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Trends in Iowa's K-12 Public Education: An Analysis of School Spending & Student Achievement [poster]

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Trends in Iowa's K-12 Public Education: An Analysis of School Spending & Student Achievement



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Abstract

Student academic achievement in Iowa is poor and on the decline (US Department of Education 2022). Some politicians propose increasing public education spending in order to address worrisome trends in academic achievement (Richardson 2022). Prior research has examined the effect of K-12 public education spending on student academic achievement; researchers disagree about whether increasing public education spending improves academic achievement. The purpose of this study is to determine if K-12 public education spending has a positive effect on student academic achievement in Iowa. This project will use a secondary analysis of data from the past twenty years to examine the relationship between K-12 public education spending and student academic achievement in Iowa. The findings of this research can be used to inform policymakers and citizens about whether increasing K-12 public education spending will positively affect Iowa student academic achievement.

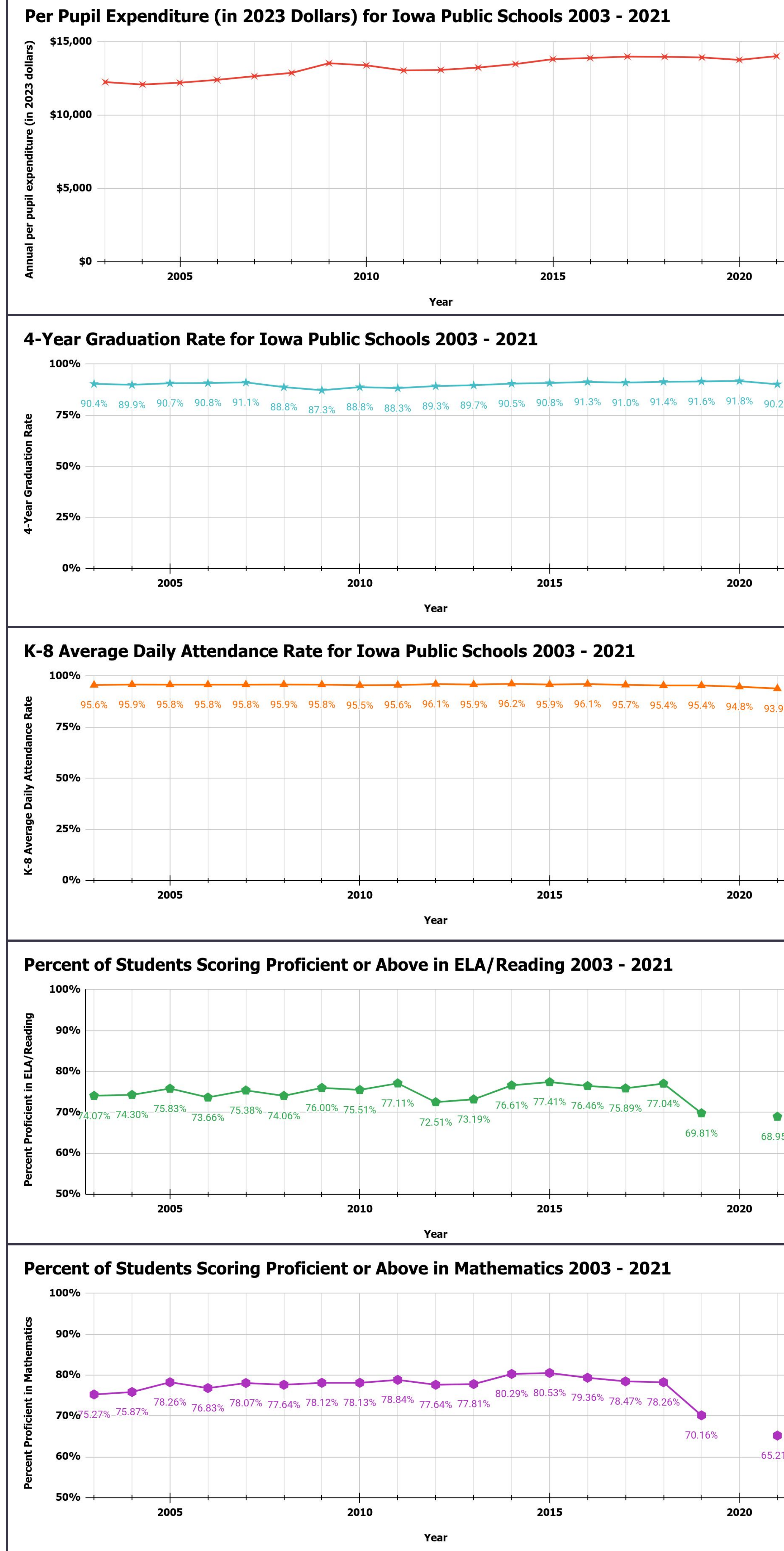
Background

The modern debate on the effect of school spending on student achievement began with the publication of the Coleman Report in 1966, which found no significant correlation between school resources and student outcomes (Coleman et al. 1966). Since that time, many studies have examined the relationship between school spending on student achievement. Researchers disagree about whether school spending has a significant effect on student outcomes. Some studies (Coleman 1966; Hanushek 1986; Betts 1995; Martorell et al. 2016) claim that there is no significant relationship between school expenditure and student achievement. Other studies (Rajpal 1969; Downes and Figlio 1998; Card and Payne 2002; Card and Krueger 1996; Greenwald et al. 1996; Jackson et al. 2015; Lafortune et al. 2018; Miller 2018) suggest that school expenditure has a positive effect on student achievement. There is no clear consensus among researchers about whether increasing education spending is an effective method of improving student outcomes.

Research Question

Does K-12 public education spending have an effect on student academic achievement in Iowa?

Preliminary Analysis



Methods

This study analyzes data from 2003 to 2021 to examine trends in Iowa's K-12 public education and student academic achievement. K-12 public education spending is measured as the annual per-pupil expenditure in Iowa public schools. Per-pupil expenditure data is obtained from the United States Census Bureau's Annual Survey of School System Finances. The annual per-pupil expenditure is adjusted for inflation and reported in 2023 dollars. Student academic achievement is analyzed using four variables —the percent of students scoring proficient or above on English Language Arts (ELA)/reading assessments, the percent of students scoring proficient or above on mathematics assessments, the K-8 average daily attendance rate, and the 4-year graduation rate for Iowa public high schools. Data to measure student academic achievement is obtained from the Iowa Department of Education's State Report Cards and Performance Profiles. There are no student test scores reported in 2020 due to COVID-19. Preliminary analysis of this data is focused on how trends in school spending and student achievement have changed over time. Future analysis will examine the relationship between school spending and student achievement.

Preliminary Findings

Increase in expenditure: From 2003 to 2021, there was a 14.42% increase in per-pupil expenditure (adjusted for inflation) from \$12,249.71 (2003) to \$14,016.18 (2021).

Fairly constant graduation & attendance rates: From 2003 to 2021, there was a 4.5% range for graduation rate — 87.3% at its lowest to 91.8% at its highest. There was a 2.3% range for attendance rate — 93.9% at its lowest to 96.2% at its highest.

Variability in proficiency rates with lowest in 2021: From 2003 to 2021, there was a 8.16% range for ELA/reading proficiency rate — 77.11% at its highest (2011) to 68.95% at its lowest (2021). From 2003 to 2021, there was a 15.32% range for mathematics proficiency rate — 80.53% at its highest (2015) to 65.21% at its lowest (2021).

Future analysis will examine the effect of spending on student achievement.

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