



# Enrollment Reform in the Wake of Covid

Parag Pathak

May 27, 2021





# Agenda

Introductions

Covid-Induced Disruption

Enrollment Trends

Opportunities for Reform

Q&A and Discussion

**Please ask  
questions  
throughout in  
the chat, as  
well**



# Agenda

## Introductions

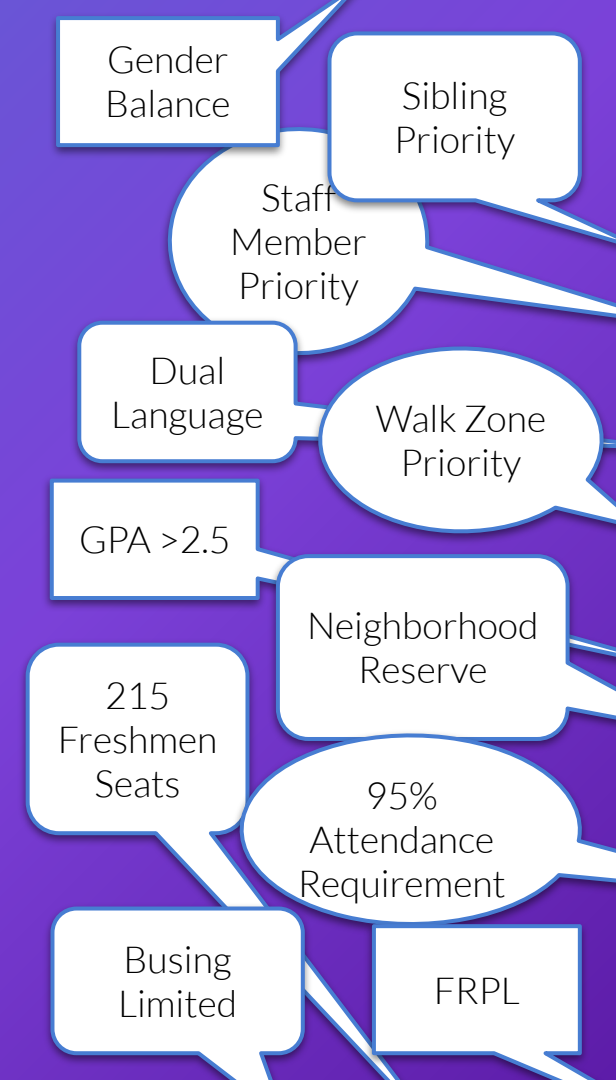
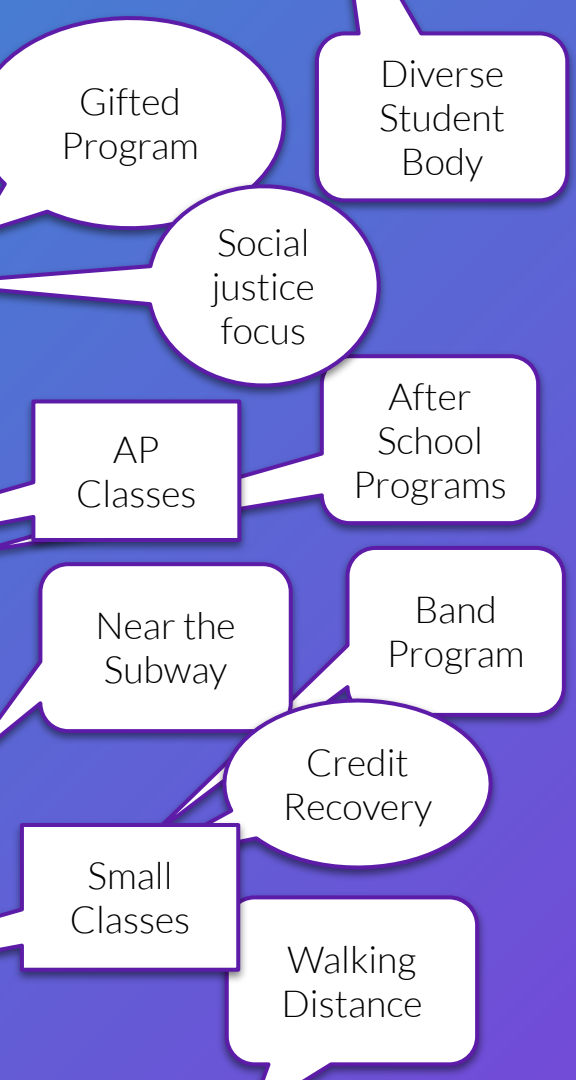
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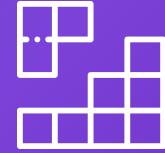
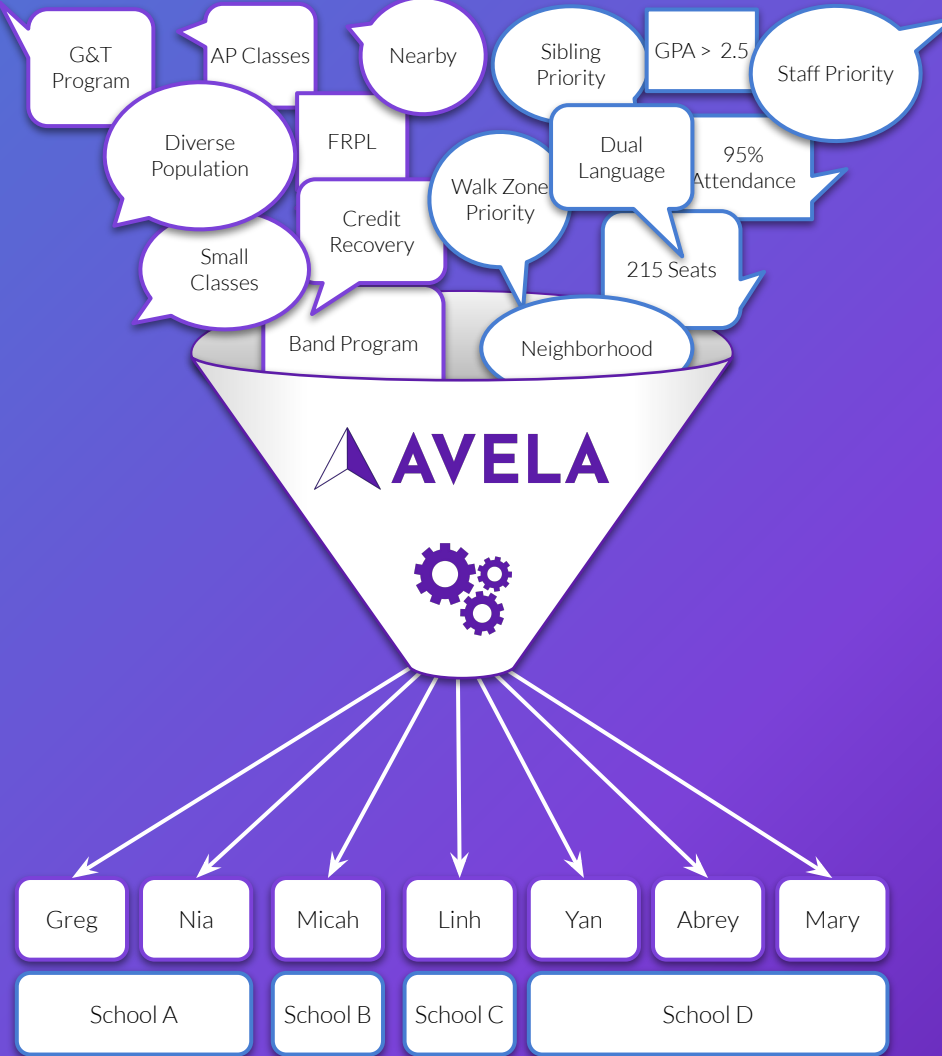
Q&A and Discussion

# Assigning Students To Schools Is Complicated





# Set Priorities & Tiebreakers



# Simulate and Run Lotteries





## Software

Our web software enables educators to assign students to learning opportunities with a click, no code required.



## Matching Engine

Our cloud service enables developers to easily leverage our matching algorithms with a few lines of code.



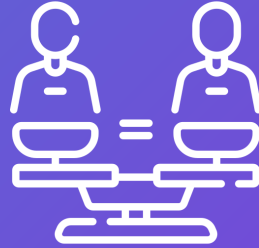
## Advisory Services

We'll partner with your team to design the optimal approach and ensure smooth implementation.



## Efficient

Avela is easy to use and quickly generates suggested matches



## Equitable

Manual placements are subject to implicit bias and reward privilege.



## Empowering

Opaque processes are not auditable and reduce trust and agency.





## Nobel Prize Winning Algorithms

Avela's software is built on sophisticated matchmaking algorithms pioneered by David Gale, Tayfun Sönmez, Lloyd Shapley, and Al Roth.



## Matchmaking Experts

Avela was co-founded by Parag Pathak and Joshua Angrist, both Professors of Economics at MIT and leaders in the field of market design.







## Parag Pathak

Co-Founder & Chief Economist, Avela  
Class of 1922 Professor of Economics, MIT

- Co-Founder, School Effectiveness & Inequality Initiative
- Co-Founder, NBER Working Group on Market Design
- Advisor to School Districts, Nonprofits, and US Army
- John Bates Clark Medal Recipient
- PhD, Harvard; AB, Harvard

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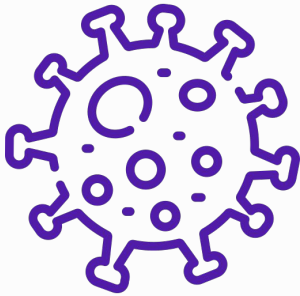
**Covid  
Disruption**

**Technology  
Innovation**

**Reform &  
Innovation**

**Social Justice  
Movement**

**Higher Ed  
Innovation**



**Covid-Induced  
K12 Disruption**



**Early Trends in  
Enrollment**



**Post-Covid Efforts  
and Opportunities**





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**Covid-Induced Disruption**

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Q&A and Discussion

## School districts and school leaders have spent a large chunk of the last 14 months managing uncertainty and handling operational issues:

- How best to utilize facilities?
- How to set up socially-distanced classrooms?
- How to schedule transportation?
- How to structure COVID testing?
- How to reallocate budget for new instructional models and staff time?
- How much choice should families have over educational models?
- How best to communicate with parents?

## In Lowell, a lottery determines which students return to school in person

By **Zoe Greenberg** Globe Staff, Updated September 7, 2020, 9:09 p.m.



Lowell High School. JIM DAVIS

With too many students to fit in classrooms under social distancing rules, school districts across the state have tried to get creative. Some have divided their students into cohorts, with plans to cycle them through school buildings each week — on Monday, cohort A goes to school, on Tuesday cohort B goes to school, and so on.

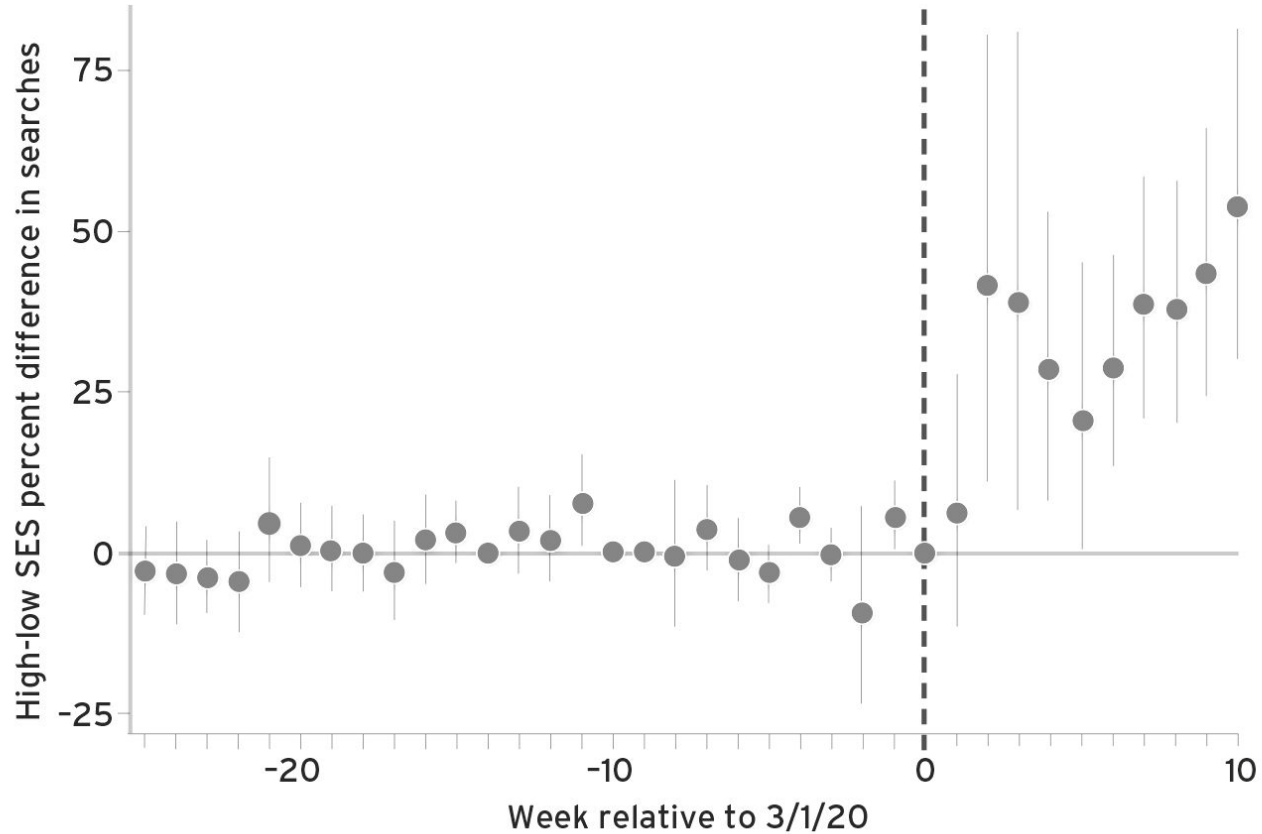
But in Lowell, which serves nearly 15,000 students, the district has chosen instead to hold a weighted lottery for in-person spots, infusing an element of luck into the once-guaranteed process of sending children to learn in person in public schools.

# K-12 Educational Disruption

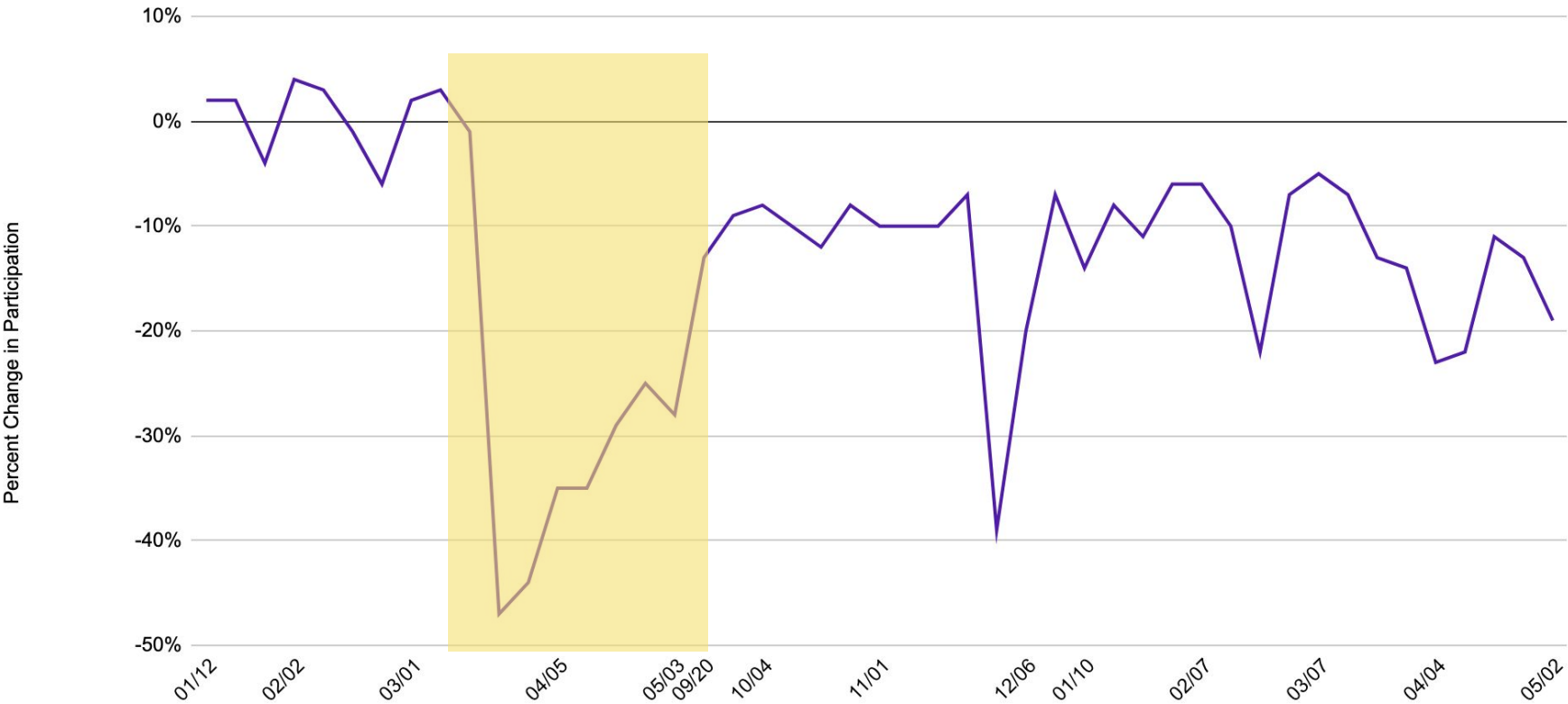


- **COVID-19 has made existing inequalities in K-12 education more apparent**
- **Advantaged families have long been able to obtain their preferred educational offerings**
  - Through residential choice, private schools, or using options within a choice system
- **Now, choice options have expanded to include:**
  - Fully remote?
  - Hybrid?
  - In-person with social distancing?
  - Online tutors? Pods?
- **Early evidence illustrates effects on educational inequality**

# Socioeconomic Gap in Searches for Online Learning

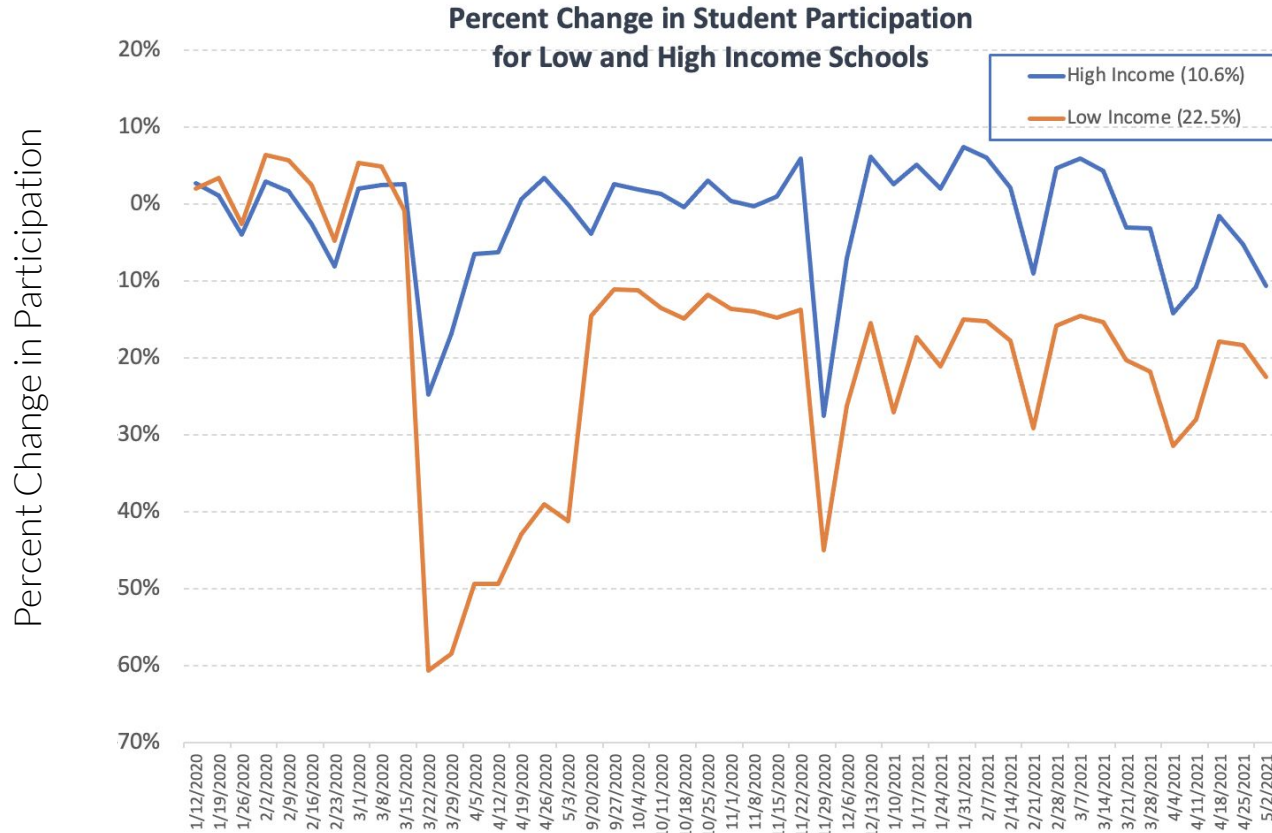


# Drop in Engagement with Online Math Platform

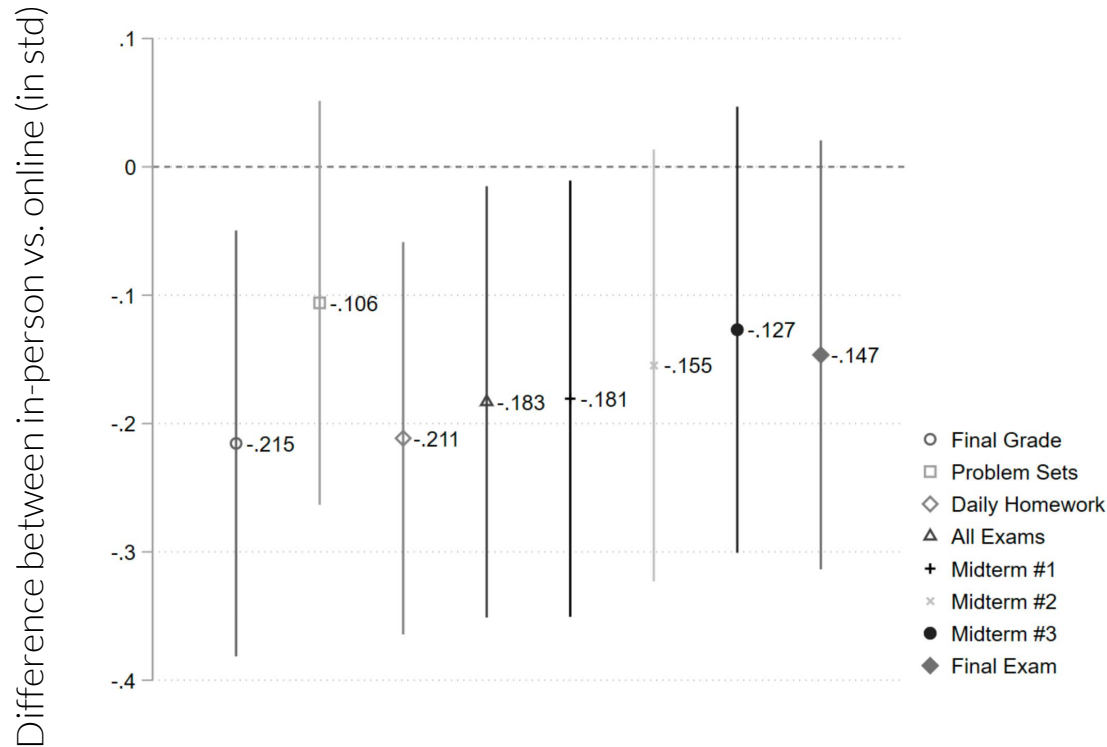




# SES Gaps in Engagement with Online Math Platform



# Learning Loss from Online Instruction



- 551 students randomly assigned to either online or in-person instruction of intro economics
- Each point shows negative effect of online learning
- Negative effects are largest for academically at-risk students
- Surveys suggests online students struggled to concentrate in class and felt less connected



- **Will remote and hybrid options be a new form of choice?**
  - Not in NYC
  - Houston, Philadelphia, and some California districts plan to offer remote options [[NY Times](#), May 24]
  - Indianapolis will refer students who want remote options to virtual charter schools [[Chalkbeat](#), May 25]
- **Will families demand flexibility? How do we ensure that some families are not left out?**
- **Districts have had to think creatively about facilities planning and education delivery**
  - Will schools continue to experiment with new approaches?
- **I expect ed-tech will play a larger role as families have become more familiar**
  - But quality of different products is largely unknown
  - With few exceptions, we don't have rigorous evidence on what works best [[Mindspark RCT](#)]



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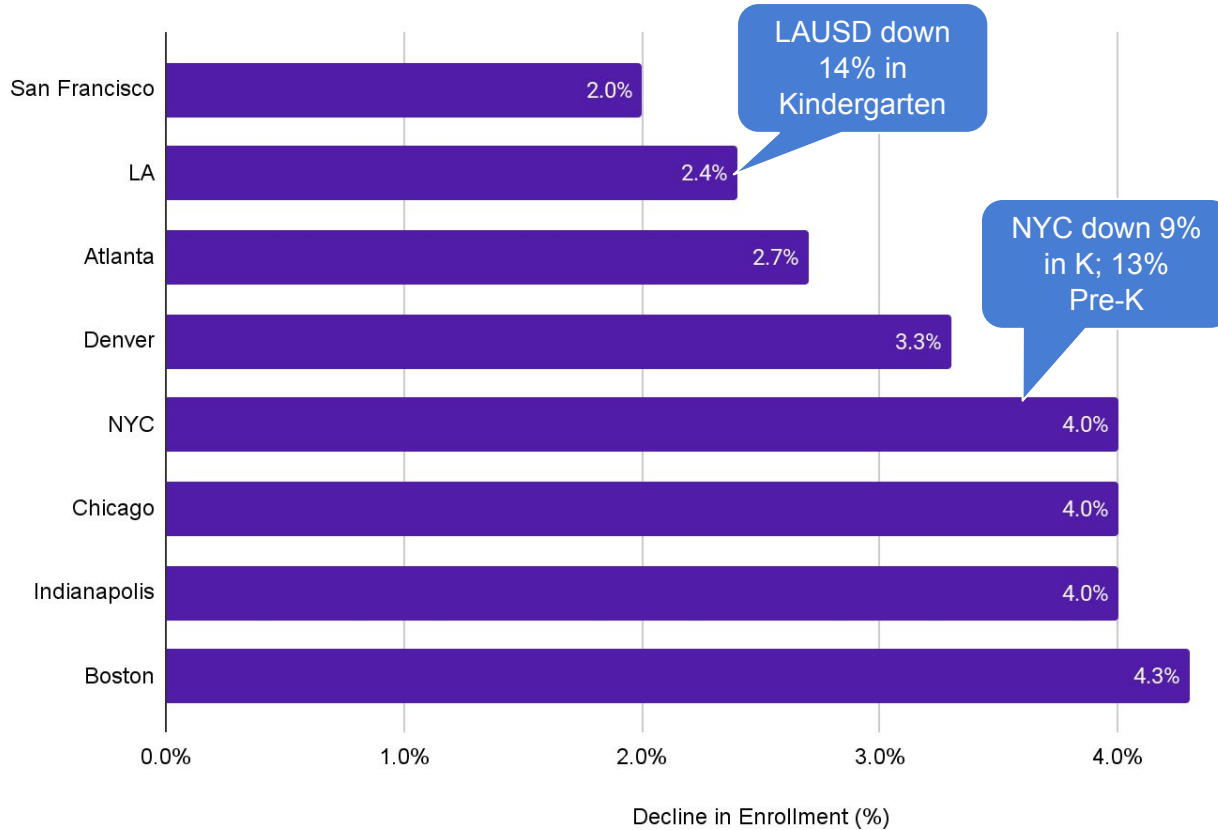
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- **Uncertainty created by Covid-19 catalyzed choice:**
  - opting for private schools
  - homeschooling
  - delaying elementary school entry, or
  - leaving cities altogether
- **2% overall drop in enrollment** in 33 state survey, driven by kindergarten [[AP/Chalkbeat, December 2020, Richmond Fed, March 2021](#)]
- **Average kindergarten fall enrollment dropped by 16%** in survey of 60 districts in 20 states [[NPR, October 2020](#)]
- **No consistent pattern across income and racial lines**
  - My conjecture: Low-income families avoiding online KG, high-income families enrolling in private options

# Enrollment down in urban districts, particularly P/K



- COVID has led families to leave urban areas
- Changes also driven by decline in birth-rates and increased costs of cities
- Elementary schools tend to be smaller, so are more financially vulnerable to enrollment declines

# Enrollment Declines: Broader implications



- Districts will have to work extra hard to lure back families who left
  - Many will be wary of another transition and lingering concerns about childhood vaccination/COVID variants
  - What is the best strategy to regain trust of families and attract pupils back after a year of uncertainty?
- If enrollment declines persist, what impact will this have on school budgets and resource allocation?
  - Covid-19 relief includes \$130 billion for K-12
    - Amounts to \$2,500 for each school child to be spent over next 2.5 years
    - Since funding commitment runs out, districts will need to spend on short-term objectives

# Enrollment Declines: Pre-K and K



- A growing consensus on the long-term value of early childhood education [[Power of Pre-K, Gray-Lobe, Pathak, Walters 2021](#)]
- Paired with largest enrollment declines at Pre-K and K
- Implies that missing out on early years will have long-term consequences on educational attainment

HOME RESEARCH DISCUSSION PAPERS IN THE NEWS ABOUT US PARTNERS STAY INFORMED

**SEII**  
SCHOOL EFFECTIVENESS  
& INEQUALITY INITIATIVE

NEW FINDINGS

## The Long-Term Effects of Universal Preschool in Boston

We use admissions lotteries to estimate the effects of large-scale public preschool in Boston on college-going, college preparation, standardized test scores, and behavioral outcomes. Preschool enrollment boosts college attendance, as well as SAT test-taking and high school graduation. Preschool also decreases several disciplinary measures including juvenile incarceration, but has no detectable impact on state achievement [...]

[More...](#)

HEADLINES

- The Case For Universal Pre-K Just Got Stronger**  
NPR Planet Money
- What Boston Can Teach Us About Free Universal Preschool Education**  
WNYC
- Kids in universal pre-K are more likely to attend college and graduate high school, study finds**  
Business Insider
- The Power of Pre-K**  
New York Times

MORE...





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# Changing Admissions Policies: Challenge and Opportunity



- Covid made standardized testing difficult in 2020
  - Created a major challenge for schools that admit pupils using tests
- Long-standing concern that most sought-after schools do not reflect the district's demographic make-up
- Renewed attention to social justice and equity

**METRO** Facebook Twitter Facebook Email RSS

## NYC schools chancellor calls for end to elite school test as Asians dominate

By Selim Algar April 29, 2021 | 6:06pm | Updated

NYC Schools Chancellor Meisha Ross-Porter said the Specialized High School Admissions Test has produced "unacceptable" results.  
New York City Office of the Mayor via AP

**MORE ON: DEPARTMENT OF EDUCATION**

Letters to the Editor — May 25, 2021

'Blank check' Bill: Experts slam de Blasio's handling of \$3B in fed education funds

Schools Chancellor Meisha Ross-Porter called for an end to the specialized high school entrance exam Thursday while fuming about new admissions data that showed Asians dominating the controversial test once again.

Citing the minimal number of offers to black and Hispanic students, Ross-Porter called the **current single-test entry format** "unacceptable."

# Learning from Higher Education



- **SAT and ACT test results are strongly influenced by race, income, and parental education**
- **In 2020, many colleges and universities waived standardized test requirements**
  - 60% of four-year colleges and universities were test-blind or test-optional [[FairTest](#)]
- **Some public colleges and universities have gone further with longer-term changes**
  - California: 4 year moratorium on requiring SAT/ACT
  - Washington, Oregon, Colorado SAT/ACT optional
- **Ongoing academic debate on the effects of eliminating the SAT/ACT**
  - Rothstein: alternative measures like GPA and state-based assessments may be more reliable than the SAT, which is strongly influenced by preparation [[UC Berkeley](#)]
  - However, relying on essays and recommendations may generate even more inequality [[NYTimes](#), May 2021]

# ZIP-code Based Admissions in Boston



## Change is boosting diversity at Boston's exam schools, but some feel angry about not getting in

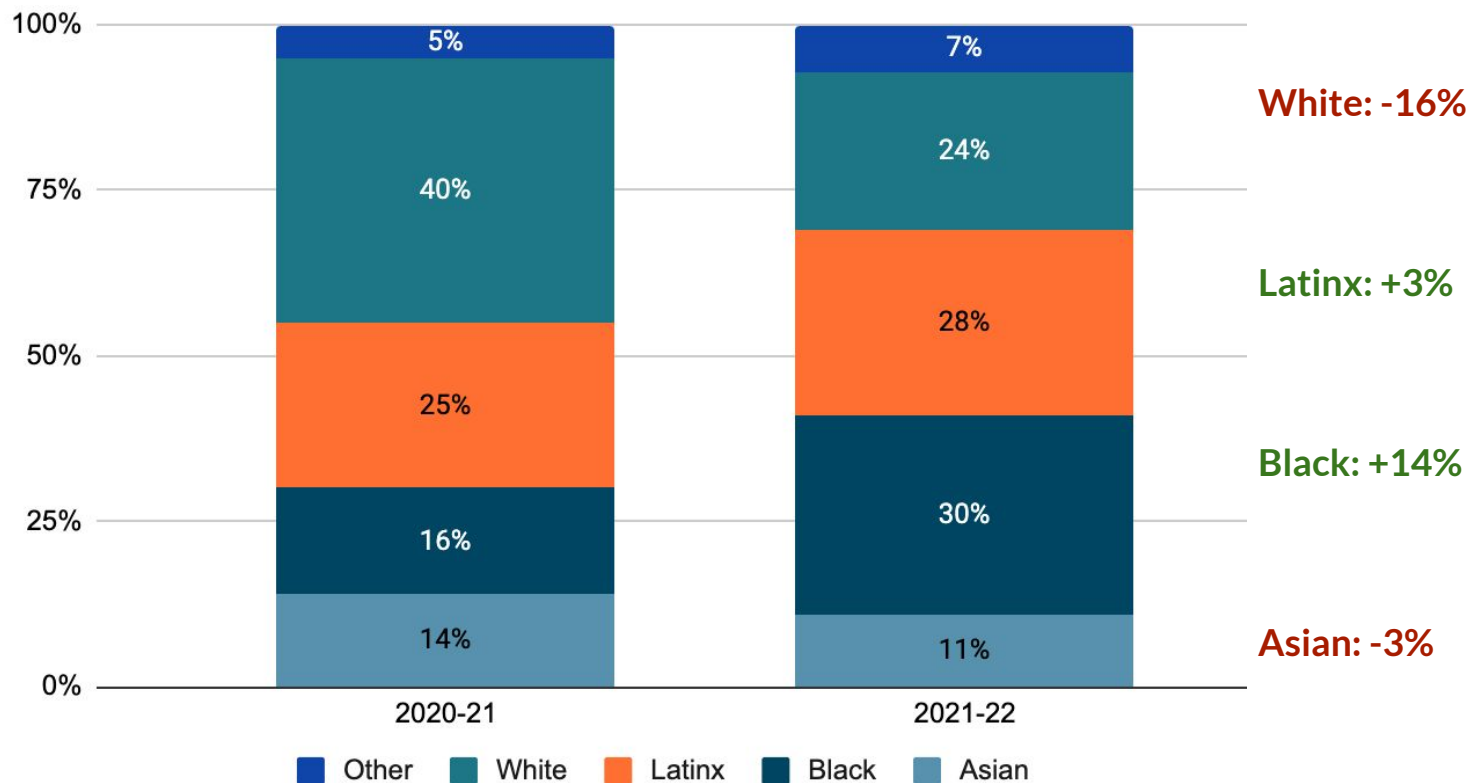
By James Vaznis Globe Staff, Updated May 19, 2021, 8:16 p.m.



At Boston Latin School, the temporary plan has notably altered the composition of the incoming seventh-graders receiving admission offers. PAT GREENHOUSE/GLOBE STAFF

- The Boston school committee eliminated the admissions exam for one year.
  - Admission is based on grades, standardized test scores from 2019, and student zip code
  - Zip codes are to be ranked by median household income
  - Eligible students residing in the lowest-income ZIP codes will be guaranteed a seat at their top choice

# 7th grade invitations to Boston Latin Schools by race



# Placed-Based Affirmative Action in Chicago

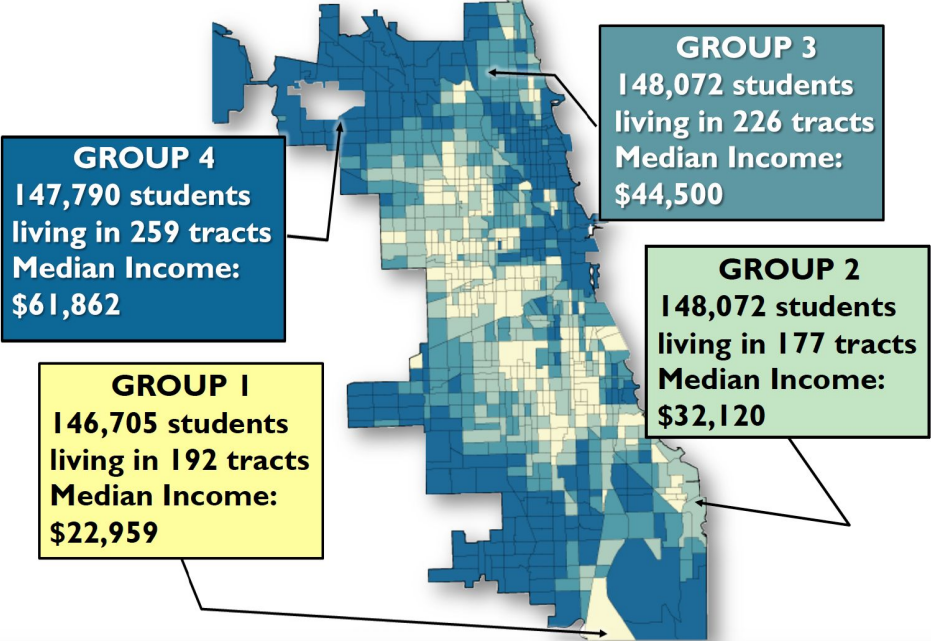
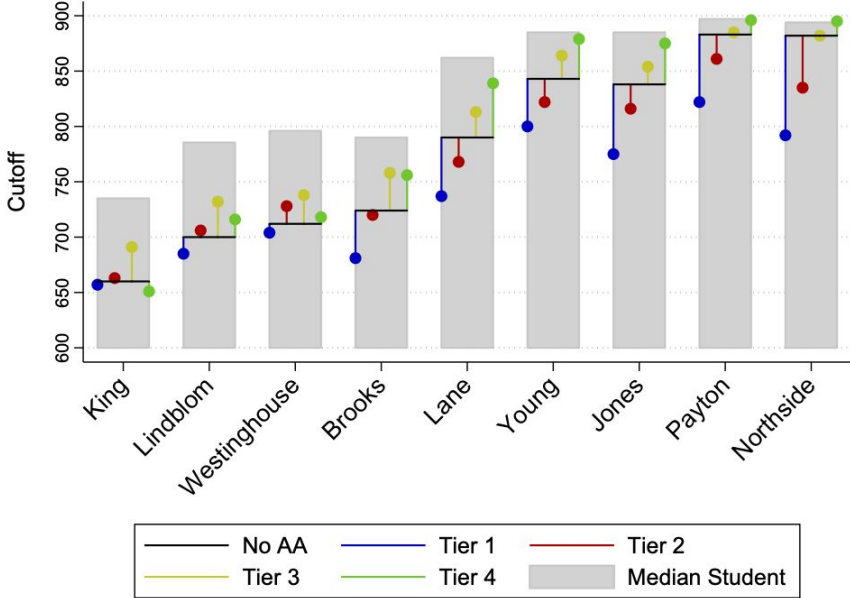


Figure 1: Chicago Admission Cutoffs by Tier in 2011



See Angrist, Pathak, and Zarate (2021); Each Chicago census tract is rated 1-4, using SES characteristics

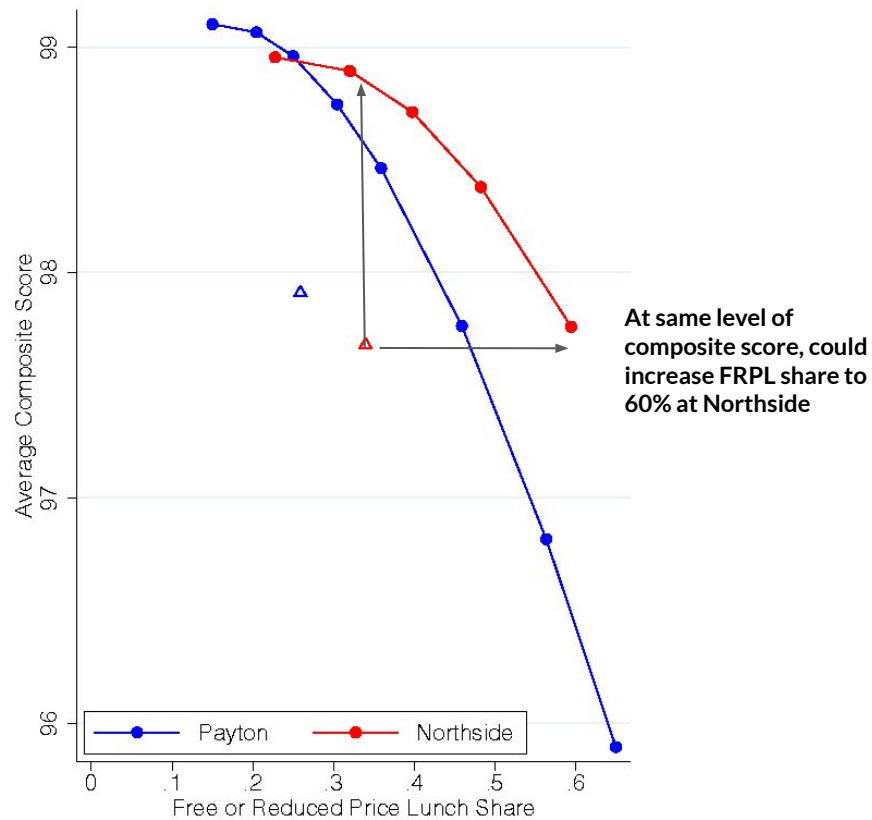
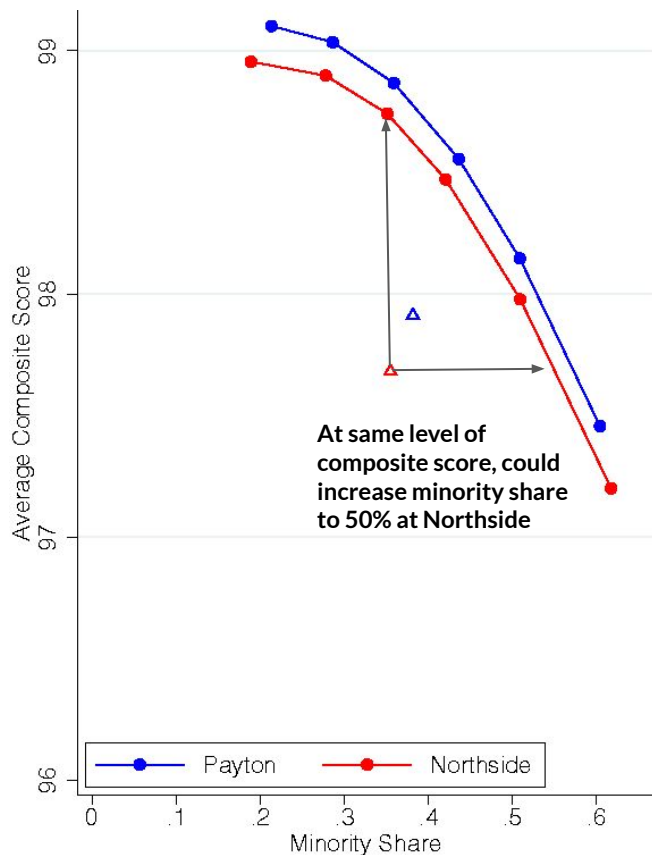


# How do we define equitable access?

When there's scarcity, there can be winners and losers

Student	Race	Free Lunch	Score Components			Comp. Score	Application	
			GPA	ISAT	Exam		School	Admit?
A	Hispanic	No	4.0	96.3	100	98.8	Payton	No
B	Hispanic	No	4.0	94.0	77.7	90.6	Payton	Yes
C	Black	No	4.0	96.3	100	98.8	Payton	No
D	Black	No	3.25	100	93	89.3	Payton	Yes
E	Asian	Yes	4.0	98.0	99	99.0	Payton	No
F	Asian	No	4.0	100	85	95.0	Payton	No
G	White	Yes	4.0	98.0	99	99.0	Payton	No
H	White	No	3.75	93.0	97	93.9	Payton	Yes
I	Hispanic	Yes	4.0	96.0	95	97.0	Payton	No
J	Hispanic	No	4.0	94.0	77.7	90.6	Payton	Yes
K	Black	Yes	4.0	99.3	89	96.1	Northside	No
L	Black	No	4.0	94.3	76.7	90.3	Northside	Yes

# Chicago's plan at Payton and Northside





# Assignment Reform: Other examples



- **New York City Middle and High Schools**
  - Middle schools did not use test scores or other academic “screens” to select students
  - The city also eliminated district-based admissions preference, which previously allowed some wealthy ZIP codes to carve out a set of its own elite high schools (District 2)
    - 1% --> 62% of offers at Eleanor Roosevelt HS in Upper East Side went to outside of district when this was eliminated
- **San Francisco’s Lowell High School:** used an admissions lottery rather than the existing GPA and standardized test assessment. Change is now permanent.
- **Thomas Jefferson High School in Northern Virginia:** System dropped teacher recommendations and standardized tests from admissions requirements, but kept short essays

# Assignment Reform: Broader implications



- Equity means different things to different people... racial, income, geographic, ...
  - We need to be precise on the goals and measures we're targeting
- Some temporary decisions have now been made permanent... but we do not yet know if the decisions made under pressing timelines are the best possible ones
- We now have an opportunity to evaluate and consider alternatives
  - What is the best way to advance equity?
    - Create new seats? eliminate admissions tests, change other screening criteria, change lottery systems?
- **We recommend deciding on the desired outcome, and then thinking about how implementation through different enrollment policy levers, simulating scenarios as needed**



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# Questions?

Parag Pathak  
parag@avela.org



JOIN OUR NEXT WEBINAR:

# Best Practices for K12 Student Admissions



June 30, 2021 - 11:00am PT / 2:00pm ET

Register @ <https://avela.org/webinar>



# **Data and Original Charts**



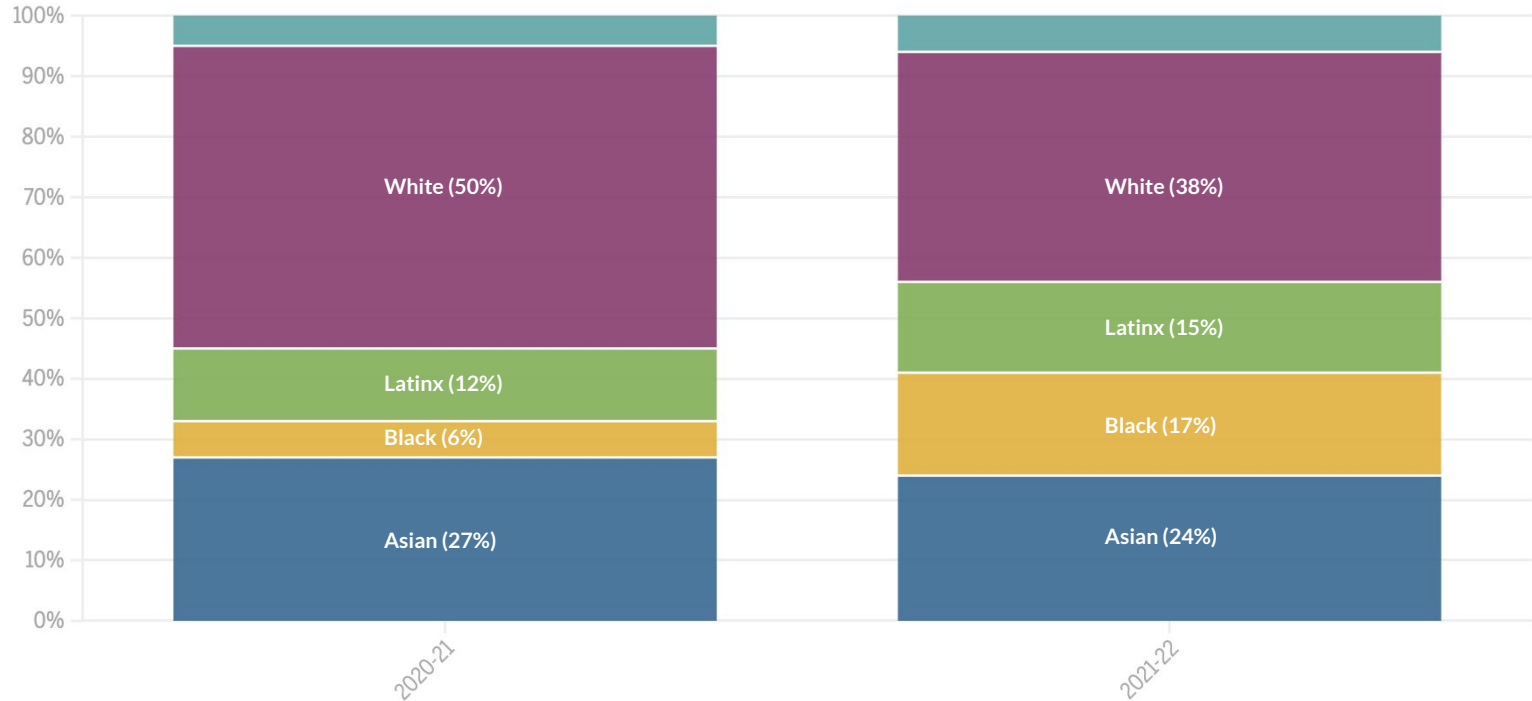
## 7th grade invitations to Boston exam schools by school and race

Boston Latin Academy

**Boston Latin School**

John D. O'Bryant School of Mathematics and Science

Asian Black Latinx White Other

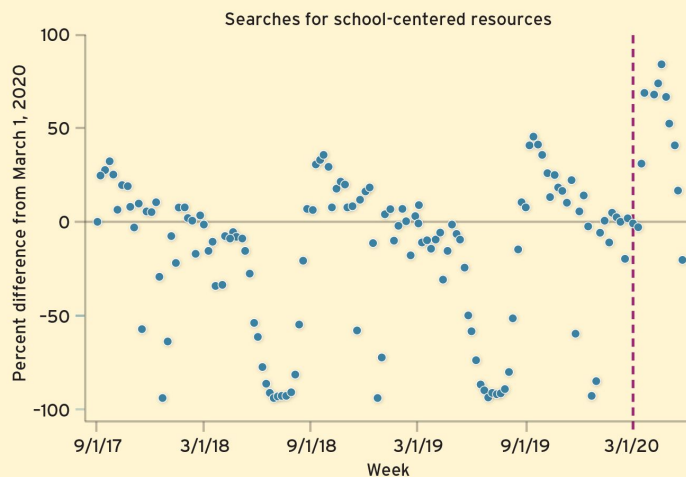


# Google Searches for Online Learning



## Searches for Online Learning Resources Soar Amid Pandemic (Figure 1)

*Internet searches for online learning resources follow the school calendar, peaking at the start of each school year and vanishing in the summer. The pandemic disrupted this cycle, producing a sharp spike in searches as schools began to close in March 2020.*

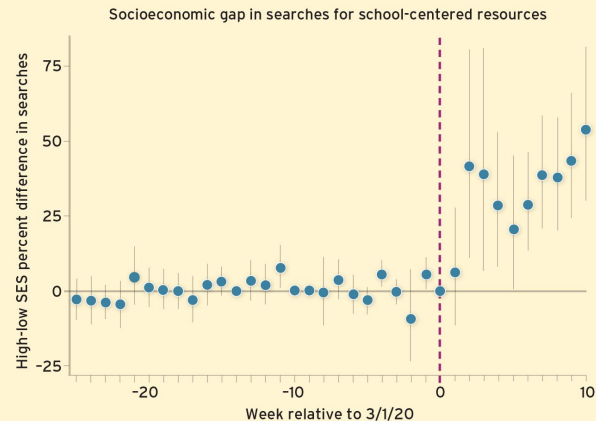


NOTE: The figure shows percentage difference in nationwide search intensity for school-centered online learning resources relative to intensity on March 1, 2020.

SOURCE: Authors' calculations using data from Google Trends.

## A Socioeconomic Gap Opens in Searches for Online Learning Resources (Figure 2)

*After schools closed, search intensity for school-centered online resources rose substantially more in areas of the U.S. with above median socioeconomic status compared to areas with below median socioeconomic status.*



NOTE: Figure shows estimates (and 95-percent confidence intervals) of the difference in percentage changes in weekly search intensity for school-centered resources relative to March 1, 2020 for Designated Market Areas with above-and below-median socioeconomic status. Socioeconomic status is defined based on household income, parental education, and computer and internet access. The sample includes search data from June 2015 through May 2020, excluding weeks with major school holidays.

SOURCE: Authors' calculations using data from Google Trends (for search activity) and the 2016 American Community Survey (for socioeconomic status).