

Does a four-day school week benefit students?

Findings from a systematic review of 11 studies on student outcomes offer little evidence of positive outcomes from a four-day school week.



Day, Golfen, Grant, & Trevino
2025



What was the goal of this study?

Our systematic review aimed to identify all empirical studies on the four-day school week (4DSW) in the U.S. that provided **reliable causal evidence** on student outcomes. Our review included 11 studies with findings on academic achievement, attainment, attendance, disciplinary incidents, and criminal activity.

Is a 4DSW beneficial for students?

It depends, but probably not.

When considering findings from the highest-quality studies, there was **no evidence of large positive effects** of the 4DSW on student outcomes.

The evidence suggests effects may differ based on school locale (rural vs non-rural), grade level and student outcome

Rural Districts	Rural districts have been studied more rigorously than non-rural districts. For rural districts, evidence was mixed, suggesting a 4DSW: - Decreases math and reading achievement for K-8 students - Increases math scores, increases on-time and 5-year graduation rates, decreases on-time progression, and increases chronic absences for high school students
Non-Rural Districts	For non-rural districts, most findings were negative, suggesting a 4DSW: - Has little to no effect on K-8 achievement - Decrease math scores, decreases on-time and 5-year graduation rates, and increases absences for high school students
Rural & Non-Rural Combined	For studies combining rural and non-rural districts, most findings were negative, suggesting a 4DSW: Decreases math and reading achievement, increases absences and chronic absences, and decreases 5-year graduation rates across grades K-12

View the findings from our [initial scoping review](#) and explore all studies on the four-day school week using [our interactive database](#), last updated May of 2025.

Questions not answered by these studies

Based on our review of the body of literature and consultation with decision-makers, **two key questions are crucial to consider:**

1 How does a schedule switch impact overall instructional time?

Will formal calendar hours change? How much of an actual change will this be for students: are students already missing a fifth day of instruction frequently enough - due to things such as sports - that their instructional time is close to a four-day week already?

Maintaining instructional hours is important for minimizing negative impacts on student achievement.

Loss of learning time risks a loss of learning.

2 What's available at school, in the community, and at home for students on the fifth day?

A collaborative decision-making process involving schools, families, and community organizations should ensure every student has age-appropriate activities available. These might include:

SCHOOL

remedial instruction,
co-curricular activities,
or sports

COMMUNITY

youth programs,
childcare, or work-based
learning

HOME

adult supervision,
homework time, or other
home responsibilities

Maintaining activities that foster healthy youth development on the fifth day is important for minimizing other negative impacts.

Table of Contents

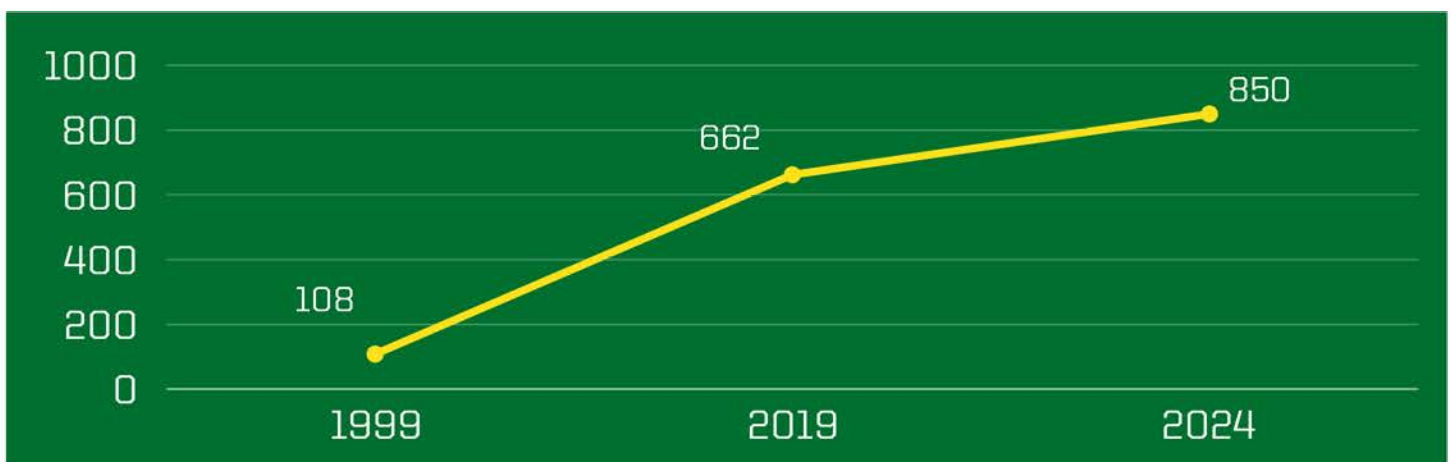
Background on the 4DSW	05
Schools and students in this study	06
Findings from studies including rural districts only	08
Findings from studies including non-rural districts only	12
Findings from studies combining rural and non-rural districts	14
How to read jitter plots	20
Methodology	22
References	25
Studies in this review	26

Four-day school weeks are on the rise in the United States

Four-day school weeks (4DSW) have grown in recent years, being implemented in over 2100 schools in more than 850 school districts across the United States.¹

The majority of schools on a 4DSW schedule are in rural areas, but an increasing number of non-rural districts are considering making the switch from a five-day week.²

U.S. School Districts with a 4DSW



An increasing number of studies of the 4DSW have sought to understand its impact on a variety of outcomes, but with mixed results.²

What can this review tell me?

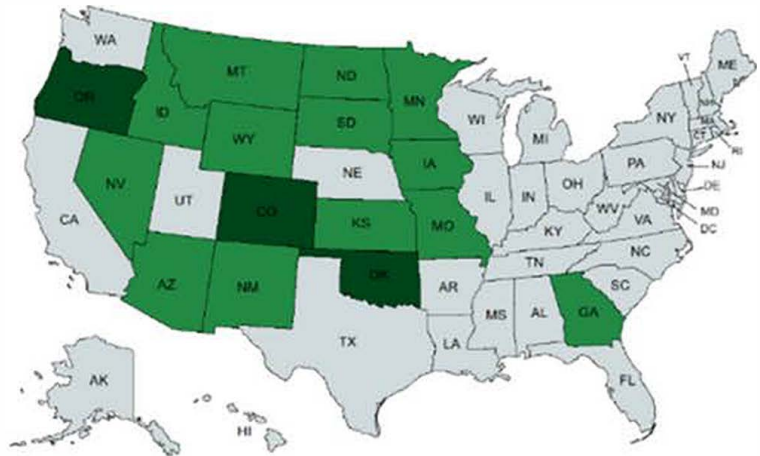
Our review can answer questions about the impact of the 4DSW on student outcomes

Our review can't yet answer questions about the impact of the 4DSW on teacher or budgetary outcomes

What schools are included in this study?

Across all 11 studies, most included schools in Oregon (62%), Oklahoma (14%), and Colorado (11%).

Idaho, Kansas, Missouri, Montana, New Mexico, and South Dakota were in 2 studies. Arizona, Georgia, Iowa, Minnesota, Nevada, North Dakota, and Wyoming were in 1 study.



States included in the studies

What outcomes are included in this study?

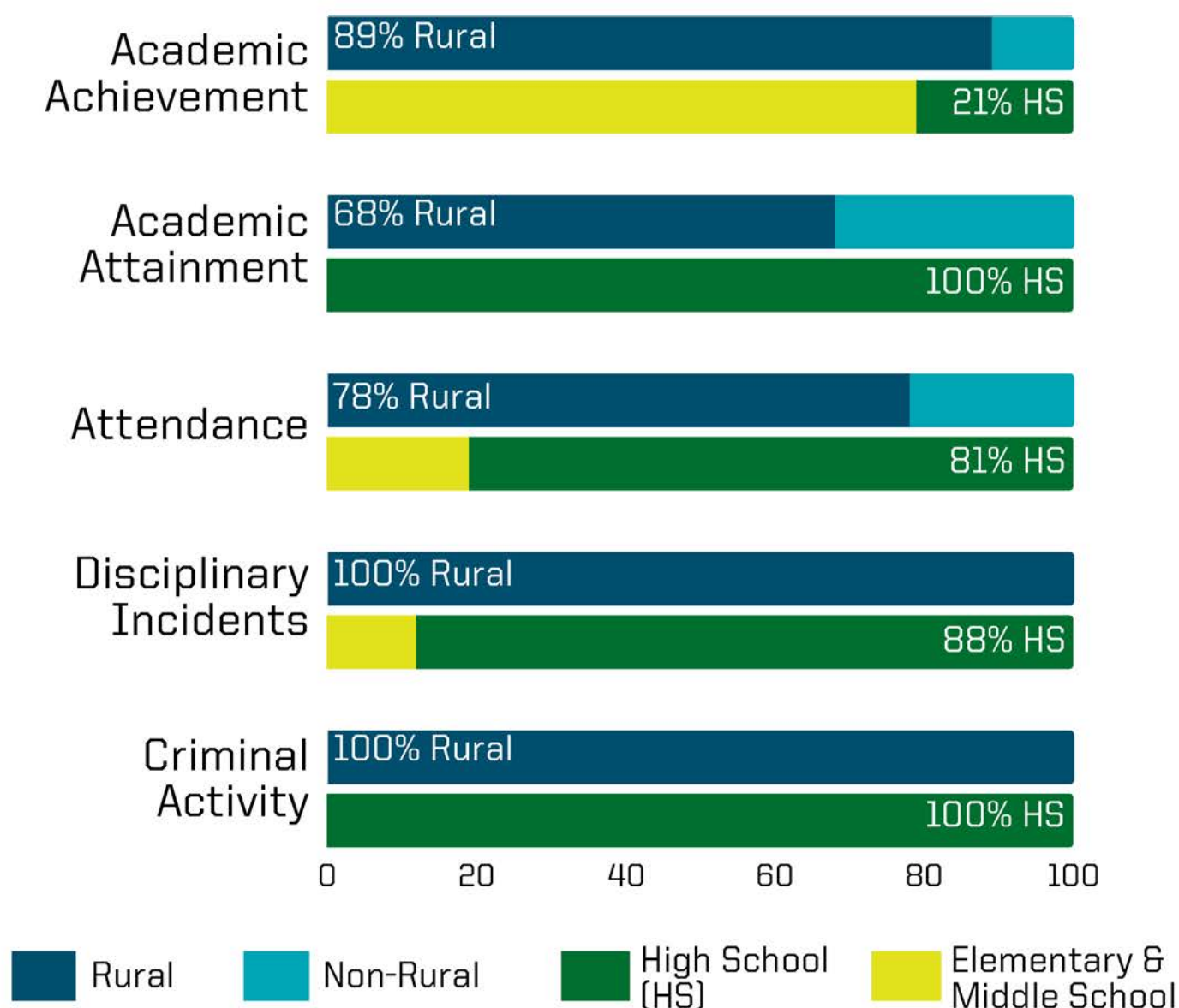
Academic achievement	Math and reading test scores, proficiency, and gains
Academic attainment	Graduation rates, dropout rates, and on-time progression
Attendance	Average daily attendance, fraction of students absent, chronic absenteeism
Criminal activity	Frequency of crime at school, crime not at school, property crime, violent crime, and drug violations
Disciplinary incidents	Days missed for discipline, and frequency of substance use, vandalism, bullying, fighting, weapons, truancy, and school bus disciplinary instances

Color Coding Legend

Effects considered beneficial for students are presented in **a green color**, while detrimental effects are shown in **a brown color**, both on graphs and in the text. Sometimes, a positive number will be beneficial (e.g., higher reading scores). Other times, a positive number will be detrimental (e.g., higher absence rates). We have color coded accordingly.

Not all outcomes were reported for all locales and all grade levels.

Most studies included outcomes measured in rural districts and for high school students. The exception was academic achievement, which has been measured most with elementary and middle school students.



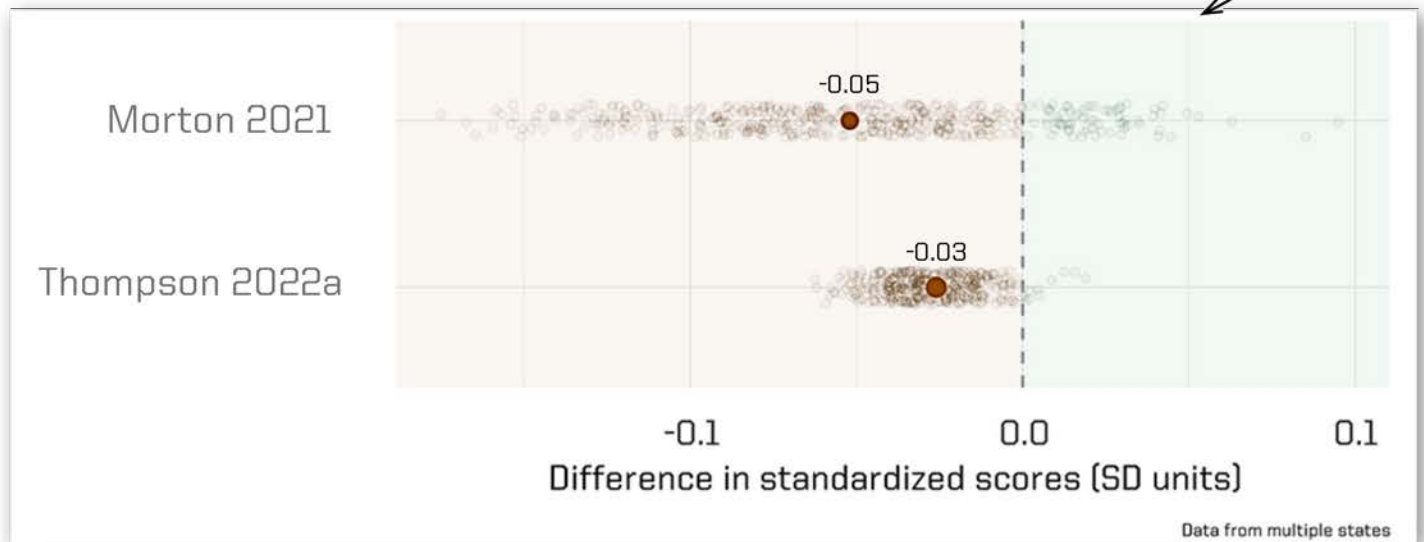
K-8 Schools in Rural Districts

Achievement

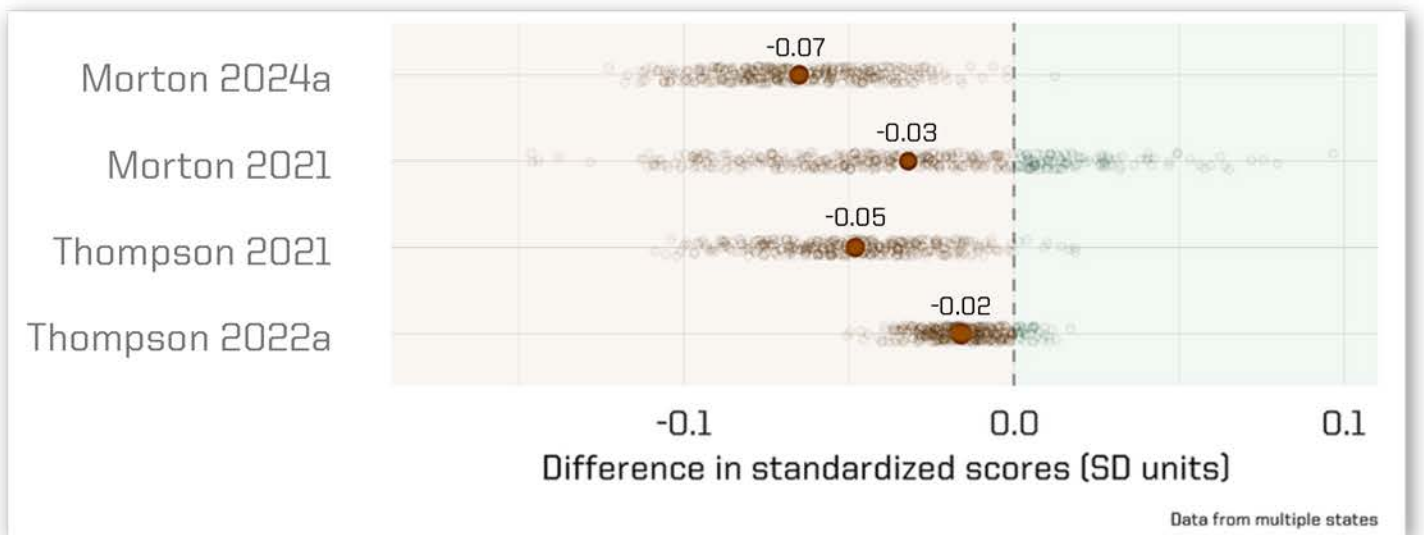
Evidence from multiple studies with K-8 students suggests a 4DSW may **decrease math and reading scores.**

For tips on how to read a jitter plot, see page 20.

Mathematics Achievement



Reading Achievement



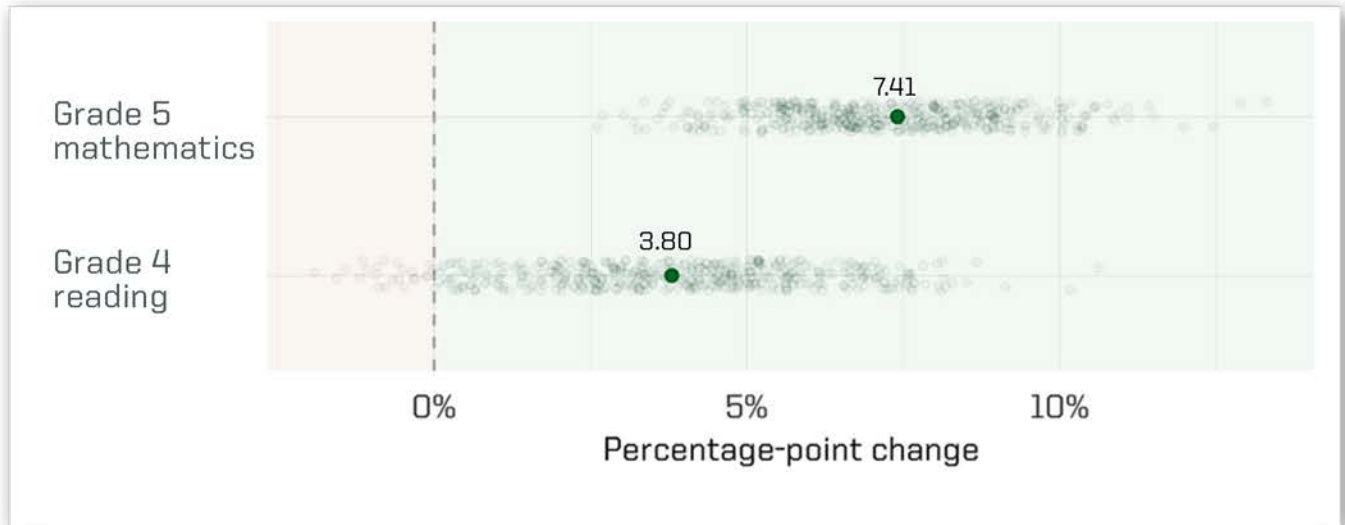
What size are these effects?

Researchers have looked across hundreds of studies to offer benchmark sizes for academic achievement outcomes: Less than 0.05 standard deviations = small effect; 0.05 to <0.20 standard deviations = medium effect; 0.20 or more standard deviations = large effect.³

K-8 Schools in Rural Districts

Findings from one study in Colorado suggest that for 4th and 5th grade students in rural districts, a 4DSW may **increase reading and math proficiency rates**.

Proficiency

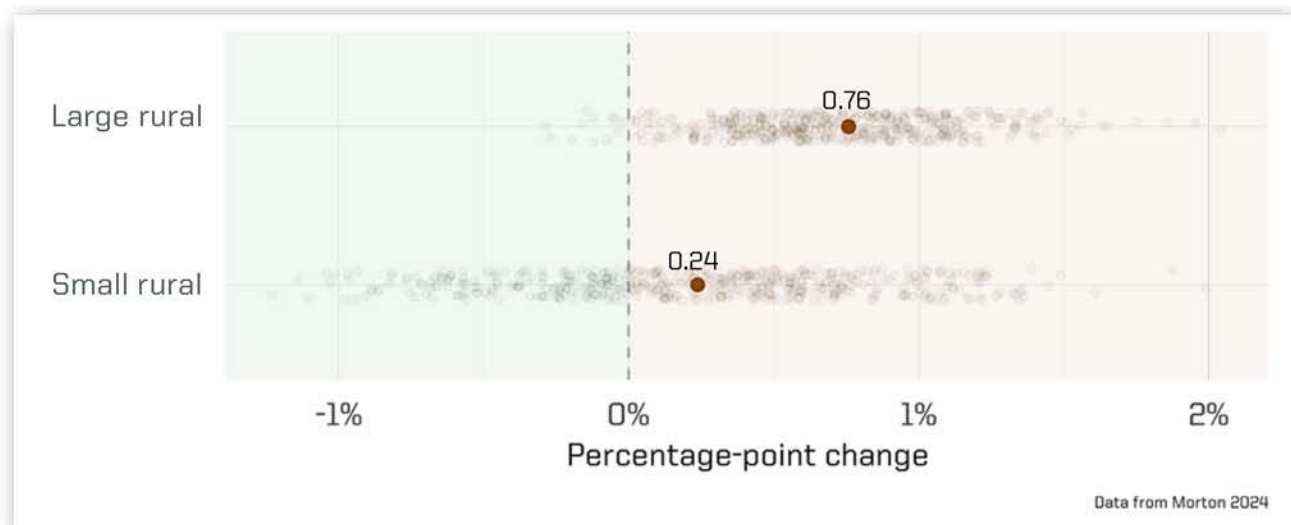


Estimates from three studies suggest a 4DSW may result in decreased mathematics gains and scores and decreased reading/ELA scores for elementary and middle school students, but the evidence is very uncertain.

K-12 Schools in Rural Colorado

Evidence from one study in Colorado suggests a 4DSW probably **increases absences** in large rural areas and has **little to no effect** in small rural areas.

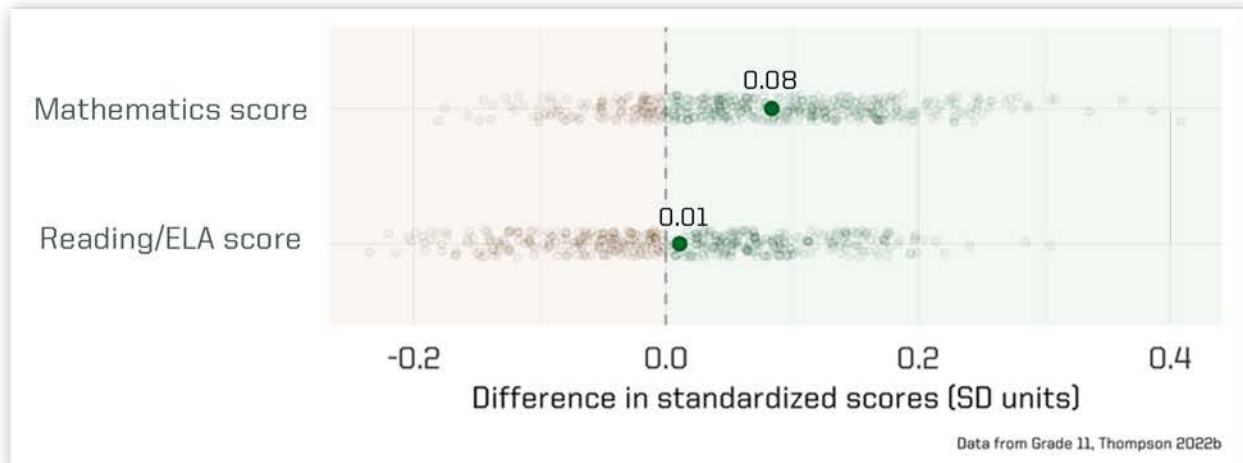
Absences



High Schools in Rural Districts

Evidence from one study in Oregon suggests a 4DSW may **increase math scores** and lead to **little or no change** in reading/ELA scores for students in grade 11.

Achievement



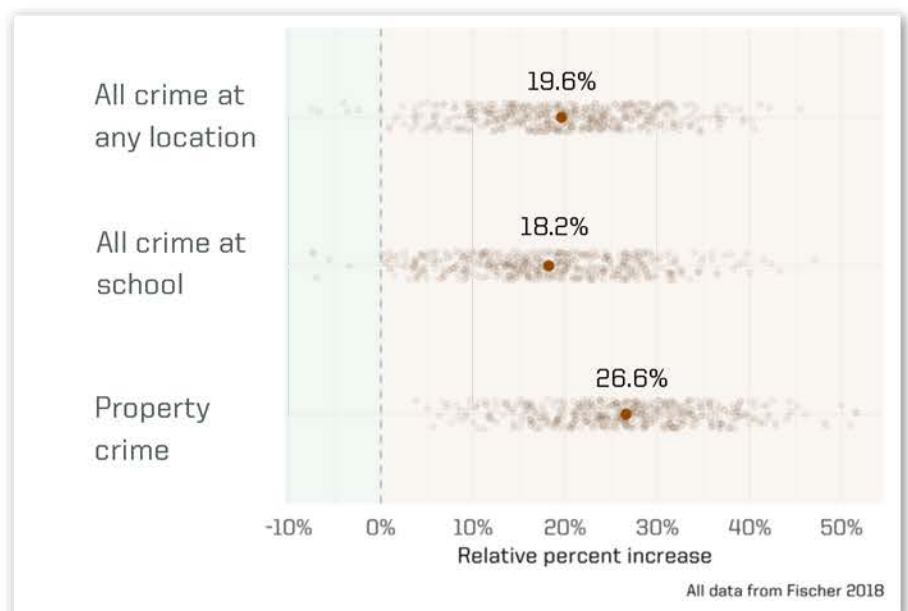
Effect sizes: Less than 0.05 SD = small effect; 0.05 to <0.20 SD = medium effect

Criminal Activity

Evidence from one study of Colorado high schools suggests a 4DSW may result in an **increased overall crime rate, property crime rate, and any crime not at school.**

The authors also reported a 4DSW may increase in any crime at school, drug violations, and violent crime, but the evidence is very uncertain.

Note that these are relative increases, not absolute. For example, 26.60% is approximately 2 additional property crimes per 1,000 students.

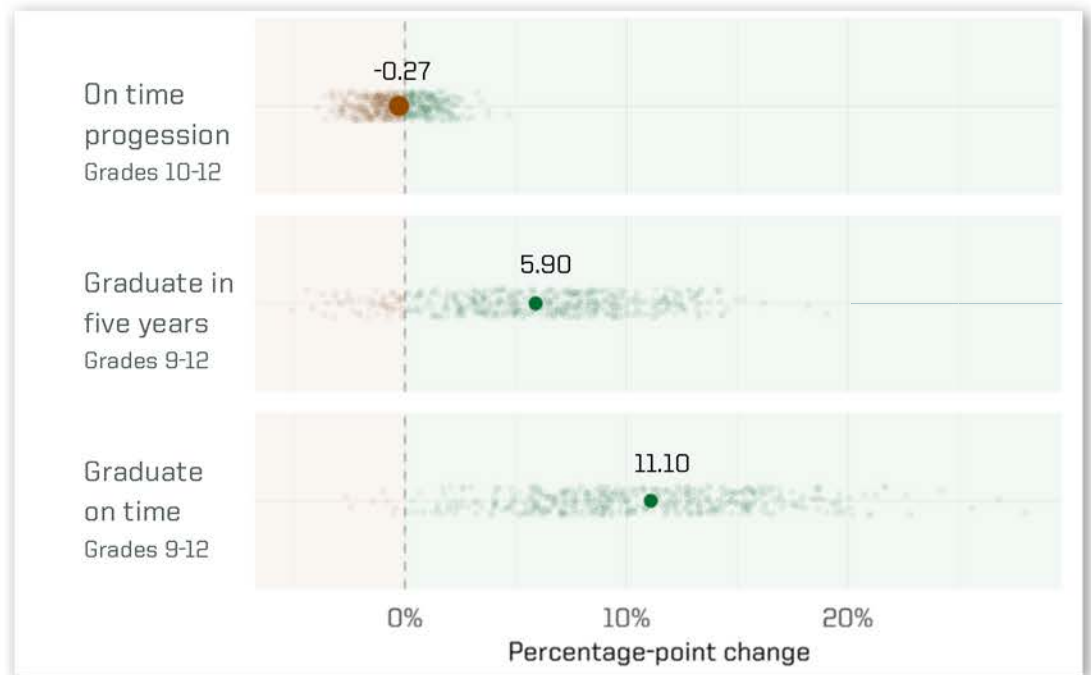


High Schools in Rural Districts

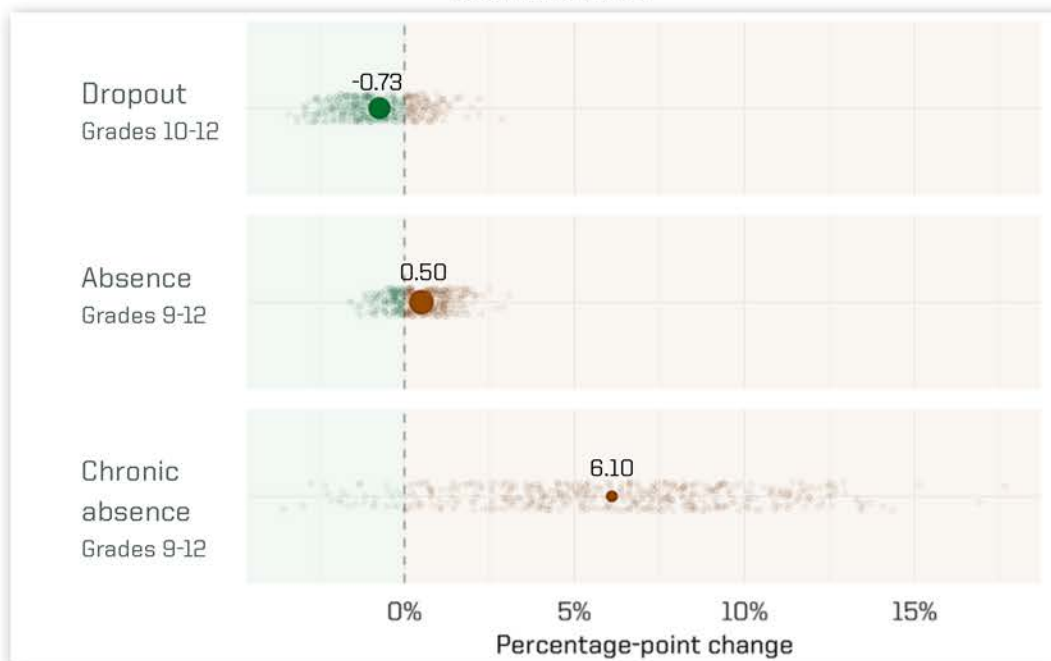
Evidence from one study in Oregon suggests a 4DSW may

decrease on-time progression, but **probably increases on-time and 5-year graduation rates.**

Academic Attainment



Attendance



Evidence from one study in Oregon suggests a 4DSW may **decrease drop-out rates**, but may **increase absences and chronic absence.**

Elementary Schools in Non-Rural Districts

Achievement

Evidence from one study of third grade students in Oregon suggest a 4DSW may have **little to no effect** on math scores. Findings also suggested a 4DSW may decrease reading scores, but the evidence is very uncertain.



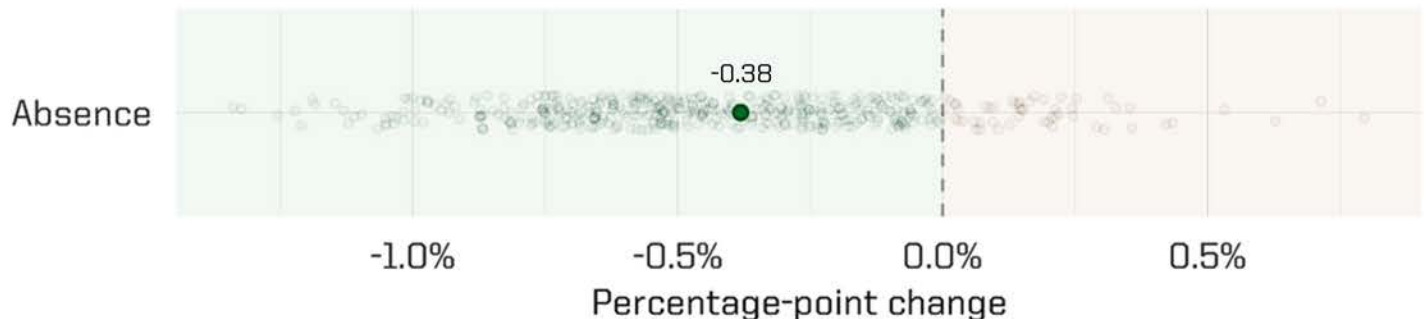
Data from Thompson 2023

Effect sizes: Less than 0.05 SD = small effect

K-12 Schools in Non-Rural Colorado

Attendance

Evidence from one study in Colorado suggests a 4DSW may **decrease absences** in non-rural areas.



Data from Morton 2024

High Schools in Non-Rural Districts

Achievement

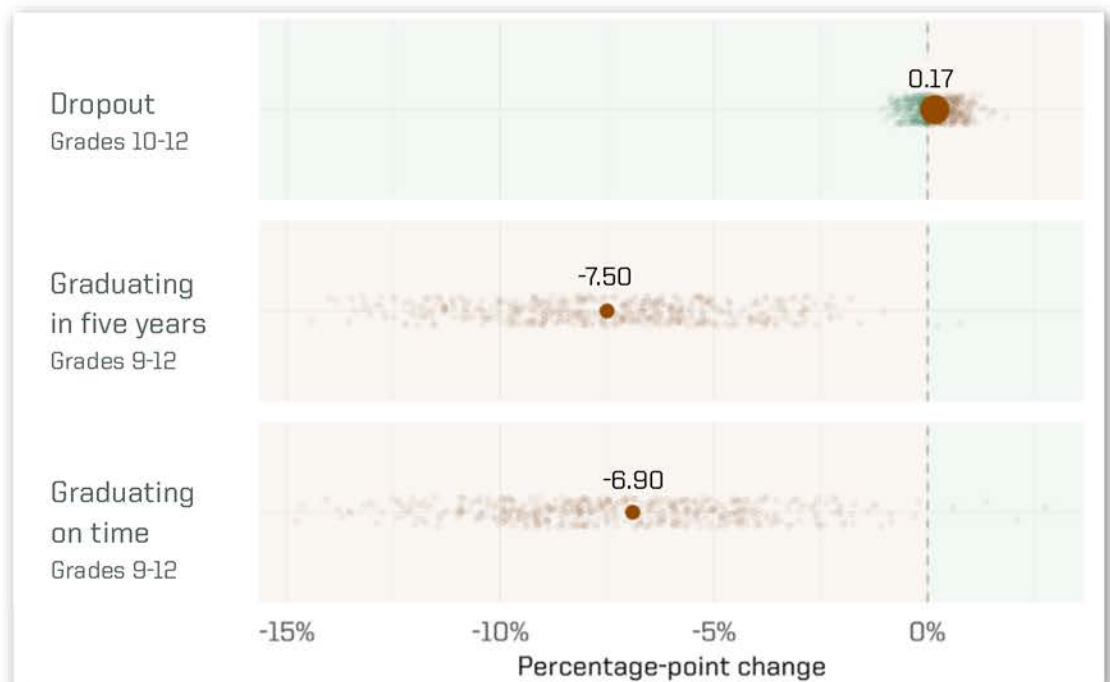
Evidence from one study of 11th grade students in Oregon suggest a 4DSW may **decrease math scores**. Findings also suggest a 4DSW may decrease reading scores, but the evidence is uncertain.



Effect sizes: Less than 0.05 SD = small effect; 0.05 to <0.20 SD = medium effect

Attainment

Evidence from one study in Oregon suggests a 4DSW may **decrease on-time and 5-year graduation rates** and likely has **little to no effect** on dropout rates.



Additional estimates from a study of high school students in Oregon suggest a 4DSW may increase absences and chronic absences and have little to no effect on on-time progression, but the evidence is very uncertain.

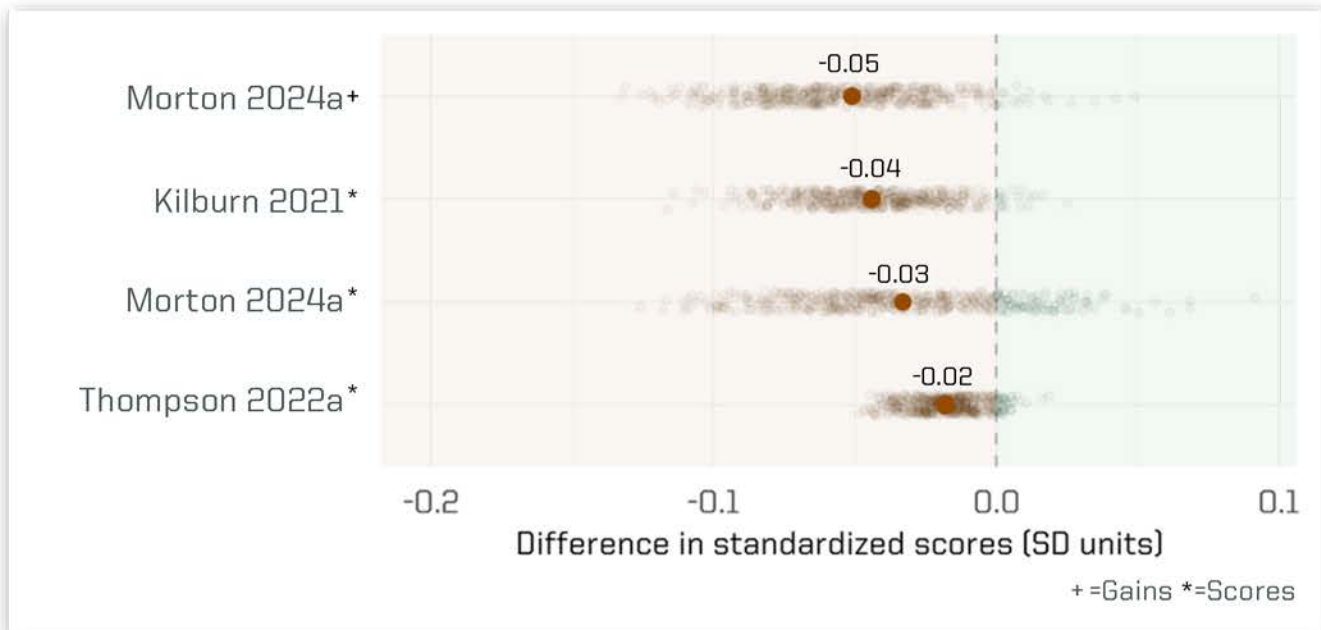
K-8 Schools Statewide

Findings are from studies that combine schools in rural and non-rural districts.

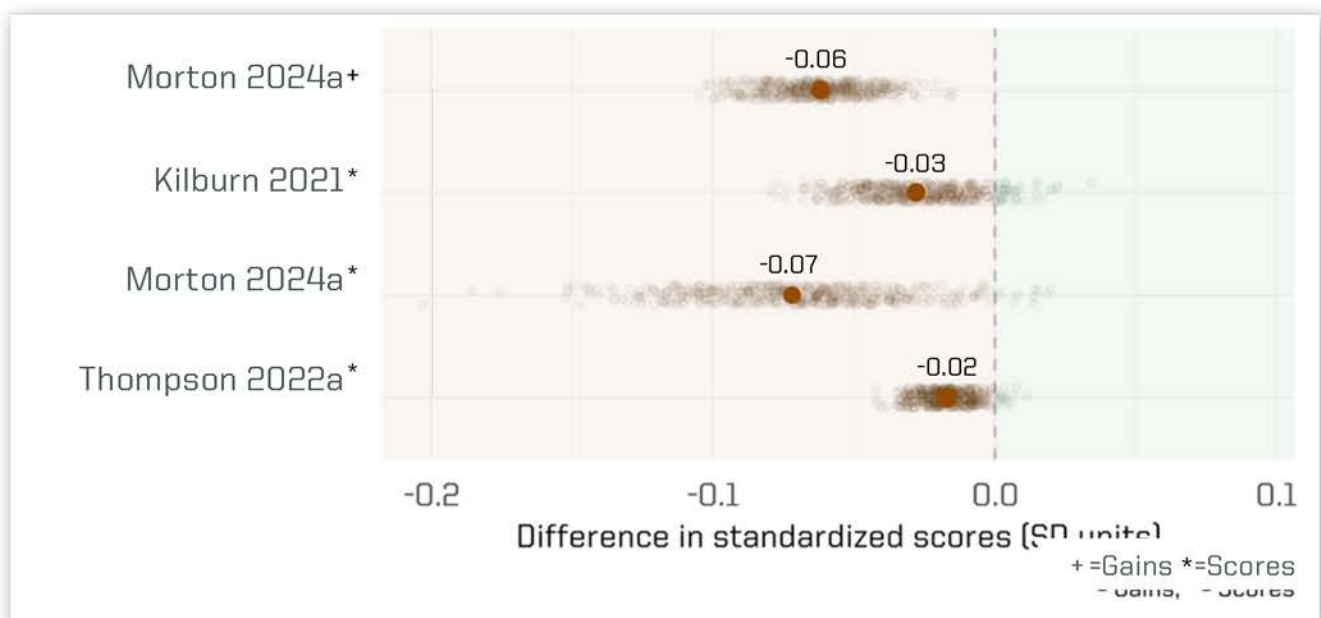
Studies of Schools in Multiple States

Evidence suggests a 4DSW may **decrease math achievement** and probably **decreases reading achievement** for K-8 students.

Mathematics Achievement



Reading Achievement



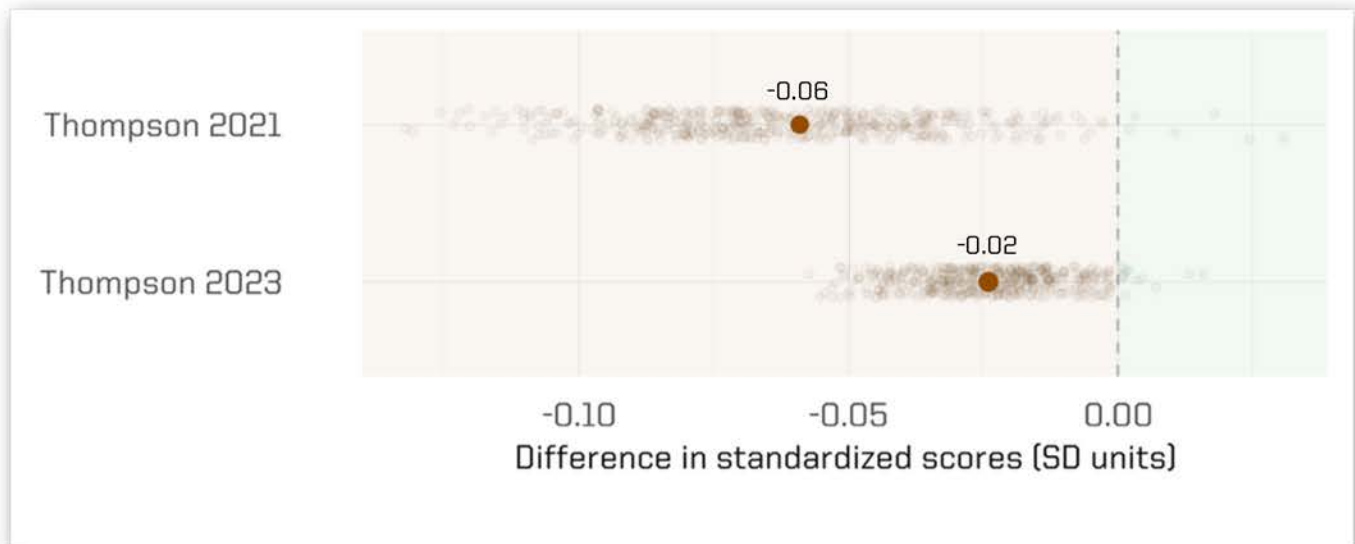
Effect sizes: Less than 0.05 SD = small effect; 0.05 to <0.20 SD = medium effect

K-8 Schools Statewide

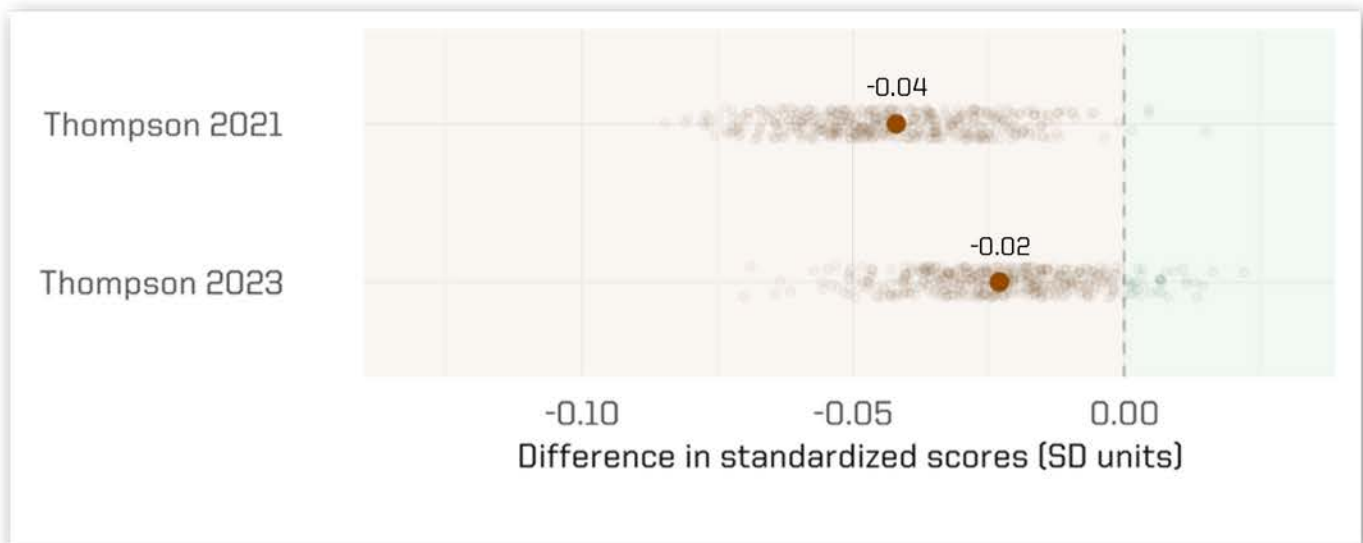
Studies of Schools in Oregon

Evidence suggests a 4DSW probably **decreases math achievement** and may **decreases reading achievement** for students in grades 3-8.

Mathematics Achievement



Reading Achievement



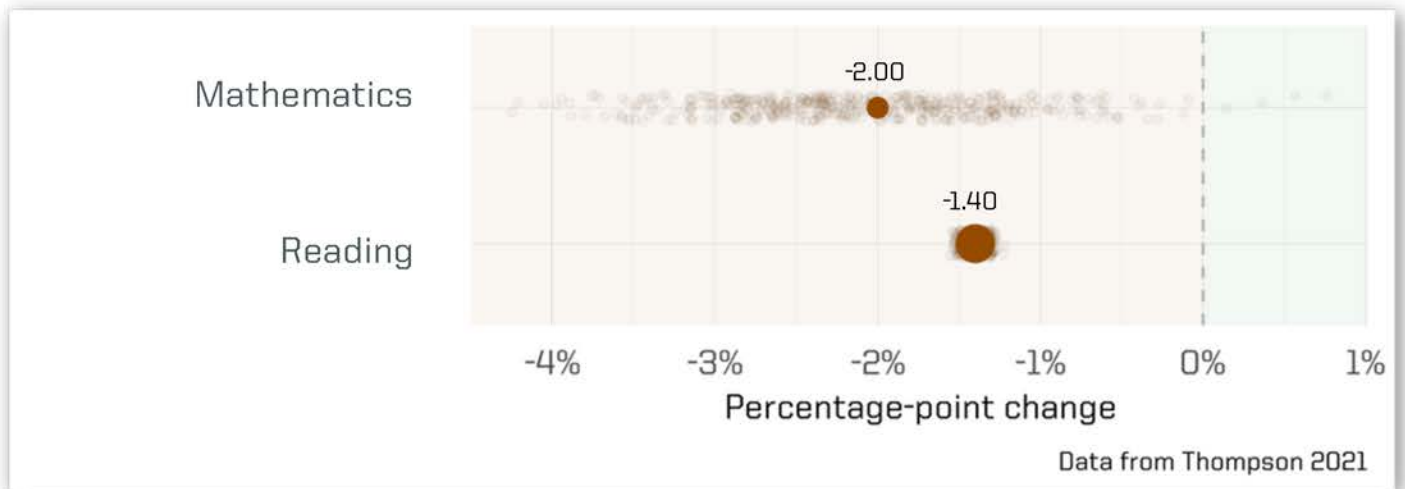
Effect sizes: Less than 0.05 SD = small effect; 0.05 to <0.20 SD = medium effect

K-8 Schools Statewide

Studies of Schools in Oregon

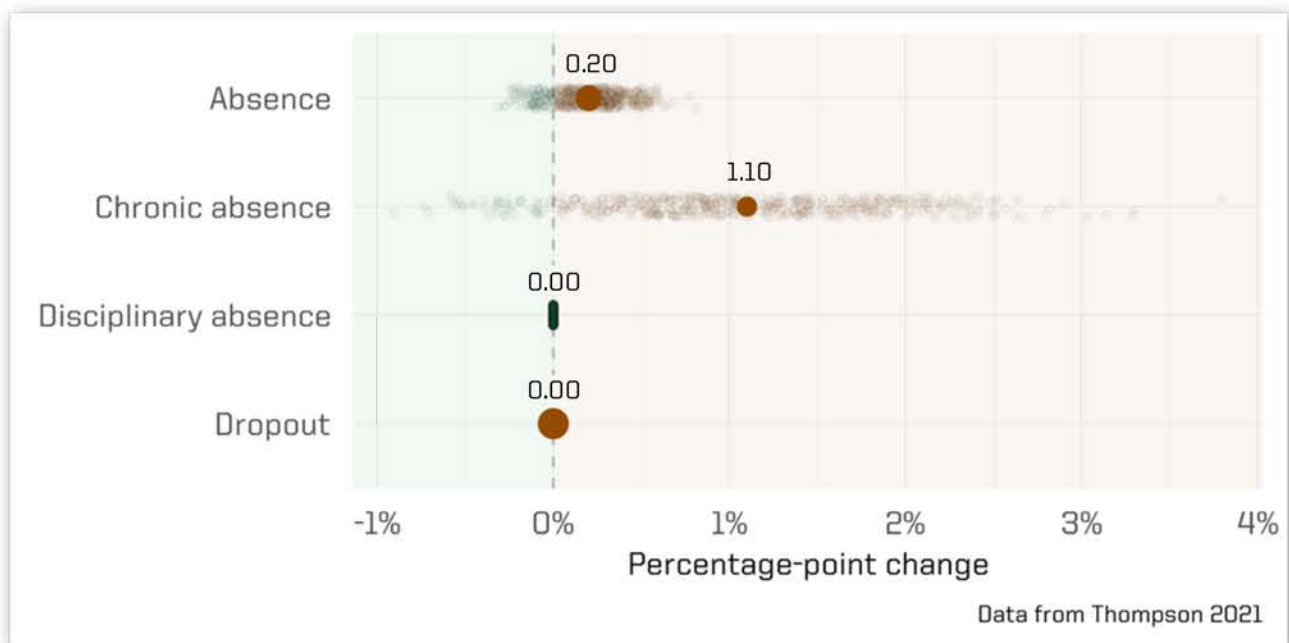
Evidence from one study suggests a 4DSW probably **decreases math and reading proficiency rates.**

Proficiency



Attendance and Attainment

Evidence from the same study suggests a 4DSW may **increase absences** and **increase chronic absences** and have **no effect** on both dropout rates and days missed due to discipline.

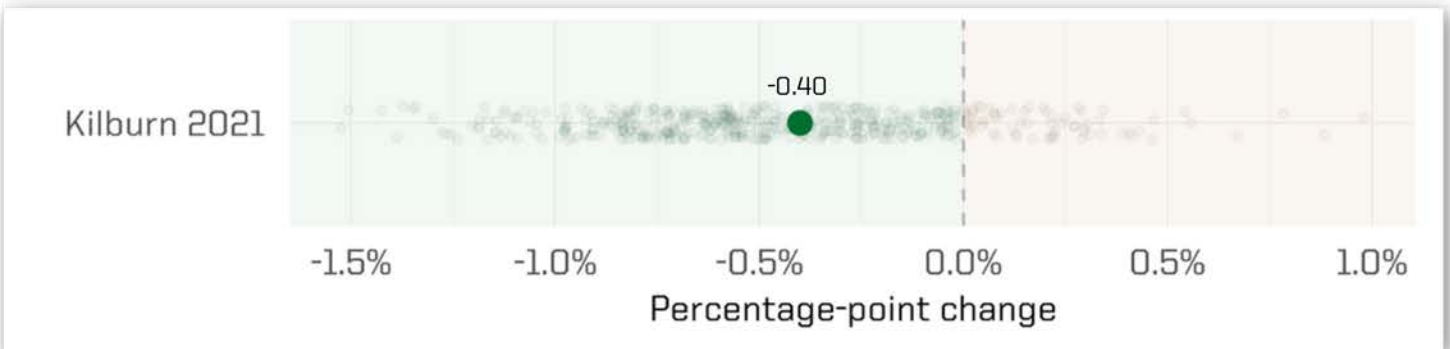


K-12 Schools Statewide

Study of Schools in Multiple States

Evidence from one study of multiple states suggests a 4DSW may **decrease absences** across grades K-12.

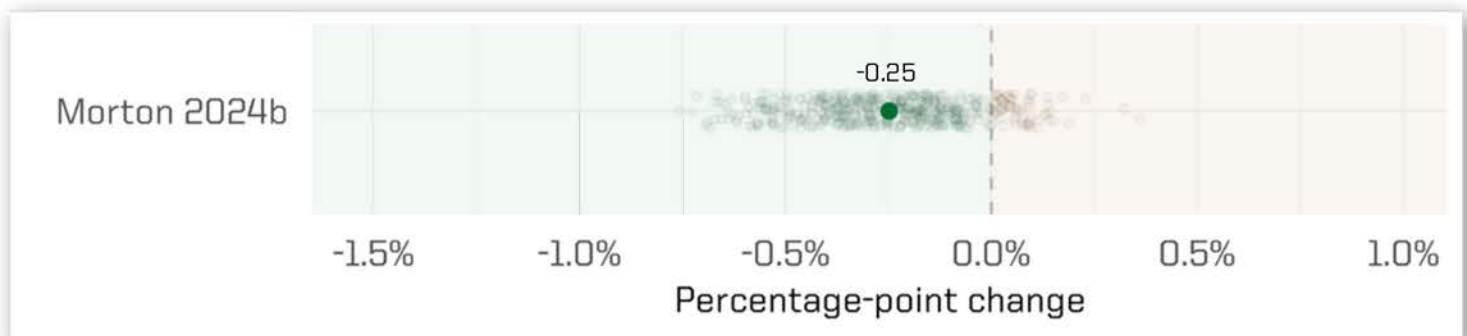
Absences



Study of Schools in Colorado

Evidence from one study of schools in Colorado suggests a 4DSW probably results in **little to no decrease** in absences across grades K-12.

Absences



High Schools Statewide

Studies of Schools in Oregon

Evidence from one study suggests a 4DSW may **decrease math scores**. Findings also show a 4DSW may decrease reading/ELA scores, but the evidence is very uncertain.

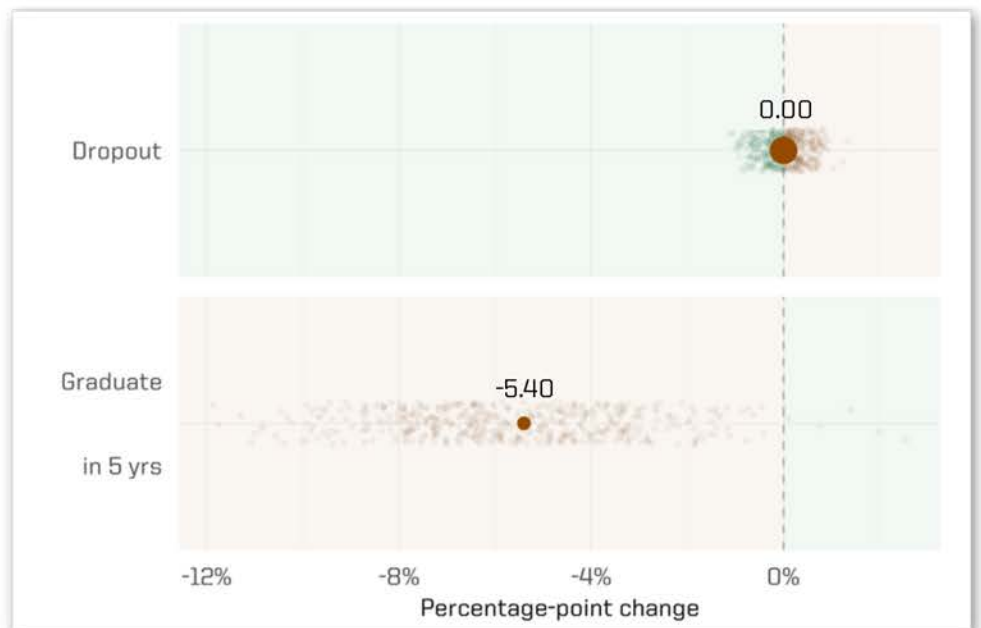
Mathematics Achievement



Effect sizes: Less than 0.05 SD = small effect; 0.05 to <0.20 SD = medium effect

Attendance and Attainment

Evidence from the same study suggests a 4DSW may have **little to no effect** on dropout rates and may **decrease 5-year graduation rates**.



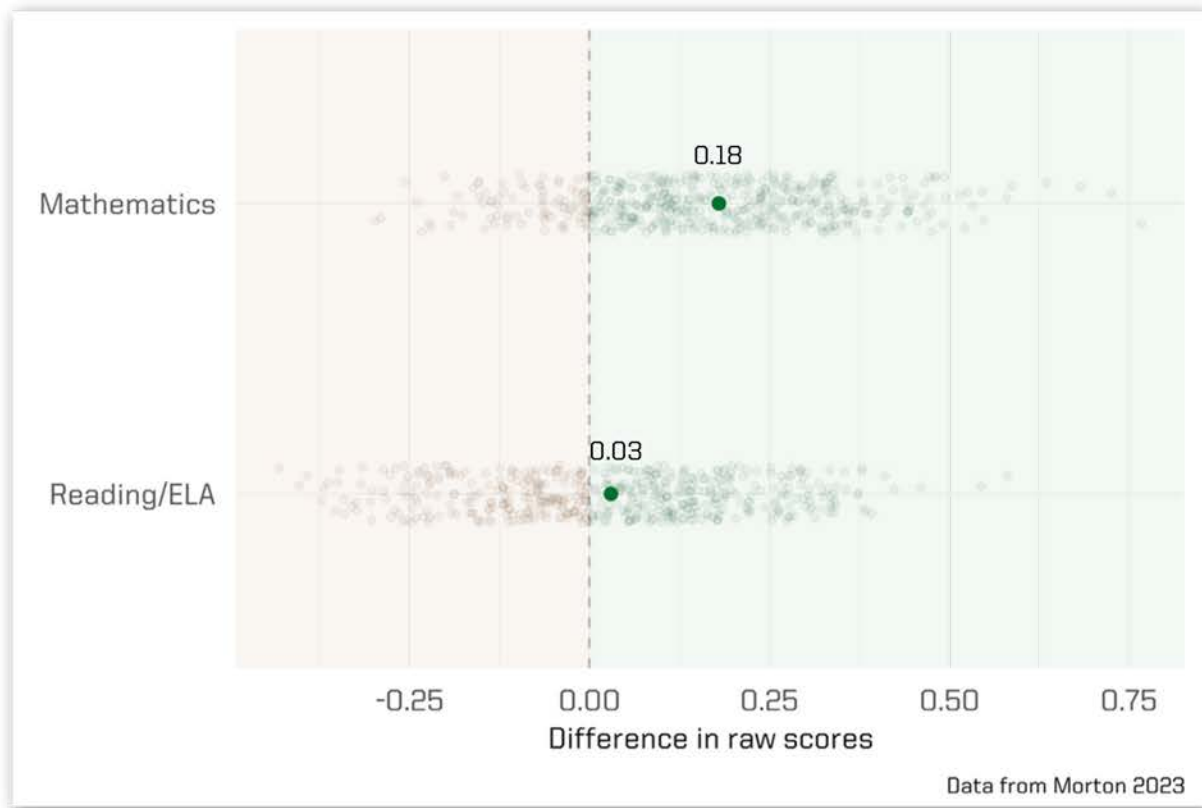
Findings also show a 4DSW may decrease on-time graduation rates, increase absences and chronic absences, and have little to no effect on on-time progression, but the evidence is very uncertain.

High Schools Statewide

Studies of Schools in Oklahoma

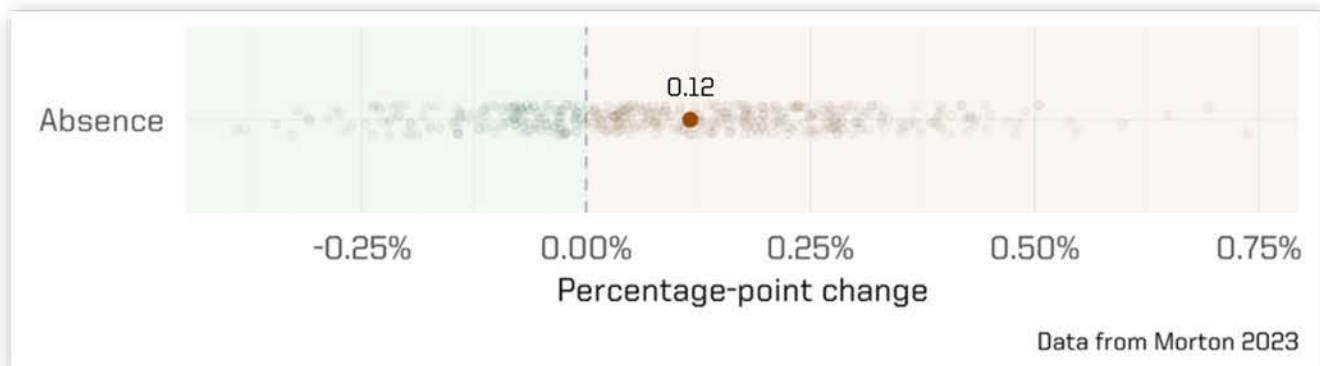
Evidence from one study suggests a 4DSW may result in **higher math and English ACT test scores** for students in 11th grade.

Achievement



Attendance

Evidence also suggests a 4DSW probably has **little to no effect** on absences.



High Schools Statewide

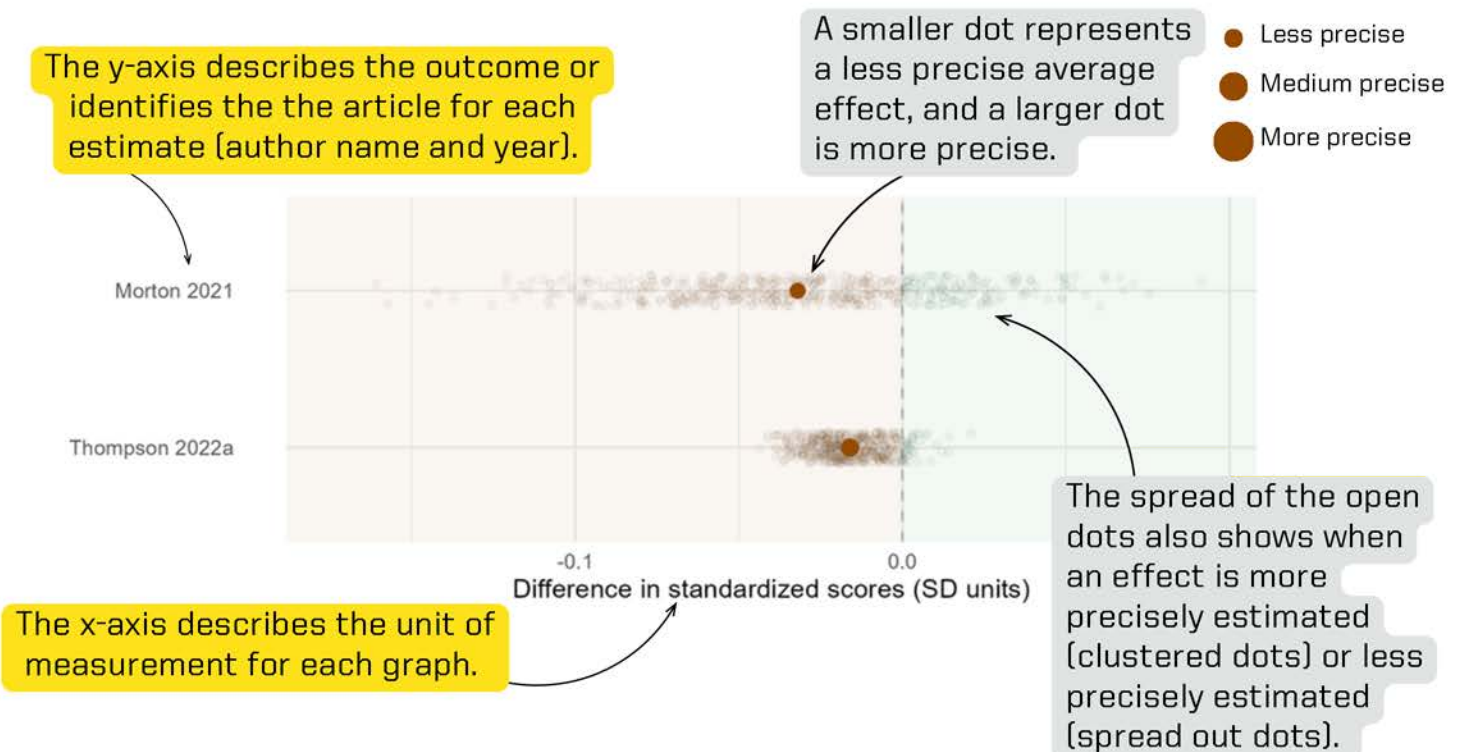
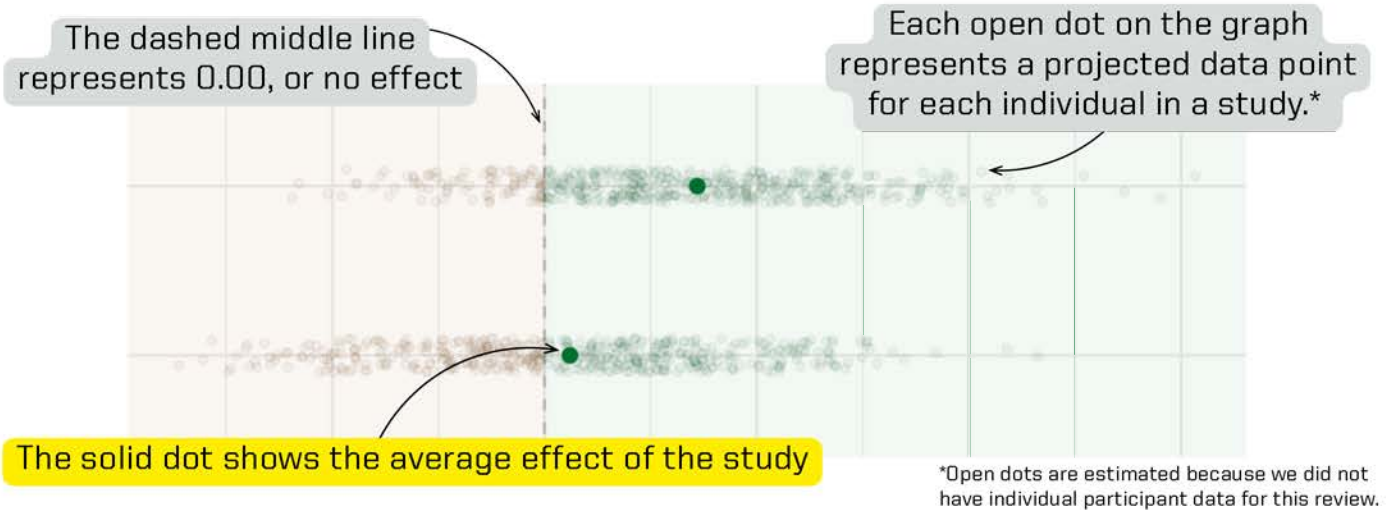
Studies of Schools in Oklahoma

Evidence from one study suggests a 4DSW probably **reduces bullying, fighting, and school bus incidents**. A 4DSW may **reduce substance use, truancy, and weapons incidents** and may have **little to no effect** on vandalism incidents.



How to Read Jitter Plots

Jitter plots are a type of graph that show both an average effect and a range of effects.



Methodology

This study was designed using best practices for conducting rigorous systematic reviews of the literature.⁵⁻¹⁰

The Systematic Review Process

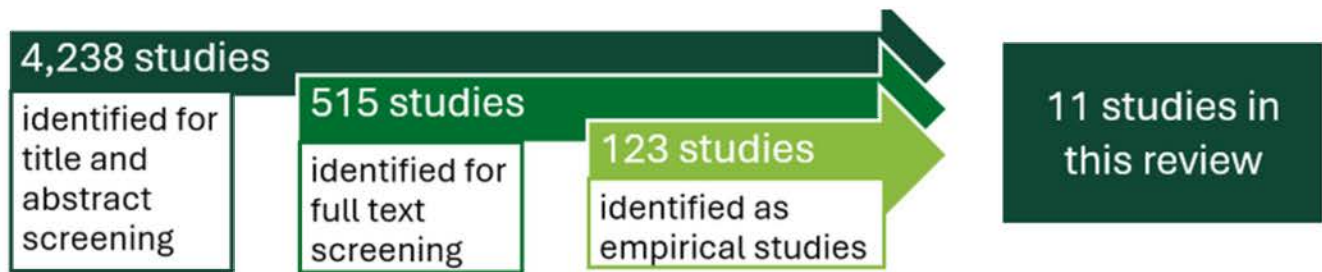
Systematic reviews involve comprehensively searching all the literature on a specific topic, followed by reviewing the findings from studies and combining the information together to get a more holistic view of the results. For a database of all studies on the four-day school week (4DSW), visit the HEDCO Institute dashboard.

Eligibility Criteria

INCLUDE	EXCLUDE
K-12 students in United States	Students in preschools, postsecondary schools, and schools outside the United States
Four-day school week (intervention group)	Other interventions that change the traditional school calendar (e.g., extended school year)
Five-day school week (control group)	No comparison group
Must include one of the following student outcomes: academic achievement, academic attainment, attendance, school disciplinary incidents, criminal activity	School- and community-level outcomes
Quasi-experimental design	Critical risk of bias as rated through ROBINS-I ^{11,12}
Full-text reports in English	Conceptual papers, opinion articles, non-research sources, and studies with full texts that could not be obtained (e.g., conference abstracts, unavailable dissertations)

Study Screening and Selection

Our search process included:



Characteristics of Included Studies

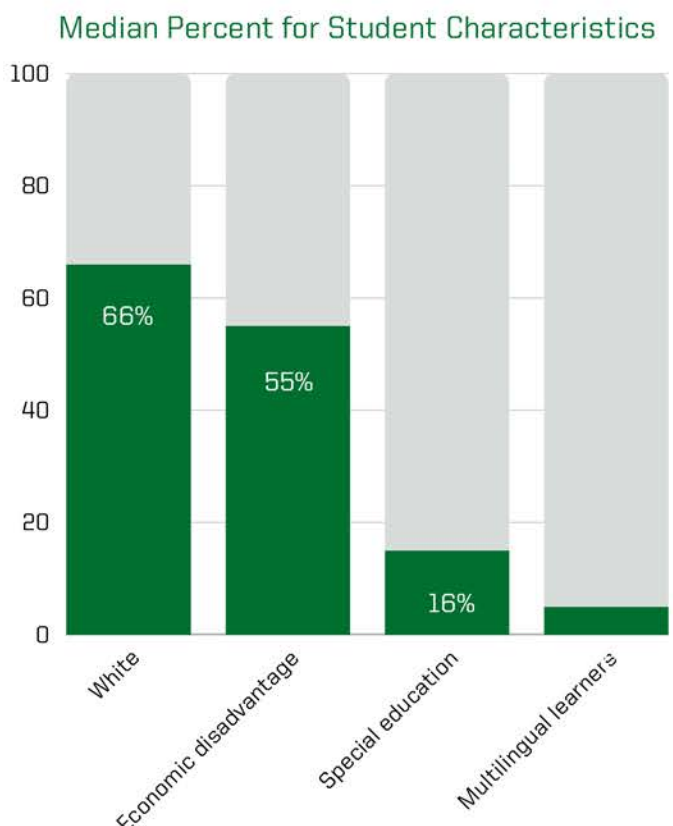
Across outcomes, studies included data from 1997-2023 and all were published in either a peer-reviewed journal or peer-reviewed report.

- The number of student observations in a study ranged from 836 to over 6,000,000 [median* = 17,849]. The number of districts in a study ranged from 63 to 619 [median = 278 districts].
- Two studies included only rural schools and 9 studies included rural and non-rural schools.
- Student-to-teacher ratios ranged from 1:13 to 20 with a median of 1:15.

When reported, the studies included

- white students: median* = 66%; range = 55-73%
- Students identified as having an economic disadvantage: median = 55%; range = 32-66%
- Students needing special education services: median = 15%; range = 8-17%
- Multilingual learners: median = 5%; range = 1-15%

No studies incorporated fifth-day programming in their analyses of student outcomes.



*Note: Median = the middle value in a dataset when arranged in ascending order

Risk of Bias

“Risk of bias” helps us understand whether there is any risk of bias in a study’s results that could distort the results. A rating of “Low” indicates a low risk, whereas “Serious” indicates a higher risk. All but one included study included in this review had moderate risk of bias.

Table 3. Summary of Risk of Bias Assessments

Study	Result	Domain							Overall
		1	2	3	4	5	6	7	
Anderson 2015	Achievement	L	L	M	L	L	L	M	Moderate
	Attainment	M	L	S	L	C	L	M	Critical
Fischer 2018	All	L	M	S	L	M	L	M	Serious
Kilburn 2021	All	L	L	L	L	L	L	M	Moderate*
Morton & Dewil 2024	All	M	L	L	L	L	L	M	Moderate
Morton 2021	All	L	L	L	L	L	L	M	Moderate
Morton 2023	All	L	L	L	L	L	L	M	Moderate*
Morton et al. 2024	Full sample	M	L	L	L	L	L	M	Moderate
	Rural sample	S	L	L	L	L	L	M	Serious
Thompson 2021	Achievement	L	L	L	L	L	L	M	Moderate*
	Other outcomes	S	L	S	L	L	L	M	Serious
	Full sample	L	L	L	L	L	L	M	Moderate*
	Rural sample	S	L	S	L	L	L	M	Serious
Thompson & Ward 2022	Full sample	L	L	M	L	L	L	M	Moderate
	Rural sample	M	L	M	L	L	L	M	Moderate
Thompson et al. 2022	Rural sample	L	L	L	L	L	L	M	Moderate*
	Full sample	S	L	L	L	L	L	M	Serious
	Non-rural	S	L	L	L	L	L	M	Serious
Thompson 2023	Full sample	M	L	L	L	L	L	M	Moderate
	Rural sample	S	L	L	L	L	L	M	Serious
	Non-rural	S	L	L	L	L	L	M	Serious
	Small districts	S	L	L	L	L	L	M	Serious

L = Low Risk of Bias, M = Moderate Risk of Bias, S = Serious Risk of Bias, C = Critical Risk of Bias

Notes: Domain 1: Risk of bias due to confounding. Domain 2: Risk of bias in classification of interventions. Domain 3: Risk of bias in selection of participants into the study (or into the analysis). Domain 4: Risk of bias due to deviations from intended interventions. Domain 5: Risk of bias due to missing data. Domain 6: Risk of bias arising from measurement of the outcome. Domain 7: Risk of bias in selection of the reported result. Overall: risk of bias rating for study

*Different effect sizes had different RoB ratings within the study; the lowest rating is listed here.

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