EPIC
Education Policy Innovation Collaborative

Michigan's 2022-23 Benchmark Assessments

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BACKGROUND

The "Return to Learn" law outlined new student testing and data reporting requirements for school districts.

- Choose 1+ math & reading benchmark assessment from a list of approved providers or another test that meets the criteria outlined in the law
- Administer the assessment(s) to all K-8 students in the fall & spring of each school year starting in 2020-21
- If using a state-approved assessment, provide aggregate data or allow EPIC to aggregate student-level data for use in a statewide report

The resulting dataset is complicated.

- The data came from multiple assessments and in multiple formats. The dataset begins in fall 2020, so there is no information about baseline achievement from before the pandemic.
- Our task is to interpret and translate the data into meaningful insights about student learning throughout the state during and after the COVID-19 pandemic.

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DATA & METHODS

The full analytic sample is generally representative of MI's K-8 population, but some assessments and restricted samples are less representative.

Sample Characteristics	Full K-8 Population	MAP Growth	i-Ready	Star 360	DRC	All Vendors
% economically disadvantaged	55.8	55.9	58.2	50.9	49.0	55.6
% students of color	37.1	36.2	53.6	25.5	13.1	38.7
Months in-person in 2020-21	5.8	5.9	5.5	7.3	7.7	6.0
Total number of students	947,099	566,615	151,707	59,620	4,828	773,211
Total number of districts	852	634	74	78	23	755

Sample	Students	Districts
Full sample (spring 2023)	773,211	755
School year growth (2022-23)	725,399	750
Longitudinal growth	359,848	649

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DATA AND METHODS

Some of our analyses can only include certain samples/grade levels/assessments.

Analysis	Sample	Grades	Assessments	Notes
Average Achievement Trajectories	Longitudinal growth	K-8	MAP Growth, i-Ready, Star	Grades 1-8 only for Star Math
Variation in Student Achievement	Full sample	K-8	MAP Growth, i-Ready, Star	Grades 1-8 only for Star Math
Regression-Adjusted Percentile Ranks	Longitudinal growth	3-8	MAP Growth & i-Ready	Some models also include K-2
Proficiency Rates	Full sample	3-7	All	M-STEP grade levels only
Student Growth	School year growth	K-8	All	All grades with growth norms

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Research Question 1:

How do Michigan students' achievement trajectories in recent years compare to pre-pandemic trends?

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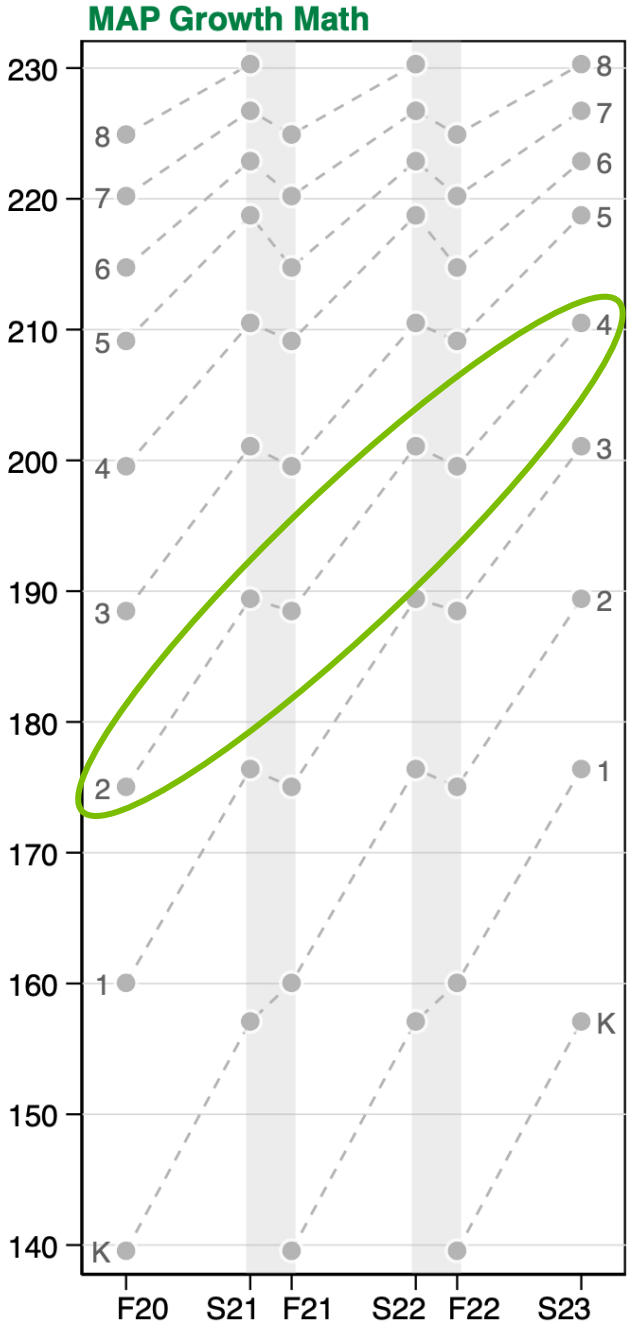
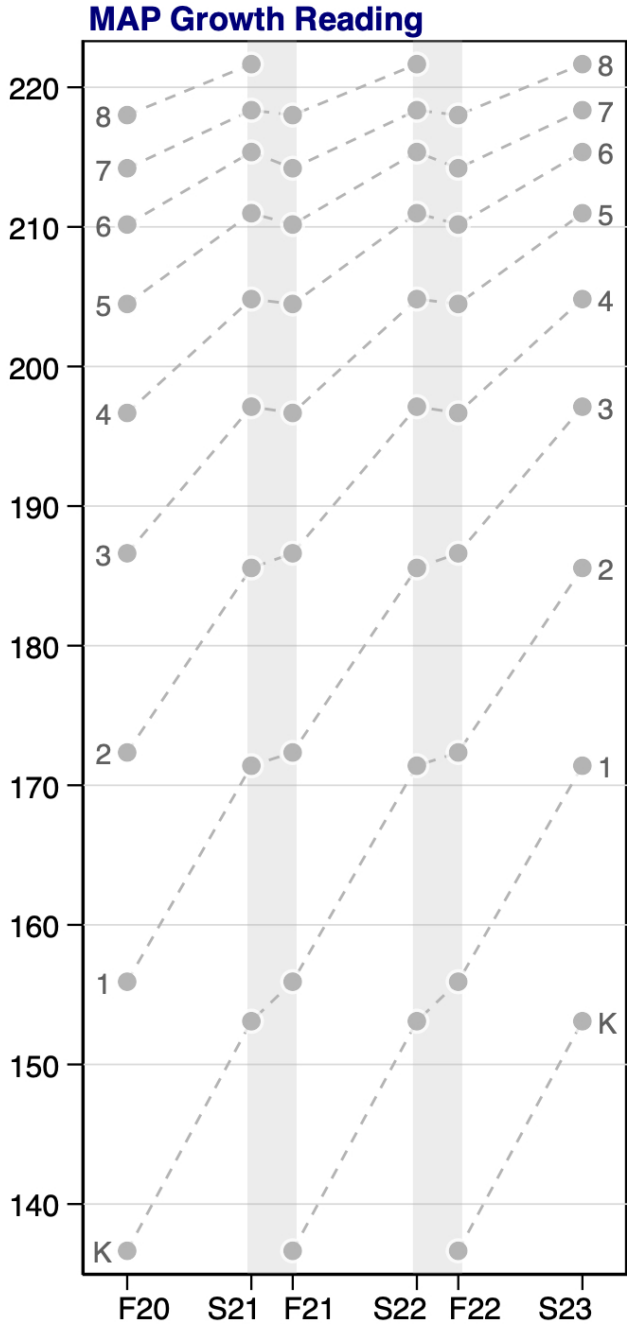
NATIONAL NORMS

Average achievement trajectories

As comparison points to help interpret MI students' scores, we use national norms for each grade level from before the pandemic



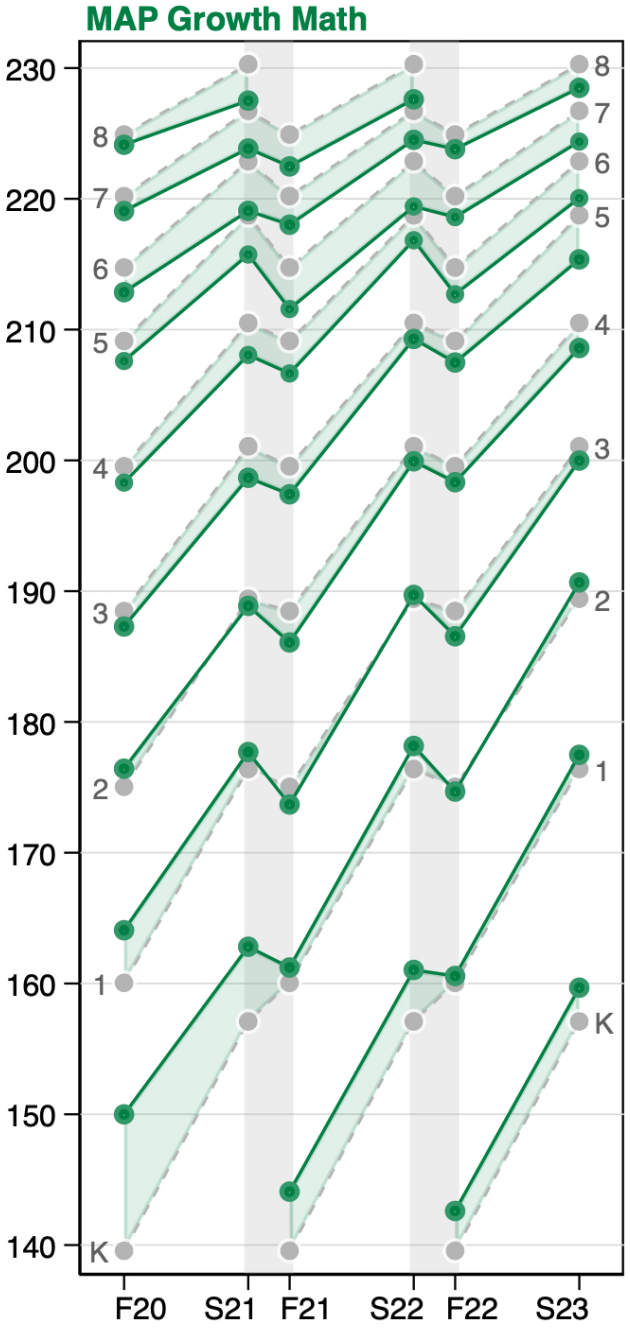


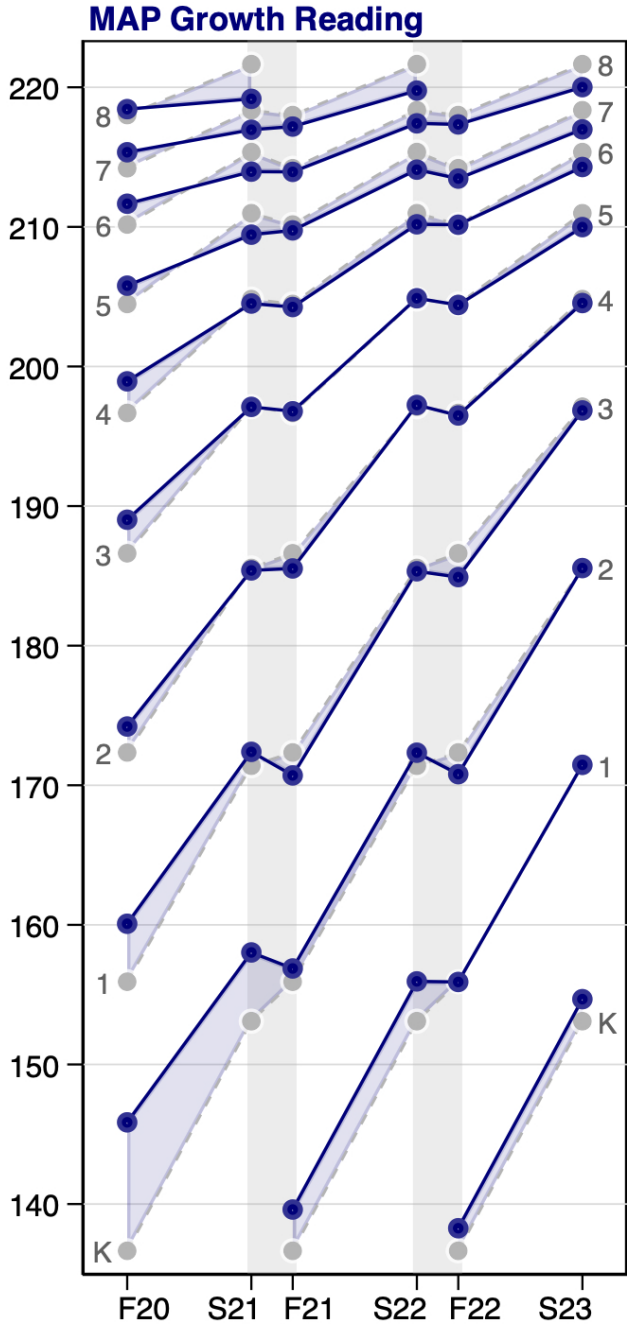
MICHIGAN TRENDS

Average achievement trajectories

In fall 2020, MI students in most grades were close to or slightly above national norms and fell [further] below norms by spring 2021

By spring 2023, K-3 students were generally near or above norms again; 5th-8th graders were still below norms

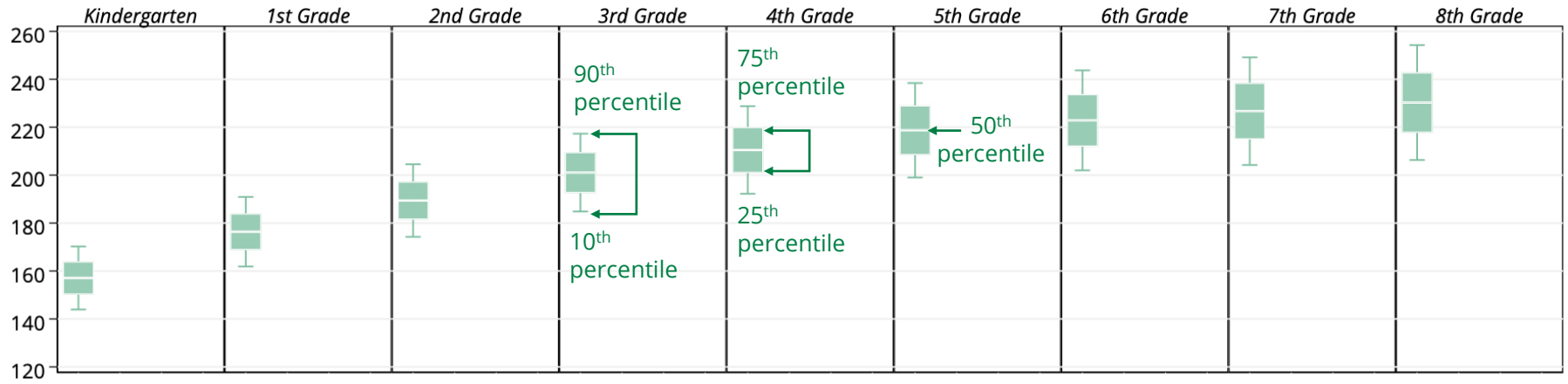




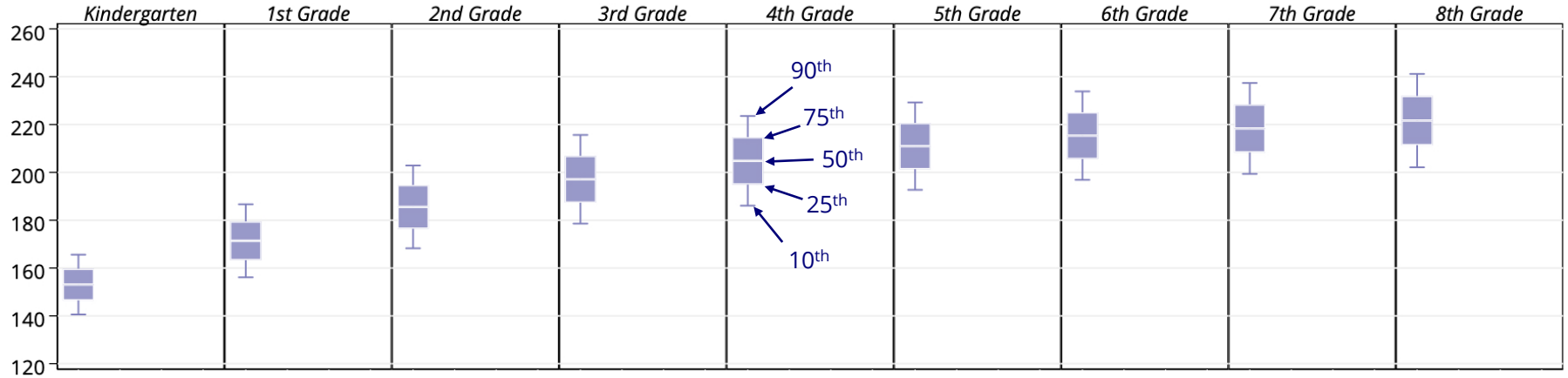
NATIONAL NORMS

Distribution of student achievement

MAP Growth Math



MAP Growth Reading

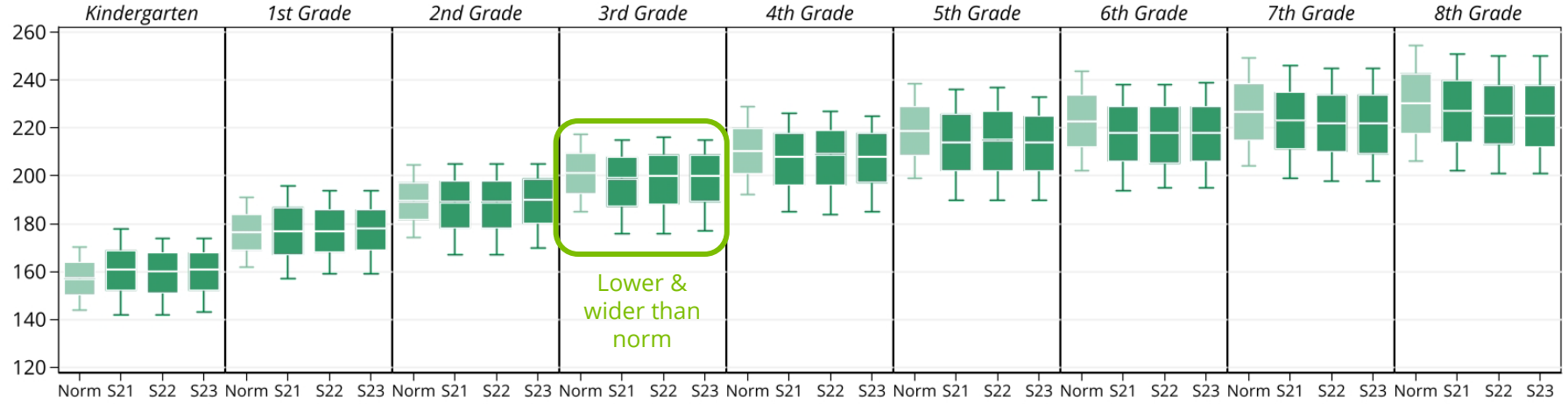


We use pre-pandemic **percentile norms** as comparison points to help interpret the extent of variation in MI students' achievement.

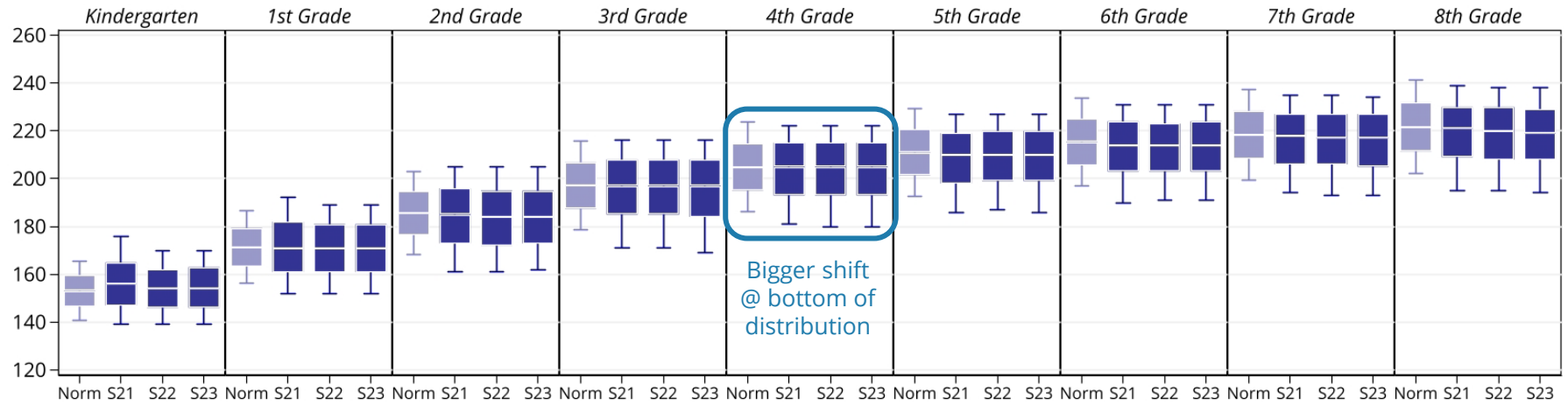
MICHIGAN TRENDS

Distribution of student achievement

MAP Growth Math



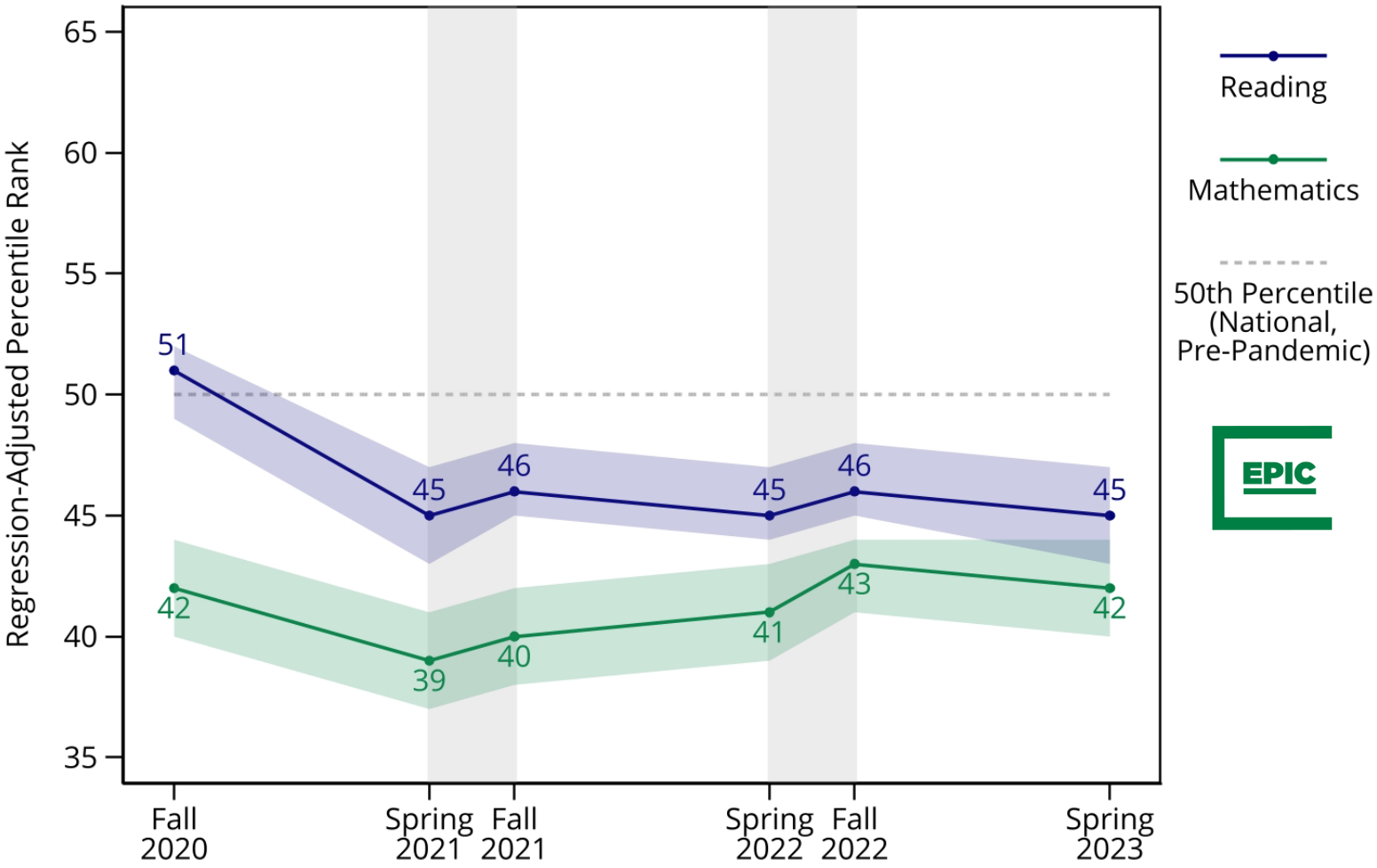
MAP Growth Reading



All MI students were impacted, but not to the same extent.
There is more variation now than before the pandemic.

REGRESSION-ADJUSTED PERCENTILE RANKS

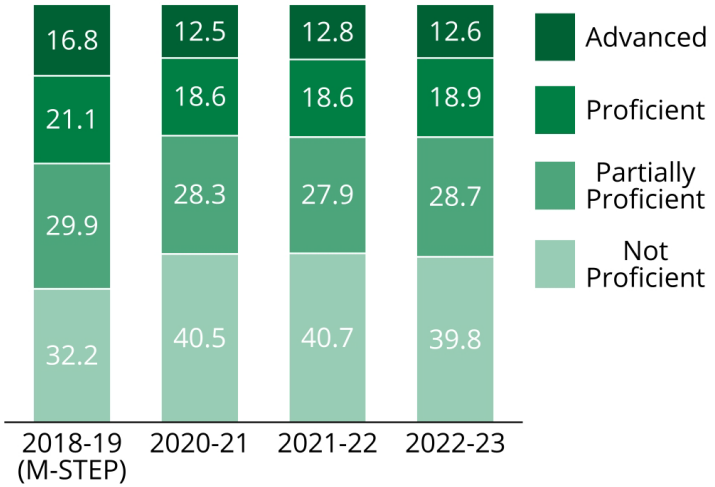
After accounting for differences between grades, vendors, and districts, we find evidence of some recovery from initial math declines but little change in reading



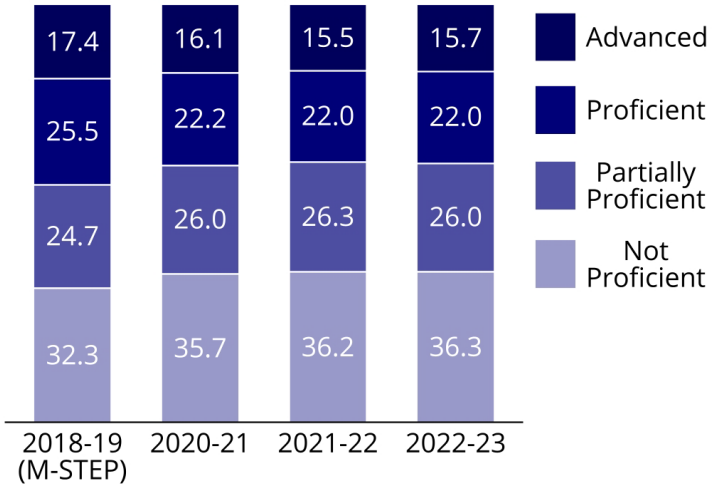
PROFICIENCY RATES

More students scored in the lowest proficiency categories in 2020-21 to 2022-23, compared to students in the same districts in 2018-19

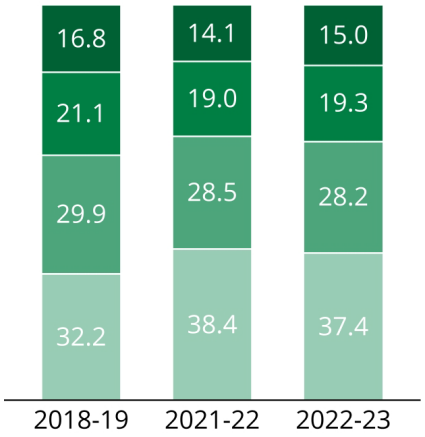
Math (All Vendors)



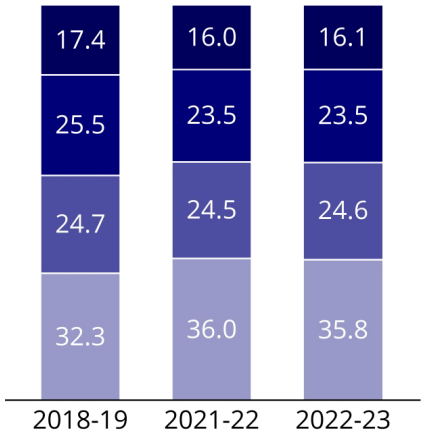
Reading (All Vendors)



M-STEP Math



M-STEP ELA



Research Question 2:

How has Michigan students' growth over the course of each year compared to typical yearly growth before COVID?

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GROWTH NORMS

The "typical" amount of growth over the course of a school year depends on the grade level, subject area, and a student's initial achievement level

Students in lower grade levels tend to make more year-to-year growth than those in upper grades

Students with lower baseline scores make more growth over the course of a year than those with higher scores

Growth rates vary more in reading than in math

Example: "Typical Growth" on the *i-Ready Diagnostic* assessment

Mathematics									
Fall Diagnostic Placement Level	**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
On Grade Level, Mid, Late, or Above	21	21	18	21	19	14	13	11	9
On Grade Level, Early	24	26	22	25	23	18	13	12	9
One Grade Level Below	32	29	26	26	23	18	14	12	9
Two Grade Levels Below	–	36	29	27	23	18	14	13	10
Three or More Grade Levels Below	–	–	–	30	24	20	15	13	12

Reading									
Fall Diagnostic Placement Level	**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
On Grade Level, Mid, Late, or Above	43	37	22	17	12	7	4	4	4
On Grade Level, Early	44	47	29	22	17	13	9	6	4
One Grade Level Below	49	49	39	26	20	16	12	10	9
Two Grade Levels Below	–	54	44	33	23	20	14	12	12
Three or More Grade Levels Below	–	–	–	36	28	26	19	17	18

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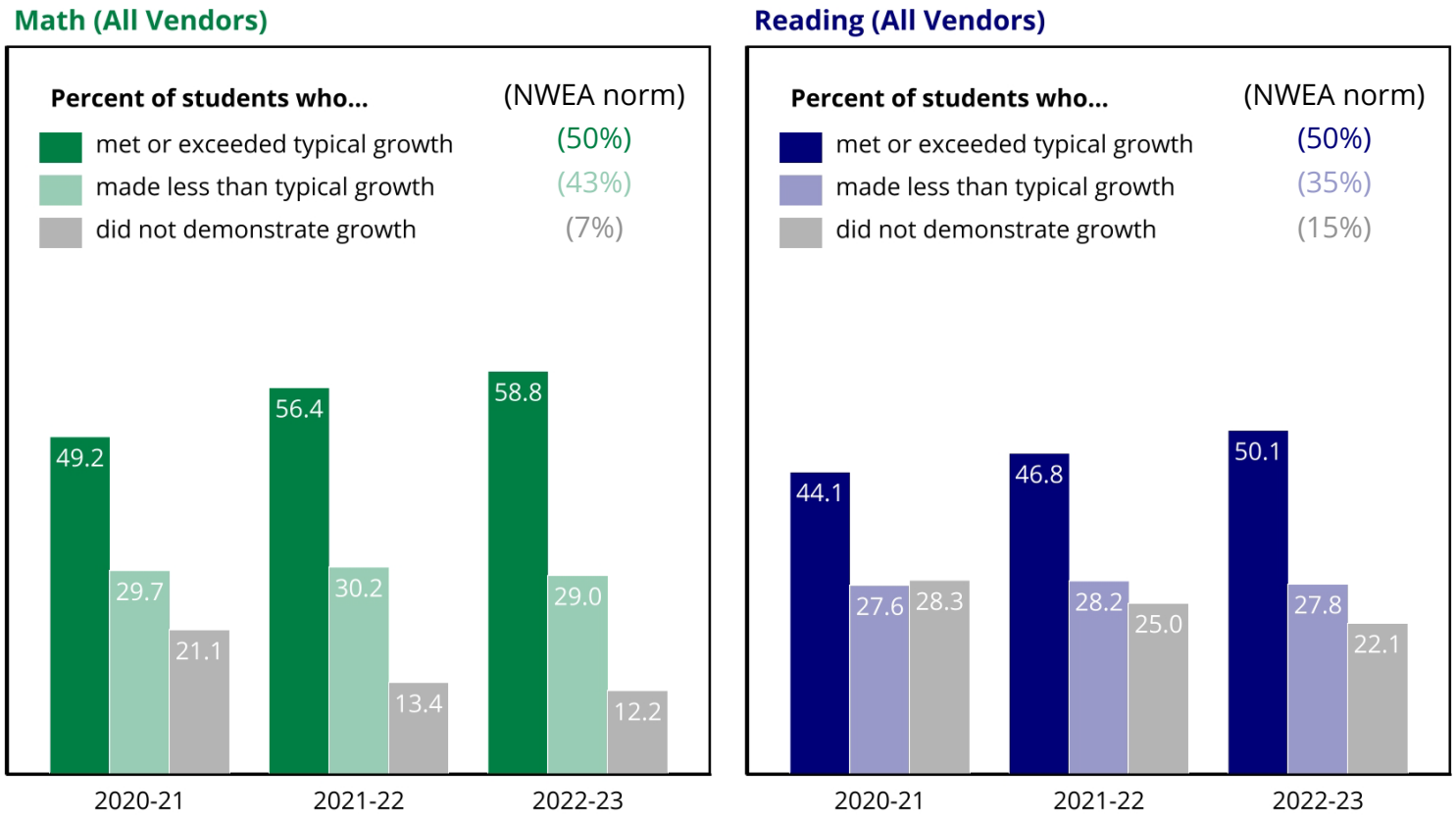
MICHIGAN STUDENTS' GROWTH

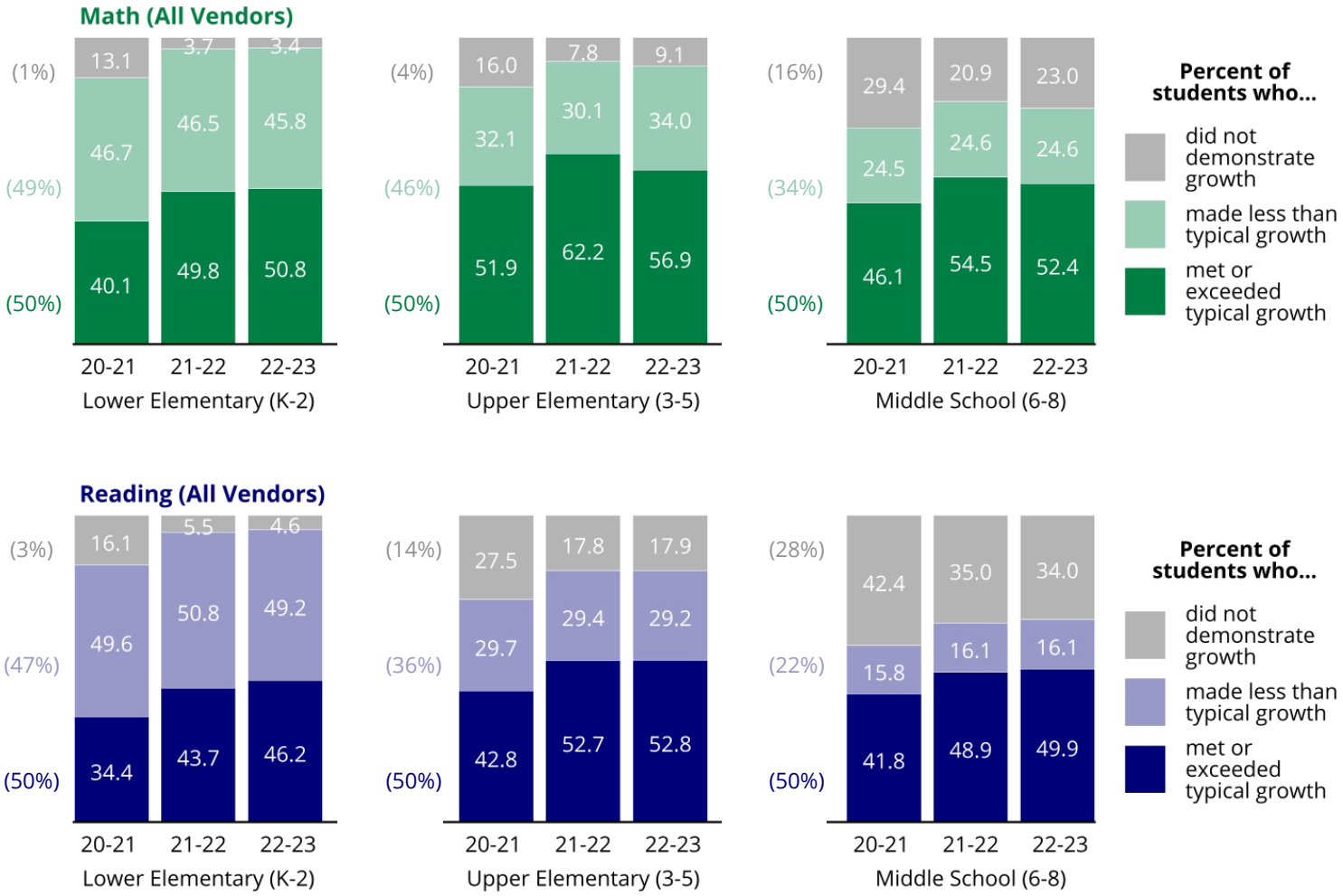
The share of students achieving "typical" (i.e., median) growth returned in pre-COVID levels by 2022-23, but some students still are not demonstrating any growth at all



These improvements mean that, on average, students are not falling any further behind. It does not mean that they have "caught up." Students who start the school year behind would need more than a typical year's growth to catch up.

MICHIGAN STUDENTS' GROWTH

Growth accelerated for 3rd-8th grade math & 3rd-5th grade reading, stabilized for K-2 (both subjects) & 6th-8th grade reading



Research Question 3:

How have trends in achievement and growth differed across subgroups of Michigan students?

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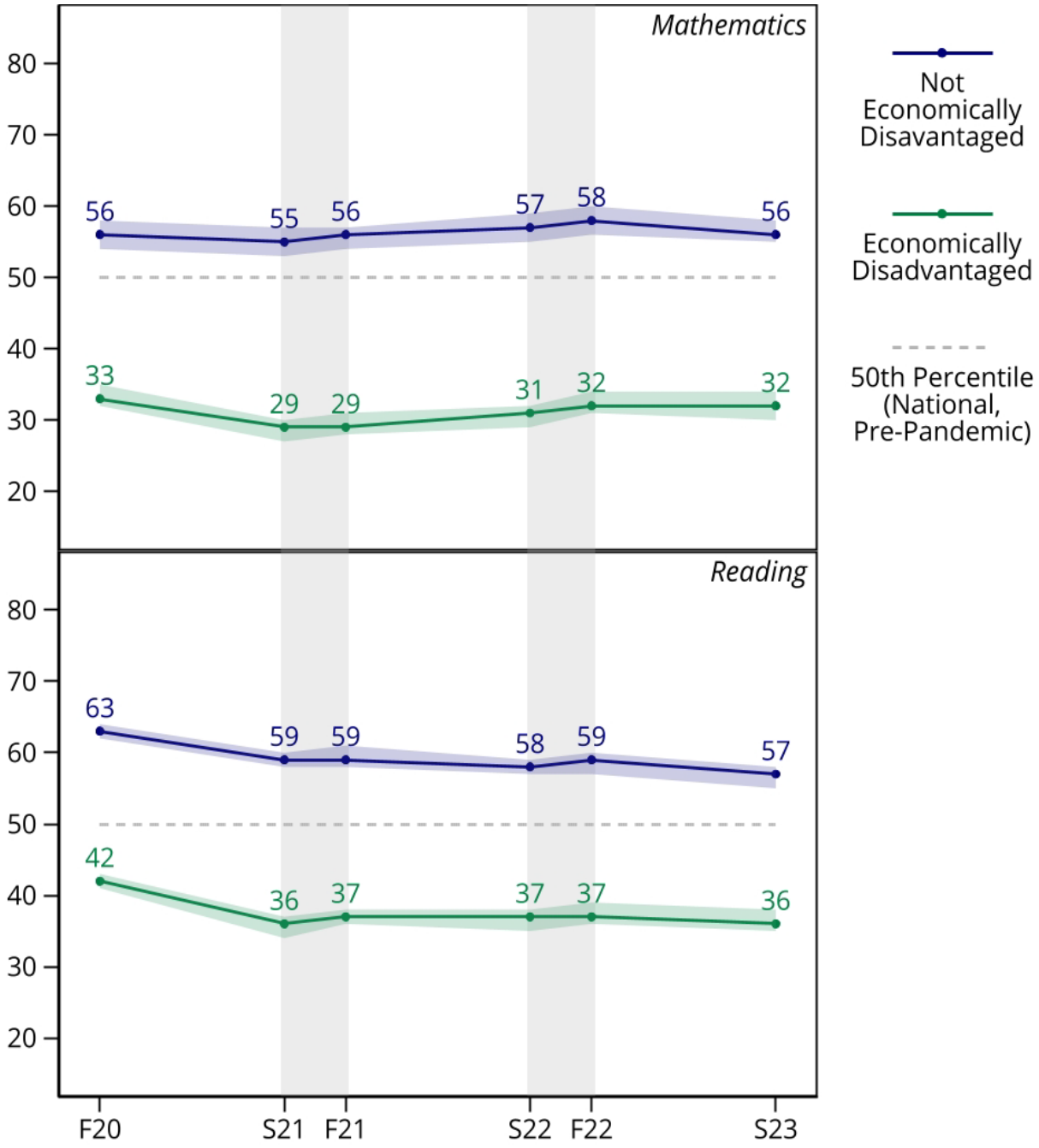
ECONOMIC STATUS

Regression-adjusted percentile ranks

Math achievement widened between fall 2020 and spring 2021, improved slightly by spring 2023

Reading gaps remained about the same across the 3 school years



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RACE/ ETHNICITY

Regression-adjusted percentile ranks

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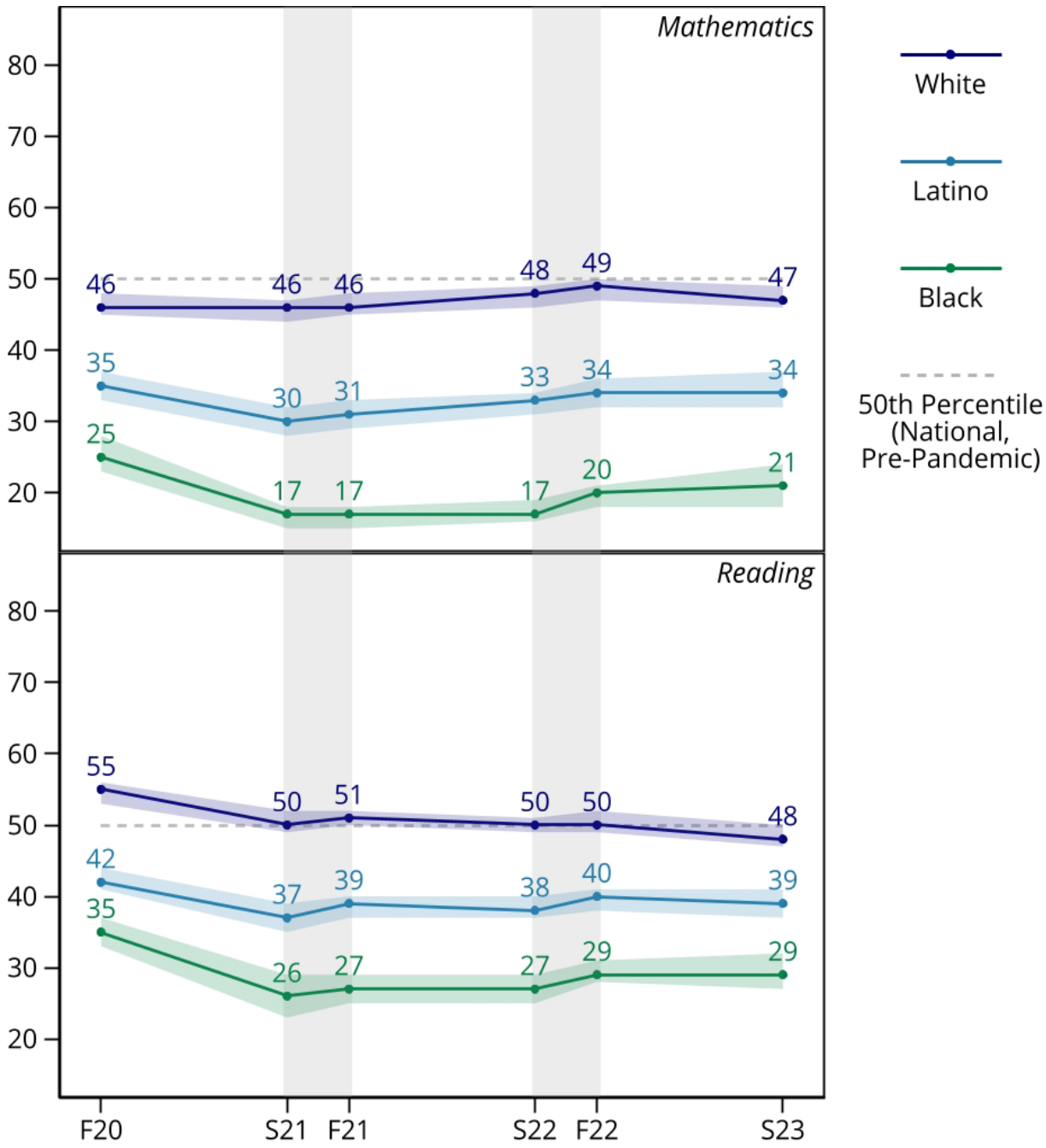

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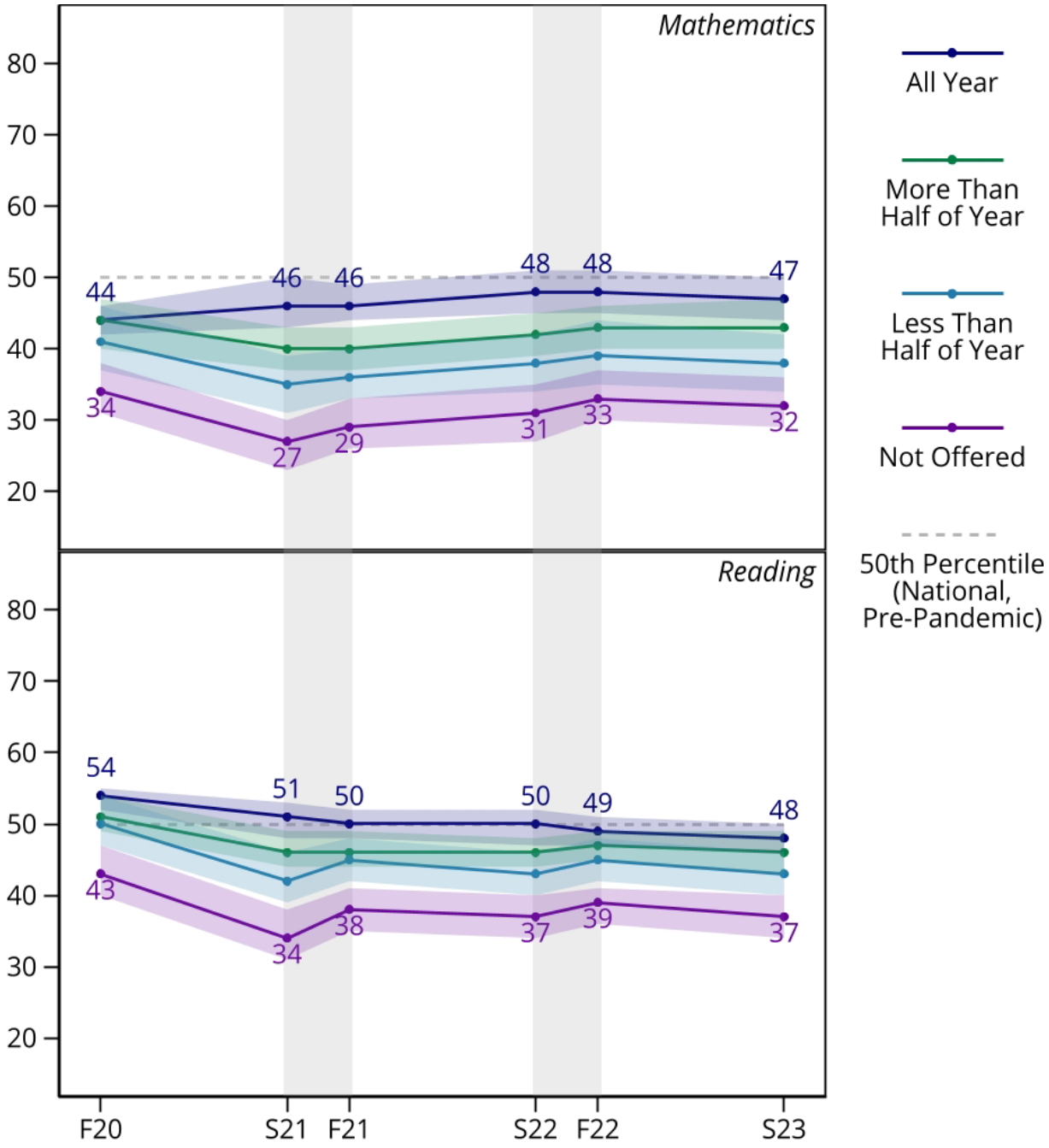
ACCESS TO IN-PERSON INSTRUCTION (2020-21)

Regression-adjusted percentile ranks

Students whose districts offered in-person instruction all year in 2020-21 were the only group who didn't experience math declines that year

All districts had reading declines, but they were most acute in districts that were remote all year



CONCLUSION

Key takeaways

- On average, math achievement has improved slightly since spring 2021, but reading achievement has remained about the same
- Michigan students' achievement levels vary to a greater extent than would have been expected pre-pandemic
- Students in 2022-23 were more likely to reach targets for "typical growth" but many still did not demonstrate growth at all
- Groups of districts and students most negatively affected by the pandemic also experienced the most learning recovery, but some remain behind

Implications

- It will take more time, resources, and support to recover academically
- Differentiated instruction & individualized supports will be critical to meet students where they are
- These challenges are widespread both within and outside of Michigan

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