	0.0029	25610	-0.00	0.0060	6198
0.10	0.0059	8364	0.06	0.0055	8628	0.02	0.0033	24408	0.08	0.0067	5742
0.09	0.0058	8850	0.16	0.0055	9316	0.12	0.0032	25393	0.08	0.0064	5961
-0.02	0.0054	9366	0.00	0.0051	10294	0.04	0.0031	26382	-0.04	0.0063	6230
-0.02	0.0051	9484	-0.06	0.0049	10165	0.05	0.0031	27044	-0.00	0.0061	6132
0.02	0.0051	8796	0.04	0.0049	9505	0.08	0.0029	25938	0.04	0.0061	5887
0.00	0.0067	6530	0.07	0.0064	6816	0.07	0.0042	17077	0.08	0.0081	4236
0.08	0.0058	9413	0.04	0.0051	10194	0.06	0.0031	27307	0.03	0.0064	6301

Effect Size by Subject Grade - SBE Region - 2021

	SBE Region											
	North Central			Northeast			Northwest			Piedmont Triad		
Assessment	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
All Subjects	-0.26	0.0010	343780	-0.31	0.0022	69391	-0.20	0.0019	83209	-0.29	0.0012	242135
Reading Grade 3	-0.17	0.0047	21079	-0.27	0.0103	4241	-0.05	0.0093	5176	-0.12	0.0056	15229
Reading Grade 4	-0.31	0.0046	21868	-0.39	0.0102	4323	-0.21	0.0090	5099	-0.29	0.0054	15506
Reading Grade 5	-0.15	0.0034	23723	-0.21	0.0079	4600	-0.10	0.0072	5275	-0.16	0.0041	16504
Reading Grade 6	-0.16	0.0032	23761	-0.21	0.0071	4754	-0.15	0.0066	5538	-0.21	0.0039	16719
Reading Grade 7	-0.17	0.0031	24071	-0.20	0.0066	5111	-0.19	0.0062	5988	-0.22	0.0037	17465
Reading Grade 8	-0.15	0.0031	23254	-0.20	0.0067	4917	-0.15	0.0060	5962	-0.20	0.0037	17009
English II	0.06	0.0030	24853	0.01	0.0065	4740	0.05	0.0060	5832	0.04	0.0036	16548
Science Grade 8	-0.22	0.0034	23301	-0.34	0.0076	4951	-0.15	0.0066	6001	-0.28	0.0040	17033
Biology	-0.33	0.0033	23962	-0.36	0.0072	4420	-0.28	0.0066	5430	-0.31	0.0040	16122
Math Grade 5	-0.46	0.0040	23692	-0.60	0.0090	4588	-0.36	0.0083	5275	-0.45	0.0048	16499
Math Grade 6	-0.44	0.0035	23749	-0.53	0.0081	4735	-0.34	0.0072	5541	-0.50	0.0043	16698
Math Grade 7	-0.38	0.0035	23992	-0.37	0.0075	5109	-0.32	0.0066	5984	-0.42	0.0040	17449
Math Grade 8	-0.55	0.0051	14074	-0.58	0.0101	3818	-0.36	0.0089	5034	-0.57	0.0057	11323
NC Math 1	-0.40	0.0033	25959	-0.37	0.0077	4882	-0.25	0.0066	6208	-0.45	0.0042	16933
NC Math 3	-0.15	0.0039	22442	-0.10	0.0087	4202	-0.06	0.0081	4866	-0.21	0.0046	15098

Effect Size by Subject Grade - SBE Region - 2021

SBE Region																	
		Sandhills			Southeast				Southwest			Western		
Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N	Effect Size	Std Error of Effect Size	N
-0.33	0.0016	127399	-0.24	0.0015	136379	-0.22	0.0010	362451	-0.24	0.0020	82619
-0.21	0.0076	7993	-0.11	0.0074	8327	-0.14	0.0046	22226	-0.04	0.0096	4965
-0.37	0.0075	8324	-0.23	0.0071	8748	-0.24	0.0045	22700	-0.18	0.0093	5023
-0.23	0.0058	8613	-0.14	0.0054	9247	-0.14	0.0034	23993	-0.15	0.0070	5490
-0.20	0.0054	8644	-0.19	0.0053	9144	-0.17	0.0031	24604	-0.20	0.0068	5483
-0.23	0.0050	9241	-0.18	0.0049	9826	-0.20	0.0030	25724	-0.22	0.0061	6074
-0.18	0.0051	8930	-0.16	0.0049	9805	-0.17	0.0030	25075	-0.20	0.0062	5772
0.02	0.0051	8486	0.07	0.0047	9294	0.10	0.0028	26146	0.07	0.0061	5853
-0.33	0.0058	9027	-0.21	0.0053	9923	-0.26	0.0033	25158	-0.21	0.0066	5842
-0.35	0.0058	7722	-0.27	0.0056	8574	-0.26	0.0032	25203	-0.29	0.0067	5597
-0.65	0.0066	8599	-0.42	0.0063	9215	-0.37	0.0041	23992	-0.48	0.0080	5486
-0.55	0.0059	8650	-0.44	0.0056	9139	-0.38	0.0037	24553	-0.47	0.0073	5482
-0.48	0.0054	9237	-0.36	0.0053	9818	-0.33	0.0034	25690	-0.41	0.0066	6083
-0.60	0.0075	6879	-0.46	0.0074	7772	-0.49	0.0050	16622	-0.48	0.0095	4229
-0.45	0.0055	9064	-0.33	0.0054	9943	-0.31	0.0034	26661	-0.29	0.0069	5966
-0.17	0.0067	7990	-0.11	0.0067	7604	-0.01	0.0038	24104	-0.04	0.0084	5274

[Additional submissions from Chairman Bean follows:]

2023 REPORT—ONE YEAR LATER: A RECOVERY ANALYSIS OF STUDENT LEARNING DURING THE COVID–19 PANDEMIC

https://www.govinfo.gov/content/pkg/CHRG-118hhrg53759/pdf/CHRG-118hhrg53759-Add1.pdf

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