Enrollment, Mobility, and Attendance in Detroit

A Research Partnership Enhanced with State and District Data

3/15/23

Dr. Sarah Winchell Lenhoff, sarah.Lenhoff@wayne.edu

Our Team

DETROIT PEER

Sarah Winchell Lenhoff, Ph.D.
Faculty Director

Erica B. Edwards, Ph.D.
Affiliate Faculty

Ben Pogodzinski, Ph.D.
Affiliate Faculty

Danica Brown, Ph.D.
Postdoctoral Fellow

Johnnetta Bell
Research Assistant

Bianca Burch
Research Assistant

Whitney Miller
Research Assistant

Michelle Taylor
Research Assistant

DETROIT
PEER

Notes

- This research result used data structured and maintained by the MERI-Michigan Education Data Center (MEDC). MEDC data is modified for analysis purposes using rules governed by MEDC and are not identical to those data collected and maintained by the Michigan Department of Education (MDE) and/or Michigan's Center for Educational Performance and Information (CEPI). Results, information and opinions solely represent the analysis, information and opinions of the author(s) and are not endorsed by, or reflect the views or positions of, grantors, MDE and CEPI or any employee thereof.

- The research was supported by the Spencer Foundation (#202000154), Skillman Foundation (#2107-2018003180), and the Institute of Education Sciences, U.S. Department of Education, through Grant R305C180025 to The Administrators of the Tulane Educational Fund. The opinions expressed are those of the authors and do not represent views of the Institute or the U.S. Department of Education.

DETROIT
PEER

Choice in a Time of COVID: Immediate Enrollment Decisions in New York City and Detroit

Report forthcoming in partnership with REACH

Sarah A. Cordes, Sarah Winchell Lenhoff, Amy Ellen Schwartz, Jeremy Singer, and Samantha Trajkovski

DETROIT
PEER

Motivation

- Sudden & massive educational disruptions from COVID-19 altered school choice decisions for families

- Concerns about availability & safety of pupil transportation—such as school buses—may have made families more likely to choose zoned school

- Expansion of transit-free choice in the form of fully online education may have offered some families the ability to access high-quality schools further from home

- Mobility, on average, has negative effects on students

DETROIT
PEER

In this study…

- Explore school choice in a time of COVID-19, focusing on immediate enrollment decisions in Fall 2020

- Use school- and student-level data in Detroit to examine post-pandemic changes in:
  - Enrollment patterns across traditional public & charter schools
  - Student exit, entry, and mobility

- Shed light on the extent to which COVID-19 may have exacerbated inequitable access to choice and/or high quality schools.

Detroit Context

Detroit

- About 100,000 students attending ~170 schools in Detroit & over 450 schools in the suburbs

- Racially & socioeconomically isolated

- Many choice options
  - Zoned school
  - Other students' zoned schools
  - Magnet/selective schools
  - Charter schools (in Detroit and surrounding suburban districts)
  - Suburban traditional public school

Data and Sample

Detroit data through CEPI P-20 Longitudinal Data System

- Student-level administrative data: school attended and residential location for TPS & charter school students, 2015-2021

- Sample: K-8 excluding students in alternative and special education schools

Methods

We plot enrollments, entry and exit rates, and mobility rates for each year from 2015 to 2021 and examine whether there is a change in the general trends for these outcomes post-COVID.

Next, we estimate the causal impact of COVID on student mobility using the following model:

$$Y_{iglt} = \beta_0 + \delta POSTCOVID + \beta_1 STUDCHAR_{it} + \gamma_l + \theta_g + \lambda_t + \varepsilon_{iglt}$$

where Y is a measure of mobility for student i, in grade g, in location l, in year t, which includes any school move, structural moves, or non-structural moves, POSTCOVID is an indicator equal to 1 in 2021, STUDCHAR is a vector of student characteristics including gender, race/ethnicity, disability status, English language classification and poverty indicators, γ are census tract fixed effects, θ are grade effects, λ are year effects, and ε is the error term. In these models, the main coefficient of interest is δ, which captures differences in mobility in the post-COVID period.
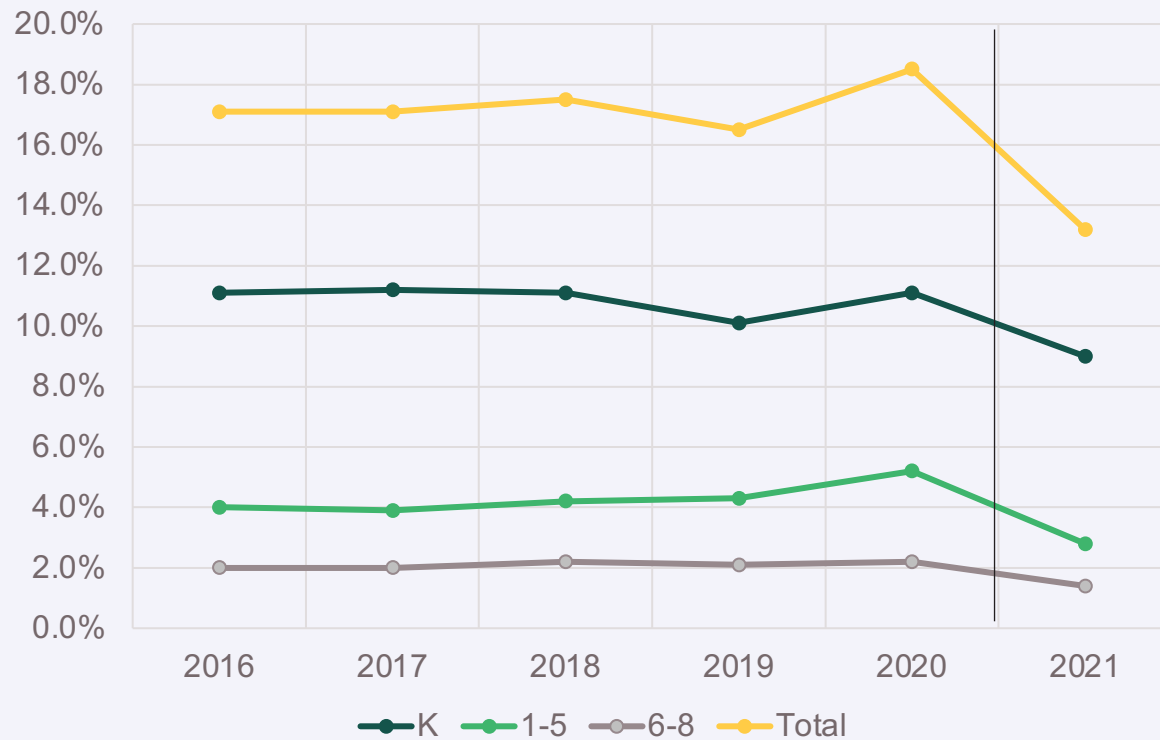
We then re-estimate our models both controlling for residential mobility and including an interaction between residential mobility and the post-COVID period.

Detroit Student Enrollment has Slowly Declined, DPSCD and Charter Shares Stable
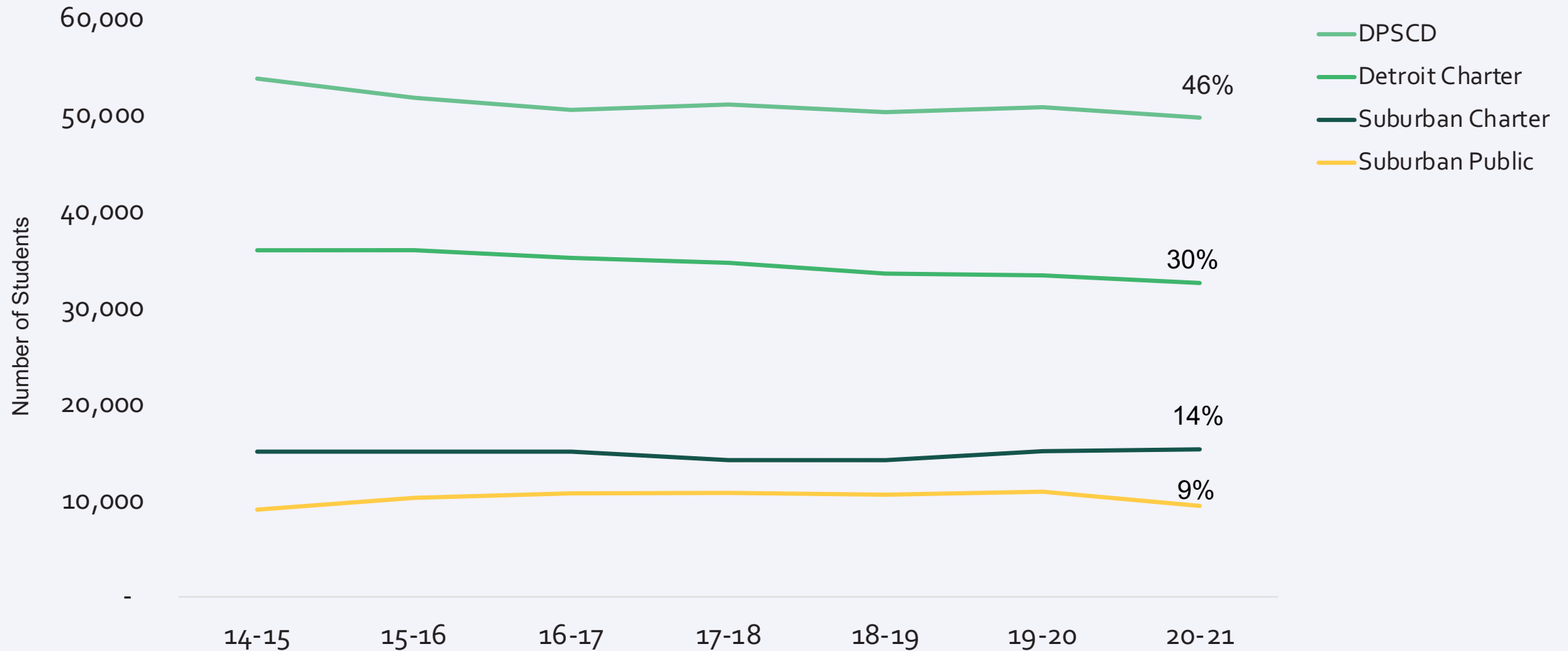
Entry rates decreased 5.2pp; No changes in exit rate

Detroit Entry as Share of Population

Legend: K, 1-5, 6-8, Total

Note: Entry rate is the percent of students enrolled in year t who were not enrolled in year t-1. All kindergartners not repeating a grade are counted as entrants. NYC sample excludes students ever enrolled in charter schools.

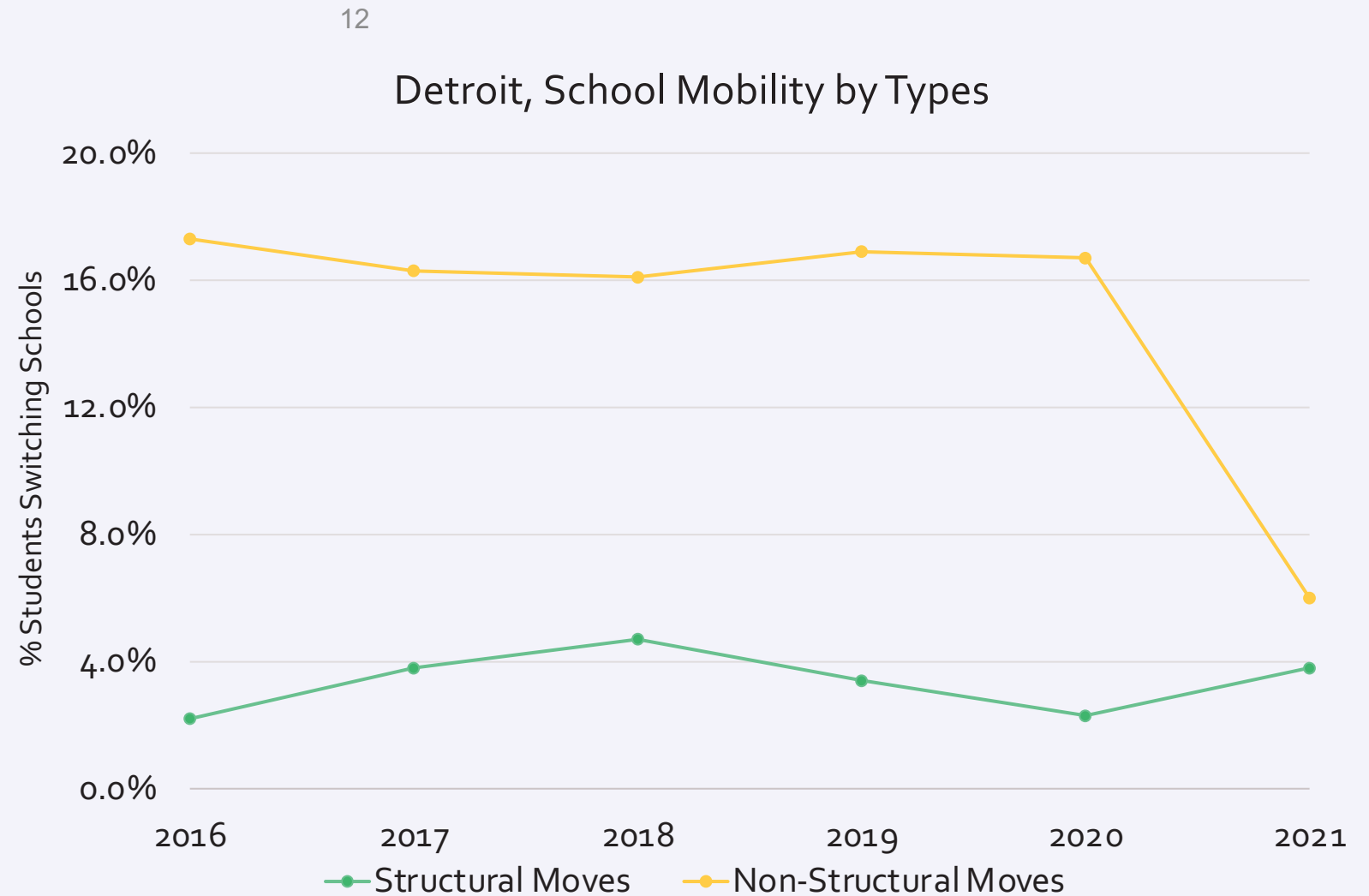## Detroit Exit as Share of Population
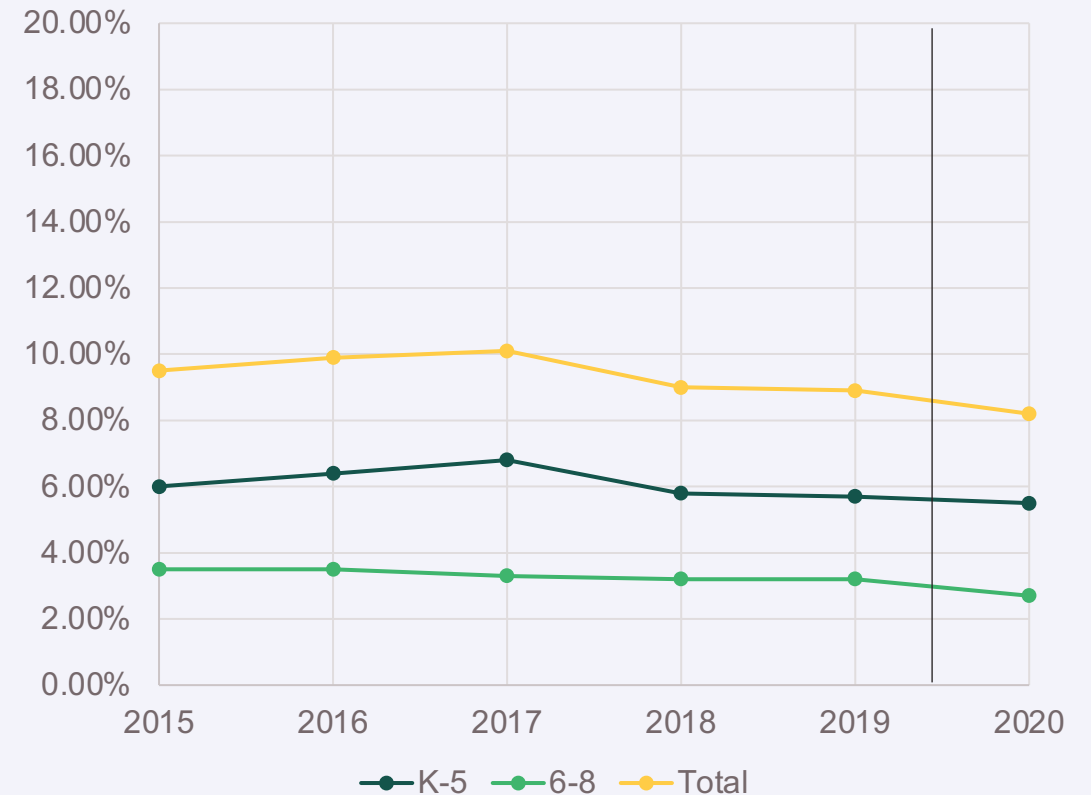
Legend: K-5, 6-8, Total

Note: Entry rate is the percent of students enrolled in year t who were not enrolled in year t-1. All kindergartners not repeating a grade are counted as entrants.

Non-structural mobility declined substantially in 2020-21.

Detroit, School Mobility by Types

DETROIT PEER

Non-Structural Moves	A	B	C	D
Post COVID	-0.159***	-0.173***	-0.152***	-0.111***
	(0.002)	(0.002)	(0.002)	(0.002)
Residential Move			0.323***	0.355***
			(0.002)	(0.002)
Post COVID*Res Move				-0.243***
				(0.004)
Grade FE	X	X	X	X
Census Tract FE		X	X	X
Observations	397,766	386,427	378,084	378,084

* p < 0.1, ** p < 0.05, *** p < 0.01

Notes: All models include controls for race, gender, English language learner, disability status, free or reduced lunch, and year effects. Post COVID =1 in AY 2020-21. Sample includes TPS students in grades 1-8, including those in ungraded special education. Models including residential move exclude observations missing residential location in year t or t-1. Students ever enrolled in D75, ever enrolled in a charter school, or those missing residential location in year t are excluded in columns 1-4. Students enrolled in alternative schools, special education centers, and strict discipline academies are excluded in columns 5-8. Robust standard errors in parentheses

After COVID, students in Detroit were 17.3 percentage points less likely to make non-structural moves (86.5% reduction).

DETROIT
PEER

Non-structural mobility decreased more among economically disadvantaged students—an additional 4.1 percentage points in Detroit compared to non-ED students.

Decreases in non-structural mobility were significantly less for non-Black compared to Black students.

Non-Structural Moves by Race, ED, Program	E	F	G	H
Post COVID	-0.168*** (0.002)	-0.115*** (0.004)	-0.162*** (0.002)	-0.152*** (0.002)
Post COVID*Asian	0.116*** (0.008)			
Post COVID*Hispanic	0.080*** (0.003)			
Post COVID*White	0.081*** (0.005)			
Post COVID*Other Race	0.067*** (0.016)			
Post COVID*Econ. Disad.		-0.041*** (0.004)		
Post COVID*EL			0.077*** (0.003)	
Post COVID*SWD				-0.001 (0.004)
Observations	378,084	378,084	378,084	378,084

* p < 0.1, ** p < 0.05, *** p < 0.01

DETROIT
PEER

Discussion

- No changes in enrollment trends
  - Enrollment in both charters and TPS sectors relatively stable
- Entry rates decreased across all grades, especially kindergarten
- No change in exit rates
- Non-structural mobility decreased, no change in the percent of students moving to better or worse schools
- Survey data suggest that mobility will revert to normal levels

Detroit Families' Experiences with COVID-19 and School Attendance

EdWorkingPaper, Annenberg Institute at Brown University

Sarah Winchell Lenhoff and Jeremy Singer

DETROIT
PEER

Motivation

- Major concerns about student attendance nationwide
- Attendance has a nearly linear relationship with student achievement, and chronic absenteeism is a symptom of problems throughout students' ecosystems
- Chronic absenteeism in Detroit already highest in the country among urban districts before the pandemic
- Structural barriers to attendance may be reduced through online learning, although new barriers may be introduced because of digital divide

DETROIT
PEER

In this study…

- Explore student attendance during the 2020-21 school year

- Use student-level data to examine post-pandemic changes in attendance patterns, combined with survey and qualitative data to identify mechanisms

- Shed light on the extent to which COVID-19 may have exacerbated inequitable access to school through attendance

DETROIT
PEER

Data and Methods

Detroit data through partnership with DPSCD

- Student-level administrative data: daily attendance, demographics 2018-19 to 2020-21

- Survey data linked to administrative records: Parent survey administered in June 2021 to a random sample of students at DPSCD neighborhood and app/exam schools

- We ran a series of stepwise OLS regressions to estimate the associations between student characteristics, socioeconomic circumstances, and COVID-19 experiences (independent variables) and the percent of days absent in 2020-21 (dependent variable).

- We also ran linear probability regression models with the same independent variables and chronic absence status (greater than or equal to 10% days absent) as the binary dependent variable.

Most DPSCD families faced significant economic, mental health, and logistical hardship during the pandemic.

	Weighted Mean
Any Parent Worked More during COVID	0.13
Any Parent Worked Fewer Hours/Lost Job during COVID	0.64
All Parents Worked Fewer Hours/Lost Job during COVID	0.39
Evicted during COVID	0.09
Family Member Sick or Died of COVID	0.36
Mental Health Challenges during COVID	0.60
Financial Challenges during COVID	0.56
Logistical Challenges during COVID	0.54

Computer and internet issues major reasons for absence; transportation and health not major reasons for absence during the pandemic.

Often/Always Reason for Absences During COVID	N	Weighted Mean
Lack of Transportation	770	0.12
Child's Health	762	0.16
Parent's Health	760	0.13
Child Refused	759	0.13
Computer Issues	771	0.39
Internet Issues	766	0.30
Log-on Issues	767	0.06
Issues with Teachers	765	0.09
Issues with Other Students	764	0.03

DETROIT PEER

70% of DPSCD students were chronically absent in the 2020-21 school year, compared to 62% in 2018-19.

DETROIT
PEER

Distribution of Attendance Rates in DPSCD 2020-21

Not Chronically Absent
30%
n = 15,785

Moderately Chronically Absent
16%
n = 8,414

Severely Chronically Absent
54%
n = 28,045

Percenteage of Total Students

Attendance Rate Range

0-10% 11-20% 21-30% 31-40% 41-50% 51-60% 61-70% 71-80% 81-90% 91-100%
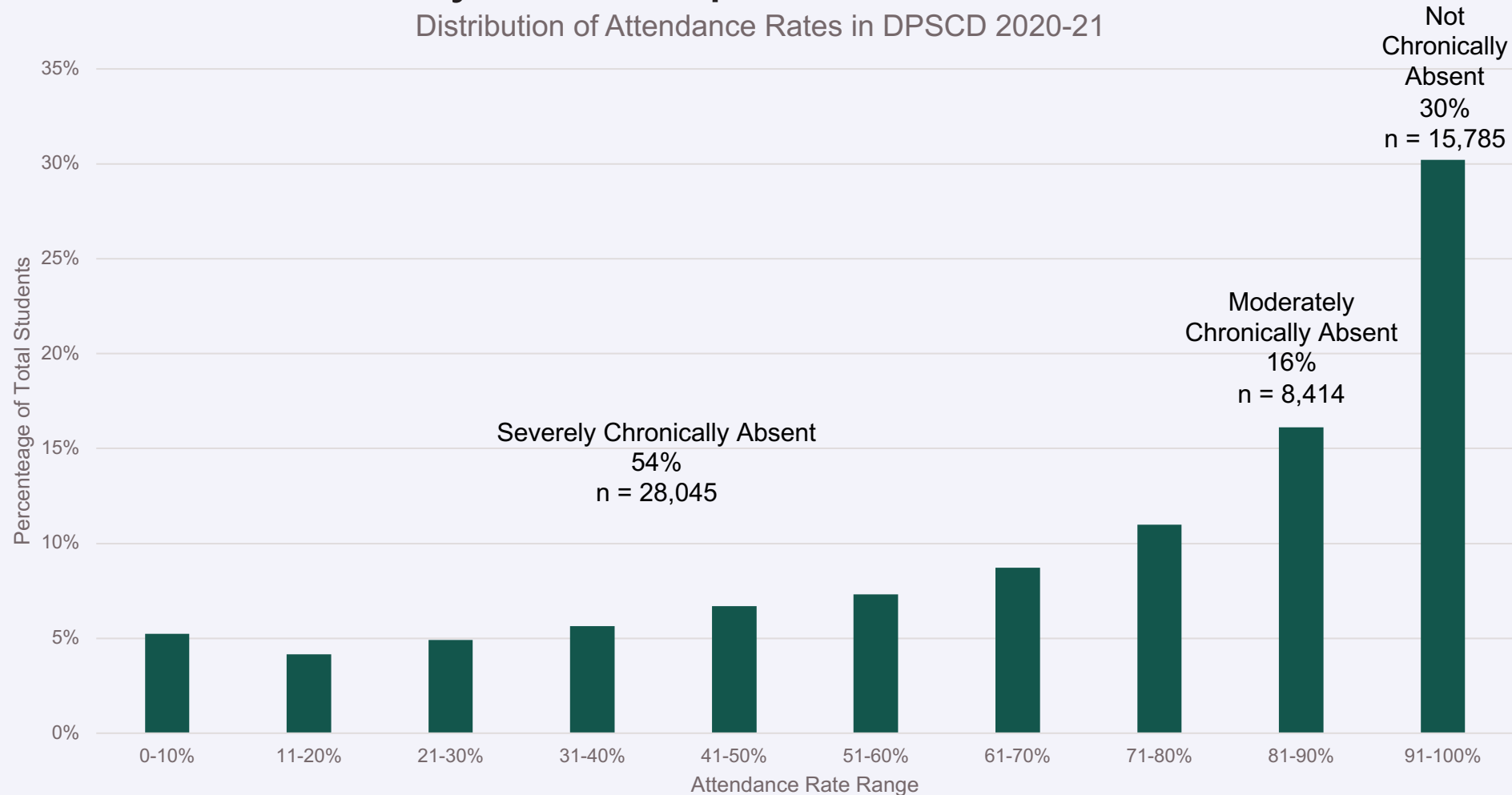
DPSCD Average Daily Attendance Before and During COVID-19 Pandemic
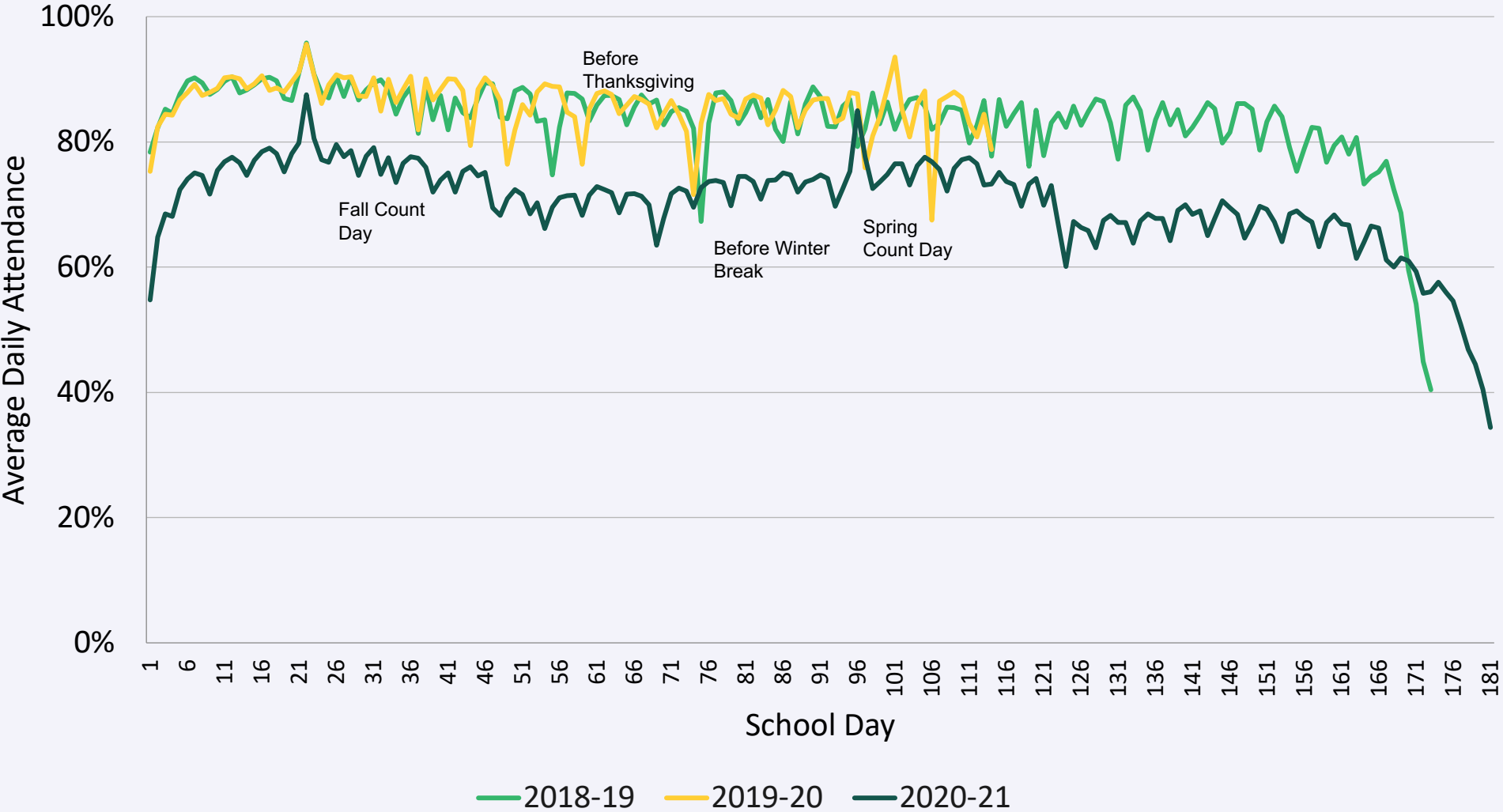
Major SES differences between severely chronically absent students and others

	Not Chronically Absent (30% of students)	Moderately Chronically Absent (16% of students)	Severely Chronically Absent (54% of students)
Number of Children	2.50[3]	2.75	3.00[1]
Number of Adults	1.93[3]	1.94[3]	1.69[12]
Single Parent/Guardian	44%[23]	60%[13]	75%[12]
Household Income	$37,224[3]	$30,097[3]	$18,521[12]
Income-to-poverty	137%[3]	111%[3]	67%[12]

1Statistically significantly different from "Not Chronically Absent" students (p<0.01)
2Statistically significantly different from "Moderately Chronically Absent" students (p<0.01)
3Statistically significantly different from "Severely Chronically Absent" students (p<0.01)

Computer issues, family SES significantly associated with percent days absent, chronic absenteeism.

Parent-reported COVID challenges not significantly associated with attendance.

	(1) Pct. Days Absent	(2) Pct. Days Absent	(3) Chronically Absent	(4) Chronically Absent
Family SES				
Income-to-Poverty	-0.03**	-0.01	-0.07**	-0.05*
Any Parent Full-Time	-0.07*	-0.05	-0.04	-0.03
Single Parent	0.08*	0.05	0.12**	0.08
Evicted in 2020-21	0.09	0.11	0.13**	0.13*
COVID-19 Challenges				
Health	0.00	0.00	0.05	0.06
Mental Health	-0.03	-0.01	0.02	0.00
Logistics	-0.01	0.00	-0.01	0.00
Financial	-0.03	-0.04	-0.04	-0.06
Online Instruction Only	-0.08**	-0.09***	-0.08*	-0.06
Computer Issues (reference = Never)				
Rarely	0.05	0.06	0.09	0.08
Sometimes	0.10**	0.06	0.15**	0.13*
Often	0.20***	0.16***	0.33***	0.29***
Always	0.27***	0.22***	0.35***	0.29***
Prior-Year Absences	-	0.80***	-	-
Prior-Year Chronically Absent	-	-	-	0.25***
Constant	0.27***	0.16**	0.54***	0.44***
R²	0.38	0.46	0.28	0.32
N	776	648	776	648

*p<0.05, **p<0.01, ***p<0.001. Outcome is the percentage of days absent (models 1 and 2) or whether a student was chronically absent (i.e., 10% or more days absent; models 3 and 4). Standard errors are robust. Analytic weights are applied (see Appendix A). Models that include "prior year" measures drop observations that are not observed in the 2019-20 school year (N=128). All models control for race, gender, special education, and grade level.

DETROIT PEER

Discussion

- Despite major philanthropic investment to provide computers and internet to all students in the district, these efforts were insufficient to ensure that students attended and were engaged in school.

- Students in families who faced greater economic precarity (e.g., lower income-to-poverty ratio, no fully-employed parent, facing eviction) were more likely to be severely chronically absent.

- There were significant SES differences between moderately and severely chronically absent students, suggesting that reducing chronic absenteeism will require social and economic supports beyond what schools alone can provide.

- More data linking SES characteristics with school data would be helpful to more fully investigate these relationships and interventions that may reduce them – and we have some hope in this regard!

DETROIT PARTNERSHIP FOR
EDUCATION EQUITY
& RESEARCH

Thank you!

Contact Dr. Sarah Lenhoff with questions & comments at
sarah.lenhoff@wayne.edu