

Policy Brief 2020 – 3:
Fourth Grade Achievement Gaps on the
National Assessment of Educational Progress in Pennsylvania in 2019

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Introduction

The National Assessment of Educational Progress (NAEP) is the only available assessment that can be used to compare achievement across states for groups of students. The NAEP is now administered every other year to a representative sample of students in each state in both reading and mathematics.

This report focuses on the achievement gap between White students and both Black and Hispanic students as well as between not economically disadvantaged students and economically disadvantaged students. Students are identified as economically disadvantaged if the students participates in the federal free-/reduced-price meals programs or meets other alternative eligibility criteria.

On the NAEP, the scale scores range from 0 to 500. I calculate the achievement gap by subtracting the average scale score for one group of students from the average scale score for the other group of students.

All data are from the NAEP Data Explorer. The site is managed by the National Center for Education Statistics. The site is located at: <https://www.nationsreportcard.gov/ndecore/landing> .

Because not all states have a sufficient number of Black or Hispanic students to calculate an average scale score, the number of states included in the analyses below can vary by analysis. In addition, Washington, DC and Department of Defense schools were excluded from the analyses.

Mathematics

Economically Disadvantaged Status

As shown in Figure 1, at 31 scale score points, Pennsylvania had the largest achievement gap in the country between not economically disadvantaged students and economically disadvantaged students. The gap for Pennsylvania was not statistically significantly lower than any other state and was statistically greater than 39 states.

Racial/Ethnic Status

As shown in Figure 2, Pennsylvania tied for the second largest achievement gap between White and Black students. Only Wisconsin had a greater gap in achievement. The gap for Pennsylvania was not statistically significantly lower than any other state and was statistically significantly greater than the gap for the bottom 13 states.

As shown in Figure 3, Pennsylvania had the second largest achievement gap between White and Hispanic students. The gap for Pennsylvania was not statistically significantly lower than the gap for any other state and was statistically significantly greater than the gap for the 13 states with the smallest gap.

Figure 1: Mathematics Scale Score Achievement Gap between Not Economically Disadvantaged and Economically Disadvantaged Students by State (2019)

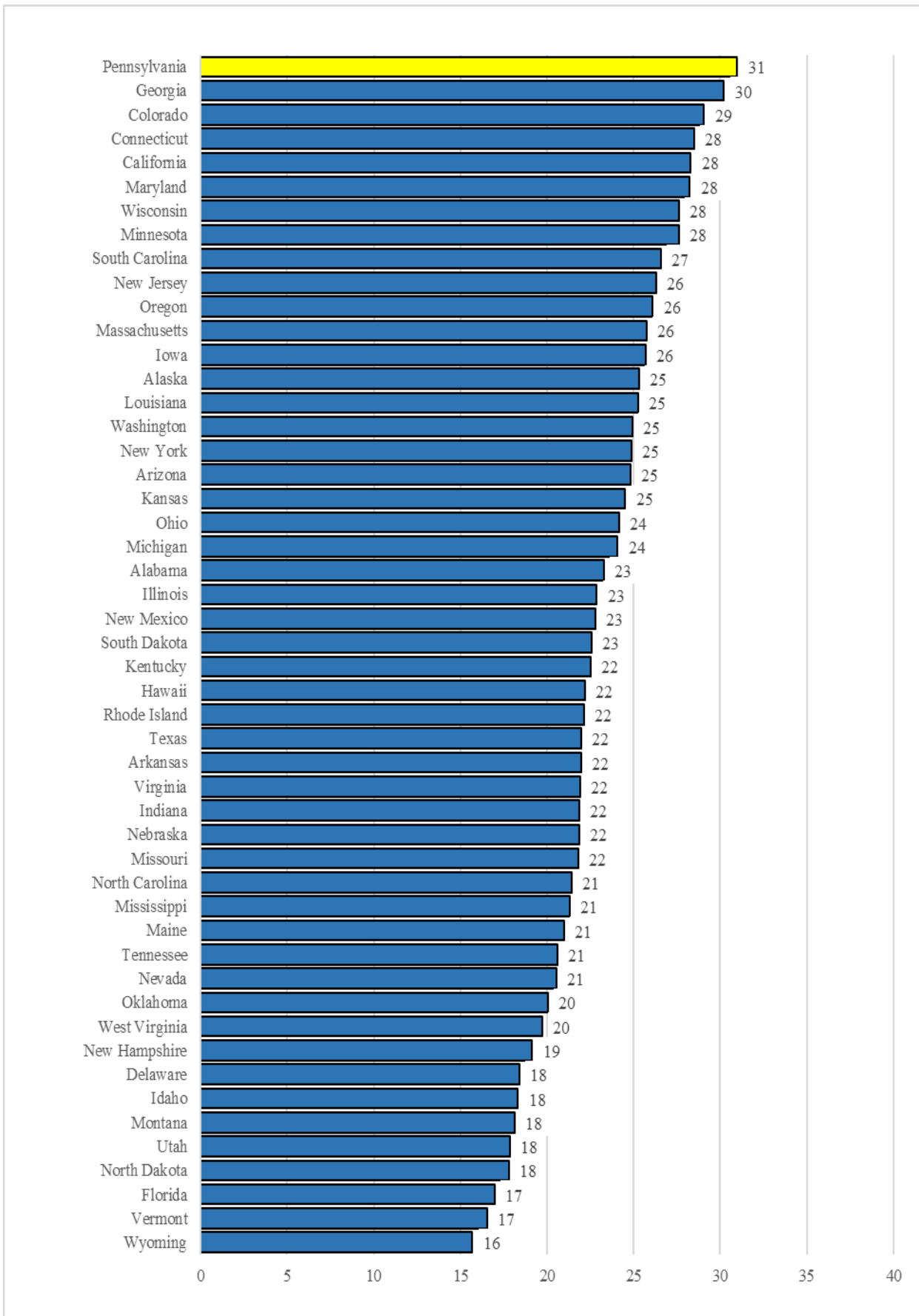


Figure 2: Mathematics Scale Score Achievement Gap between White and Black Students by State (2019)

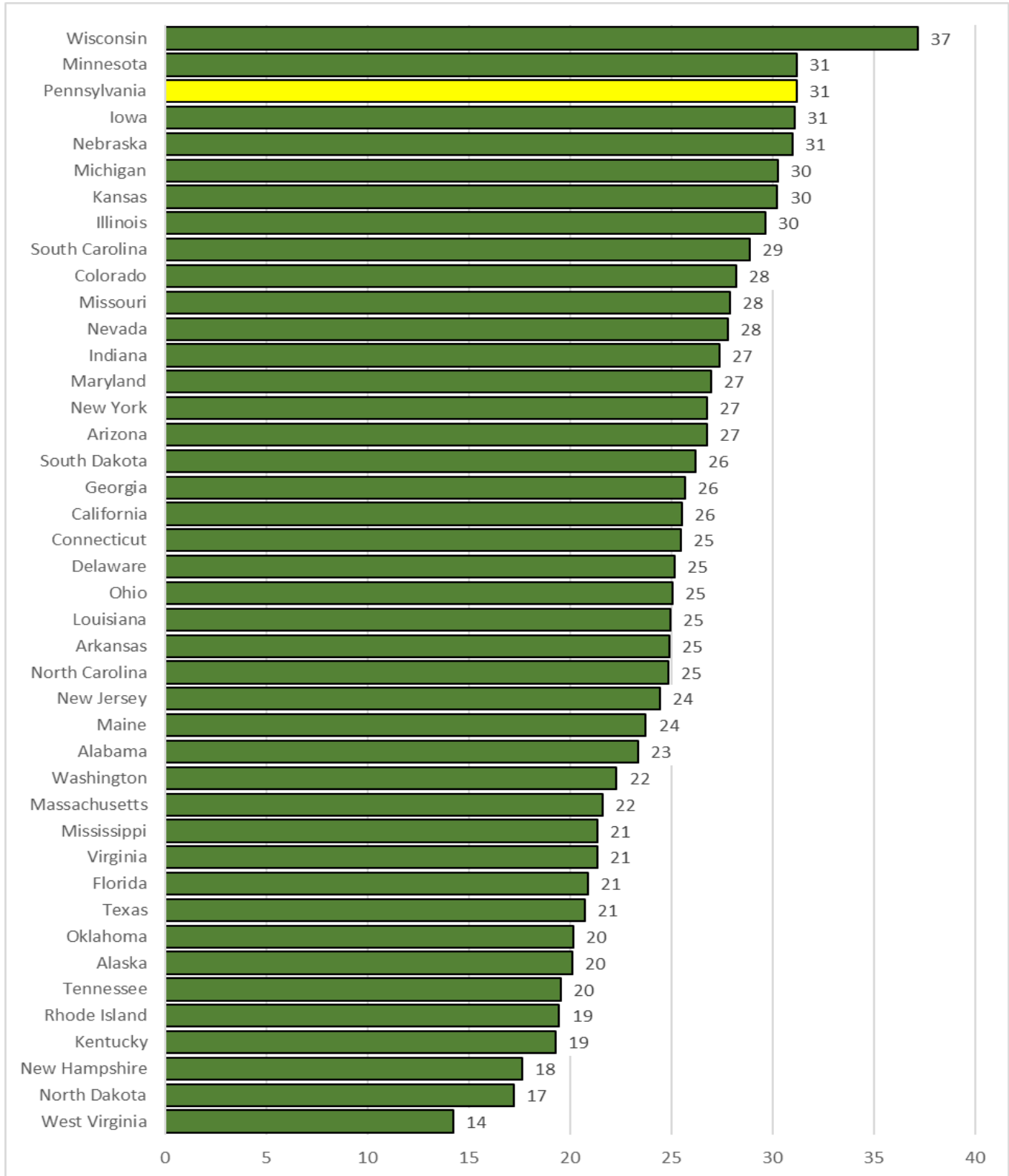
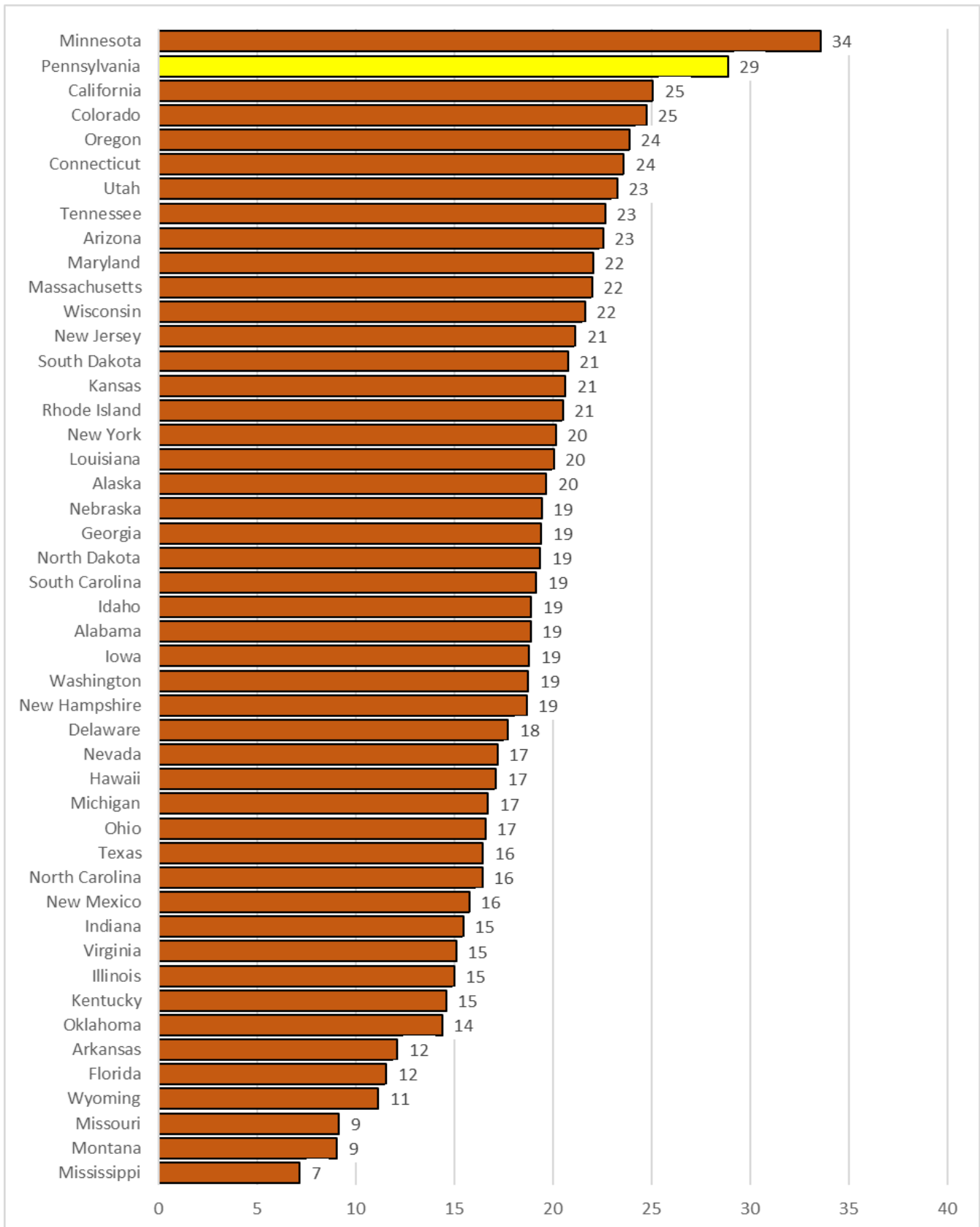


Figure 3: Mathematics Scale Score Achievement Gap between White and Hispanic Students by State (2019)



Reading

Economically Disadvantaged Status

As shown in Figure 4, Pennsylvania tied for the fourth largest achievement gap in the country between not economically disadvantaged students and economically disadvantaged students. The gap for Pennsylvania was not statistically significantly lower than the gap for any other state and was statistically significantly greater than 13 states.

Racial/Ethnic Status

As shown in Figure 5, Pennsylvania tied for the fourth largest achievement gap between White and Black students. The gap for Pennsylvania was not statistically significantly smaller than the gap for any other state and was statistically significantly greater than the gap for the bottom 11 states.

As shown in Figure 6, Pennsylvania had the second largest achievement gap between White and Hispanic students. The gap for Pennsylvania was not statistically significantly smaller than the gap for any other state and was greater than the gap for the 28 states with the smallest gap.

Figure 4: Reading Scale Score Achievement Gap between Not Economically Disadvantaged and Economically Disadvantaged Students by State (2019)

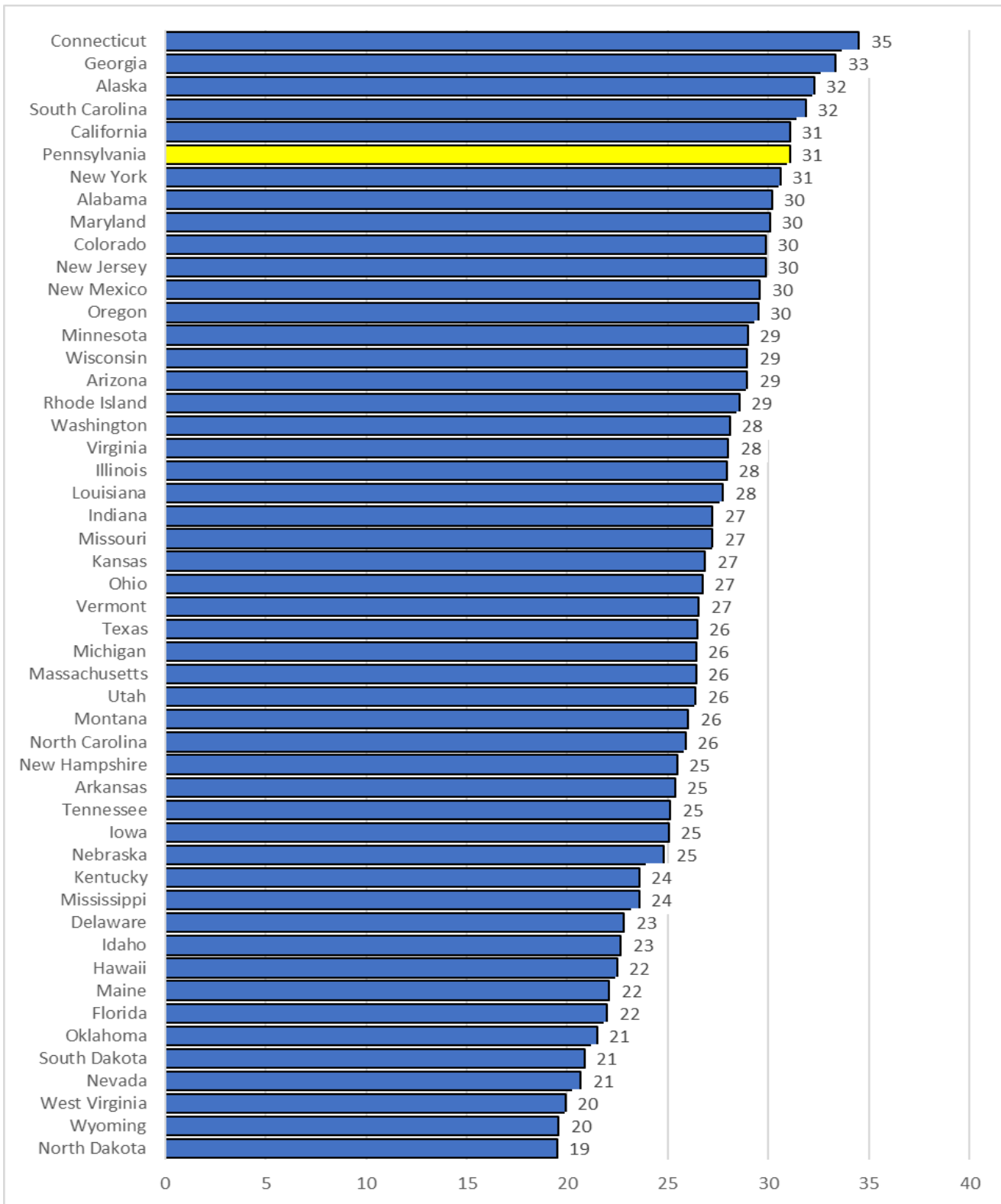


Figure 5: Reading Scale Score Achievement Gap between White and Black Students by State (2019)

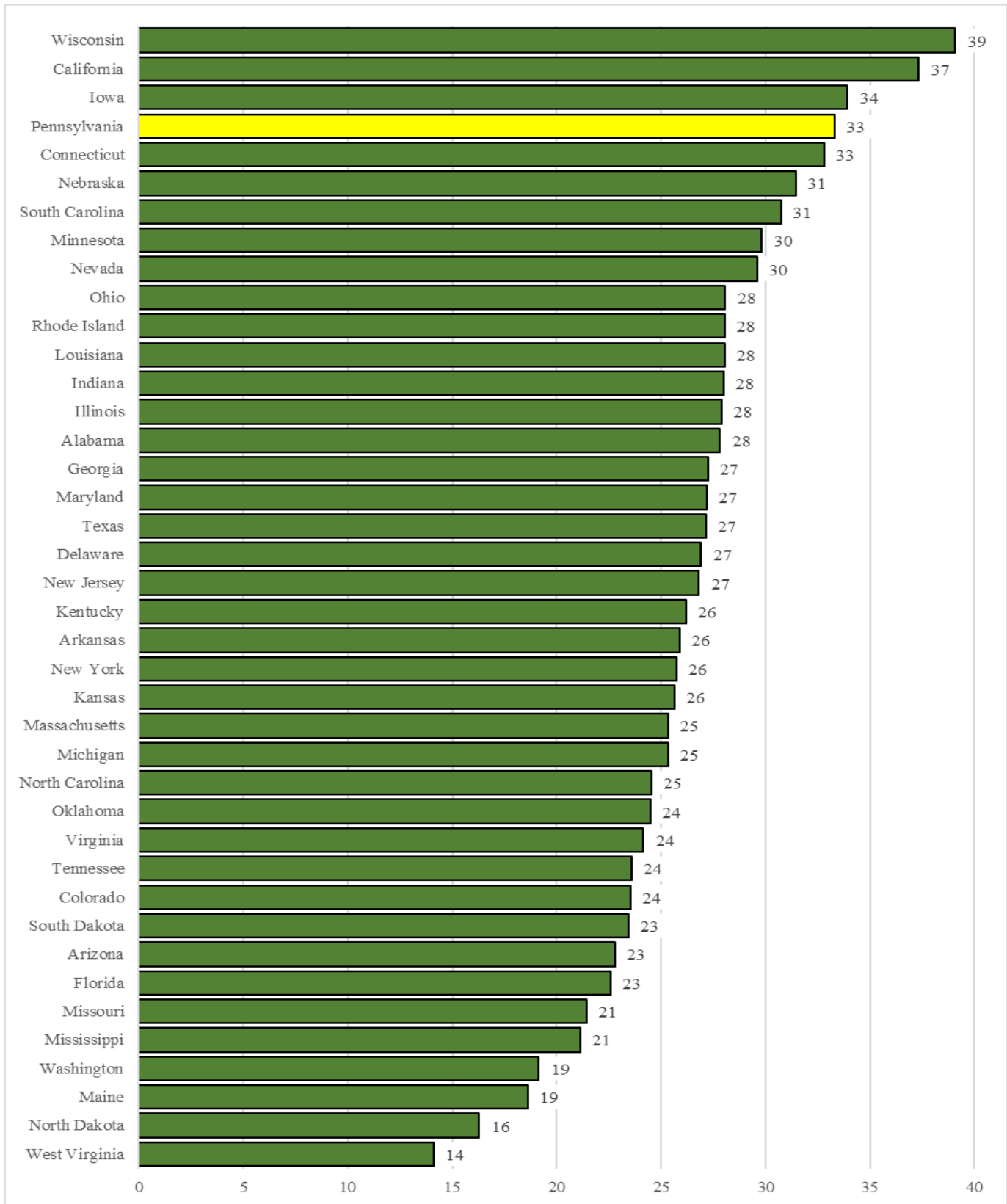
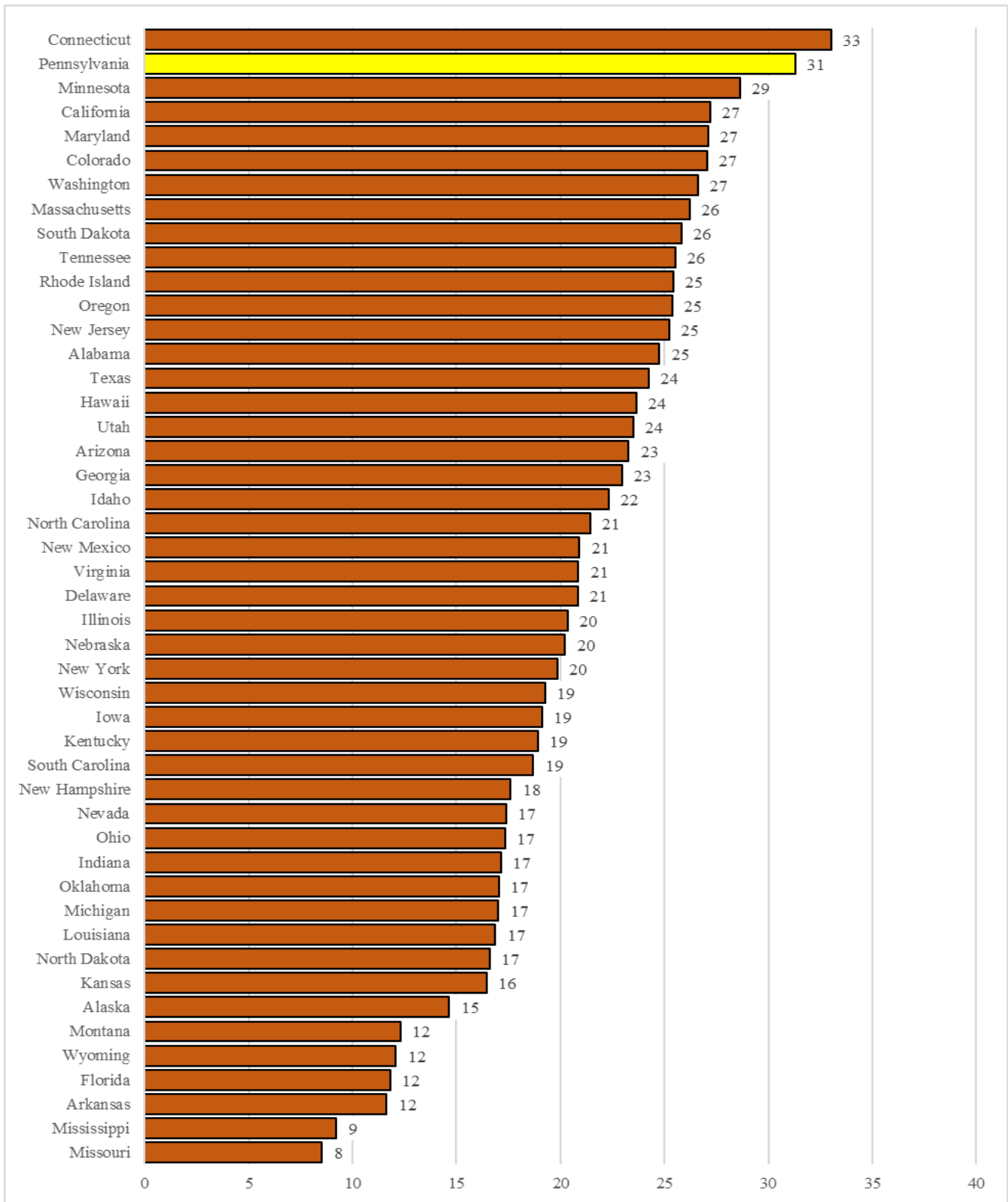


Figure 6: Reading Scale Score Achievement Gap between White and Hispanic Students by State (2019)



Conclusion

As shown above, the achievement gaps for 4th grade students in Pennsylvania are some of the largest in the nation. In fact, no state has a greater achievement gap than Pennsylvania by economically disadvantaged status and racial/ethnic status for both mathematics and reading. While we do not know the cause of this gap, we do know that research consistently suggests differences in access to both fiscal and human resources influences the achievement gap. Indeed, greater expenditures on economically disadvantaged students and greater access to a stable, well-qualified cadre of teachers re associated with reductions in the ach

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This brief is part of the CEEPA Policy Briefs Series that provides evidenced-based, peer-reviewed analysis of important educational issues in Pennsylvania and across the US. Dr. Ed Fuller is the Executive Director and Dr. Matt Kelly is an Associate Director.