



REPORT
2023
MISSISSIPPI DATA PROJECT



**Poverty Status
and Standardized
Test Scores**





Introduction

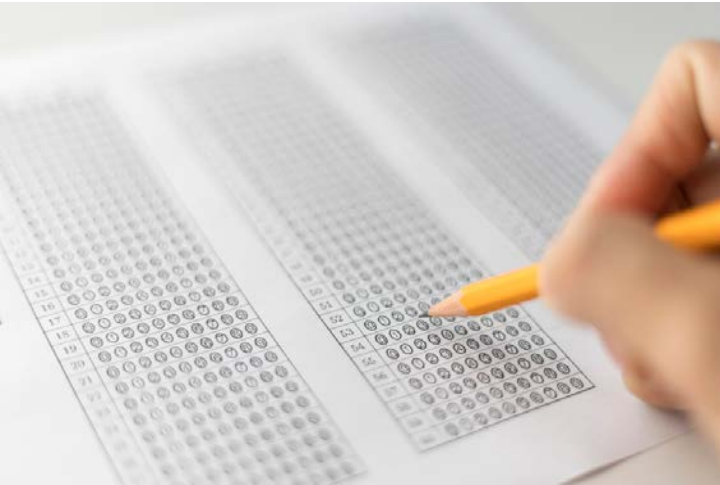
The COVID-19 pandemic had profound effects on K-12 education. To prevent the spread of COVID-19, Governor Tate Reeves signed an executive order on March 19, 2020, closing all public schools in Mississippi [1]. When Mississippi K-12 schools reopened in August 2020, school districts were given the option to provide instruction in-person, virtually, or via a hybrid approach during the 2020-2021 school year [1]. School districts were allowed to alter their instruction mode as needed in response to changes in COVID-19 prevalence rates within their respective communities.

The COVID-19 pandemic had profound effects on academic achievement. Although researchers are still working to identify factors that contributed to post-pandemic learning losses, the fact that academic achievement suffered in the wake of the pandemic is evident. Multiple studies in the United States and other highly developed nations associate pandemic-related educational disruptions with poorer performance on various indicators of early academic achievement [2,3,4].

Studies comparing standardized tests scores before and after the 2020-2021 school year provide an important window into pandemic-related achievement losses within the United States. These studies consistently show that standardized test scores for K-12 students in the United States were lower after the 2020-2021 school year than before the 2020-2021 year [2,3]. This general pattern exists in all states, but the extent of the post-pandemic decrease in tests scores varies across states [2]. There is also evidence that standardized test scores for U.S. students overall have begun to rebound to pre-pandemic levels [2,6].



The pandemic undermined K-12 academic achievement for myriad reasons. Efforts to identify the relative contribution of specific factors in pandemic-related achievement losses are ongoing. Several studies on pandemic-related achievement losses have focused on the shift to remote or virtual instruction during the 2020-2021 school year. The move to remote instruction contributed to pandemic-related achievement losses, but research suggests



that instruction mode alone does not completely explain K-12 students' poorer performance on standardized tests after the 2020-2021 school year [2,3]. The factors contributing to post-pandemic achievement losses are complex, but some research suggests that community-level factors including, but not limited to, broadband access, local economic disruptions, and/or social isolation levels may have played key roles in shaping post-pandemic academic losses among K-12 students [2]. There is also mounting evidence that students in poor communities were

hit hardest by pandemic-related educational disruptions [3]. Standardized test scores and other indicators of academic achievement varied considerably between low and high poverty school districts before the pandemic, [5] and some research suggests that the pandemic exacerbated existing gaps in academic achievement between students in high poverty and low poverty school districts in the United States [3].



Current Analyses

This brief describes recent trends in standardized test scores for 3rd Grade students in Mississippi before and after the 2020-2021 school year. The 2020-2021 school year is pivotal because it was disrupted by the COVID-19 pandemic. The analyses presented herein describe trends in 3rd grade English Language Arts (ELA) and Mathematics exam scores for the state overall and separately by school district poverty level between the 2017-2018 and 2021-2022 school years.

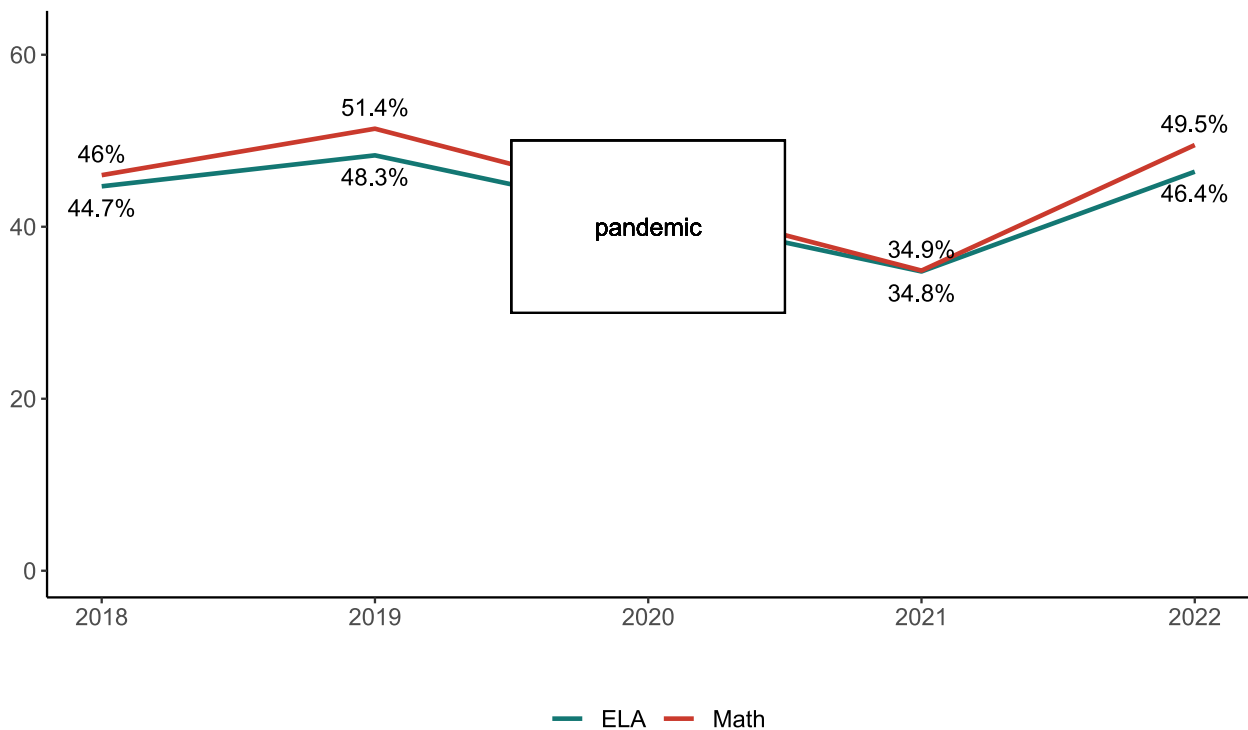




Recent Trends in Standardized Test Scores

Figure 1 displays state-level trends in the percentage of 3rd Grade students in Mississippi who earned proficient or advanced scores on 3rd Grade English Language Arts (ELA) and Math Exams in Spring 2018, 2019, 2021, and 2022. Standardized tests were not administered in Spring 2020 due to the COVID-19 pandemic. The figure shows that standardized test scores among 3rd Grade students in Mississippi fell sharply between Spring 2019 and Spring 2021, but average scores on both exams in Spring 2022 were close to their respective Spring 2019 averages. Although standardized test scores are just one indicator of academic achievement, these results imply that academic performance among young children in Mississippi has begun to recover from the effects of the COVID-19 pandemic.

Figure 1. Trends in 3rd Grade Math and ELA Proficiency Results in Mississippi: 2017-2018 to 2021-2022



Note: This figure displays publicly available data posted on the Mississippi Department of Education website. Source: <https://www.mdek12.org/OPR/Reporting/Assessment>

"...results imply that academic performance among young children in Mississippi has begun to recover from the effects of the COVID-19 pandemic."



Poverty Status and Standardized Test Scores

Figures 2 (ELA) and 3 (Math) display the correlation between poverty status and 3rd Grade exam scores in Mississippi by school district. Each dot represents an individual school district. The percentage of 3rd Grades students earning proficient or advanced scores on the Spring ELA and Math exams is on the vertical axis (i.e., proficiency rates). The percentage of children ages 5-17 living in households with income below the Federal Poverty Line (FPL) is on the horizontal axis (i.e., poverty rates). The data shown on each axis is averaged over five years (2017-18 to 2021-22).



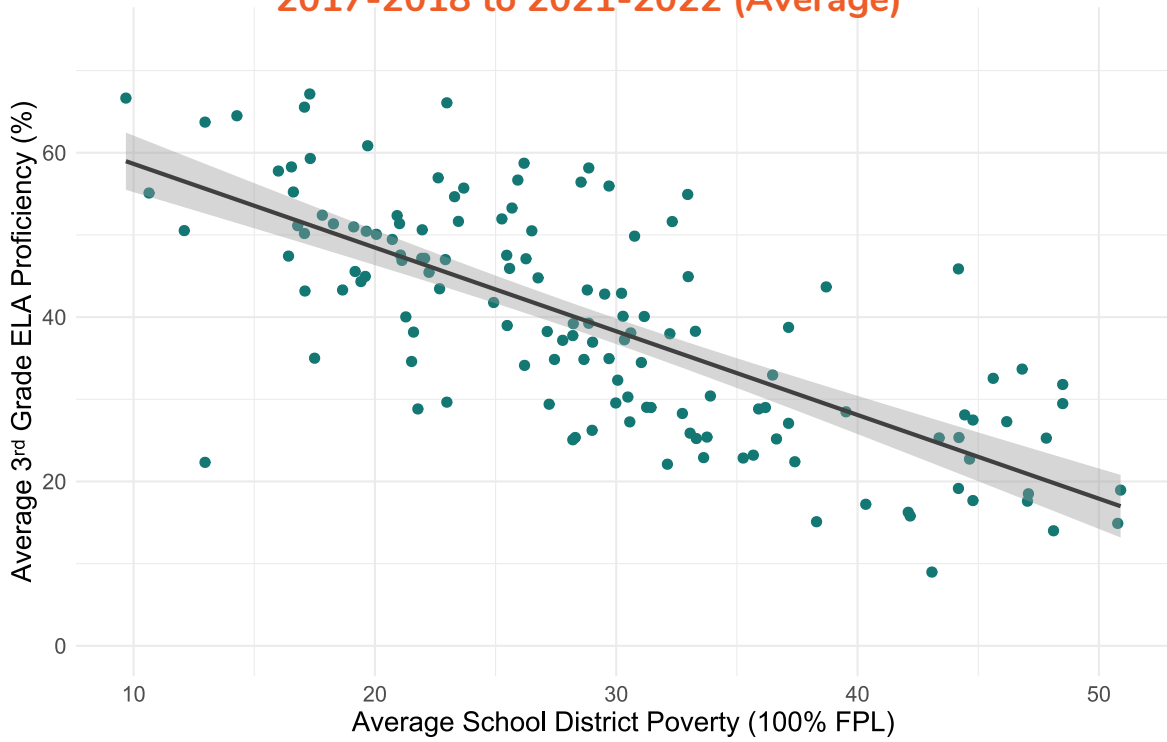
The figures demonstrate that poverty status and performance on standardized tests share strong negative correlations. The share of students with proficient or advanced scores on the 3rd Grade ELA and Math exams are appreciably higher in economically advantaged school districts when compared to economically disadvantaged school districts. These figures demonstrate the close relationship between economic resources and early-life educational achievement processes.

These disparities are illustrated in Tables 1 (ELA) and 2 (Math) which list the five school districts with the highest and lowest proficiency rates on 3rd Grade ELA and Math exams in Spring 2022, alongside poverty rates for households with school-aged children present within each

respective district. These tables point to the strong inverse relationship that exists between poverty status and standardized test scores. Students in low poverty school districts generally tend to score higher on each respective exam when compared to students in high poverty school districts.

However, the tables also indicate that the Grenada and Choctaw County school districts are notable exceptions to this general pattern. Future research should examine how these school districts obtained higher than average proficiency rates on 3rd Grade ELA and Math exams despite having relatively high poverty rates. The success of these school districts in achieving relatively high scores on standardized tests may prove instructive for other high poverty school districts.

**Figure 2. School District Poverty vs 3rd Grade ELA Proficiency
2017-2018 to 2021-2022 (Average)**



**Figure 3. School District Poverty vs 3rd Grade Math Proficiency
2017-2018 to 2021-2022 (Average)**

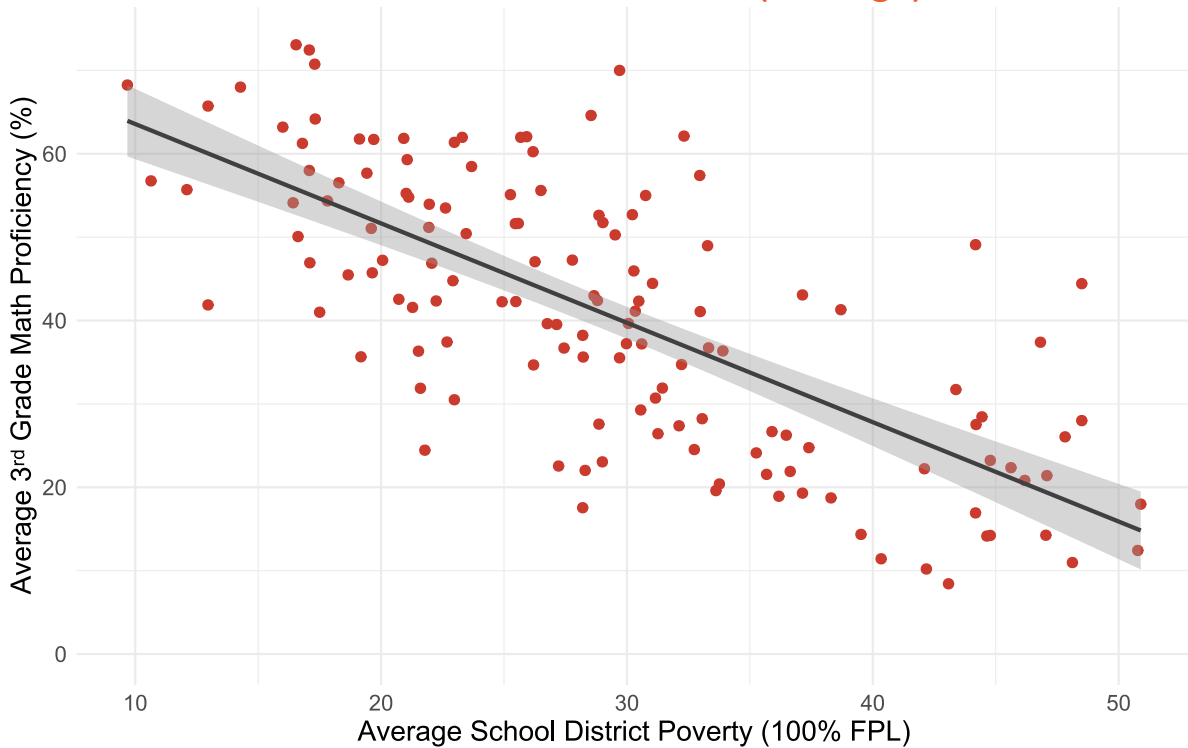


Table 1. School Districts with the Lowest & Highest ELA Proficiency Rates, Spring 2022



	Proficiency	Poverty
Lowest		
West Bolivar Consolidated School District	11.7%	50.8%
East Tallahatchie Consolidated School District	10.6%	43.1%
Humphreys County School District	9.8%	43.3%
Yazoo City Municipal School District	9.6%	43.9%
Noxubee County School District	8.2%	39.0%
Highest		
Choctaw County School District	77.8%	29.6%
Union County School District	75.8%	18.9%
Webster County School District	68.6%	23.9%
Clinton Public School District	68.1%	15.5%
Madison County School District	68.0%	10.1%

*Note: Poverty rates are for 2021.

Table 2. School Districts with the Lowest & Highest Math Proficiency Rates, Spring 2022



	Proficiency	Poverty
Lowest		
Newton Municipal School District	9.3%	23.5%
Yazoo City Municipal School District	9.0%	43.9%
Humphreys County School District	8.7%	43.3%
East Tallahatchie Consolidated School District	6.4%	43.1%
Noxubee County School District	5.5%	39.0%
Highest		
Union County School District	79.5%	18.9%
Clinton Public School District	77.5%	15.5%
Choctaw County School District	76.5%	29.6%
Pontotoc City Schools	76.0%	20.7%
Grenada School District	75.2%	34.4%

*Note: Poverty rates are for 2021.



Recent Trends in Standardized Test Scores by School District Poverty Level

Figures 4 and 5 show trends in 3rd Grade ELA and Math proficiency in Mississippi by school district poverty level. Students earning “proficient” or “advanced” scores on each respective exam are classified as proficient. The proportion of households with children ages 5-17 years old below the federal income-to-poverty threshold was averaged over the 2017-2022 period. Averaged poverty rates were categorized to denote school districts with relatively low (9.7% to 23.3% poor), moderate (23.5% to 32.1% poor), or high (32.2% to 50.9% poor) poverty levels.

Figure 4. Trends in Average 3rd Grade ELA Proficiency by Poverty Ranking

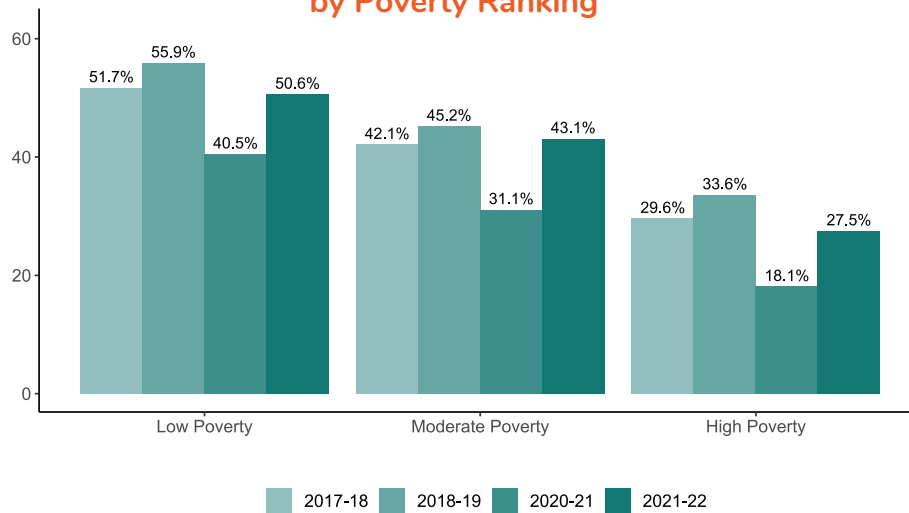
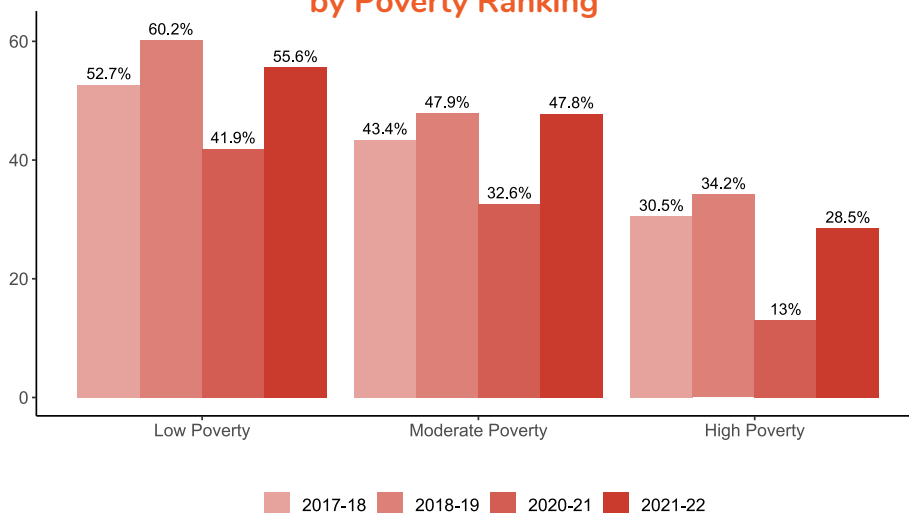


Figure 5. Trends in Average 3rd Grade Math Proficiency by Poverty Ranking



Figures 4 and 5 demonstrate that average scores on 3rd Grade ELA and Math exams varied markedly across school districts with low, moderate, and high relative poverty rates. The share of children with proficient scores on each respective exam is largest in low poverty districts and smallest in high poverty districts. Moderately poor districts fall between these two extremes.

Figures 4 and 5 also demonstrate that the trends disaggregated by school district poverty level largely mirror the trends observed within the state overall. Specifically, the modest increases observed for the state overall in both 3rd Grade ELA and Math proficiency between Spring 2018 and Spring 2019 also occurred at differing levels within low, moderate, and high poverty school districts. Moreover, average 3rd Grade ELA and Math scores decreased significantly between 2018-2019 and 2020-2021 in all school districts. This also occurred in low, moderate, and high poverty school districts but these changes varied considerably in magnitude between economically advantaged and disadvantaged school districts. The percent decrease in the share of 3rd grade students with proficient ELA (-30.3%) and Math (-29.9%) exam scores in low (ELA: -28.0%, Math: -30.7%) and moderately (ELA: -30.3%, Math: -29.9%) poor school districts was similar. However, proficiency rates on both the 3rd Grade ELA (-47.4%) and Math (-65.1%) exams decreased more sharply between 2018-2019 and 2020-2021 in high poverty school districts relative to the decreases observed in lower poverty school districts. Finally, trends in standardized test scores disaggregated by school district poverty status generally mirror those for the state overall in that 3rd Grade ELA and Math scores in the most recent period examined have largely returned to their pre-pandemic averages.





Discussion

This brief described recent trends in average 3rd Grade ELA and Math scores for students in Mississippi between the 2017-2018 and 2021-2022 school years with a specific focus on gaps in academic performance between low, moderate, and high poverty school districts. Key findings are summarized below.

- ▶ Although 3rd Grade ELA and Math scores in Mississippi fell sharply between the 2018-2019 and 2020-2021 school years, the analyses reveal that average scores on each respective exam in the 2021-2022 school were on par with average scores in the 2018-2019 school year.
 - ▶ The analyses also demonstrate that 3rd Grade ELA and Math scores vary considerably between low, moderate, and high poverty school districts. The immediate effects of the pandemic on 3rd Grade standardized test scores were more pronounced in high poverty school districts than low poverty school districts. However, test scores in the most recent period examined and the period before the pandemic were similar within low, moderate, and high poverty districts.
 - ▶ Achievement gaps between 3rd Grade students in high and low poverty school districts remained stable in the period before and after the COVID-19 pandemic. Although additional research is needed, these results could suggest that the pandemic ultimately will not exacerbate existing achievement gaps between K-12 students in high and low poverty school districts.
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