

Summary of Evaluation Findings: Dallas Afterschool

Propensity Score Matched comparison of DAS v nonDAS students on
DallasISD academic outcomes only
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SMU | ANNETTE CALDWELL SIMMONS
SCHOOL OF EDUCATION & HUMAN DEVELOPMENT

CENTER ON RESEARCH & EVALUATION

Big Picture

After a careful process of matching DAS students to similar students who were not enrolled in afterschool, a check mark indicates that the DAS students outperformed the non-DAS group by a meaningful and statistically significant margin.

	Reading	Math
1 st & 2 nd graders		
3 rd graders		
4 th graders		
5 th graders		

DAS > nonDAS but n.s.

Why Propensity Score Matching?

PSM helps create an “apples to apples” comparisons of students who participated in a DAS afterschool program and those who did not. This means that differences between the groups can be reasonably attributed to the intervention (to afterschool) instead of to other factors.

Why PSM? An example...

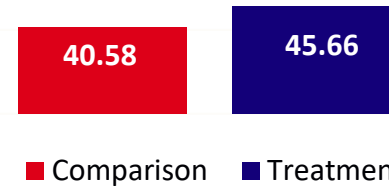
An initial comparison of n=55 1st and 2nd graders in DAS programs to all other 1st and 2nd graders (n=3498) shows the comparison group to slightly outperform the treatment group on average ITBS Reading percentile scores

After PSM, a comparison of n=3553 treatment and n=3553 comparison students shows that the treatment group performed significantly better than the comparison group on the 2015-16 reading score and demonstrates that the effect of OST programming was statistically significant.

Why PSM? An example...



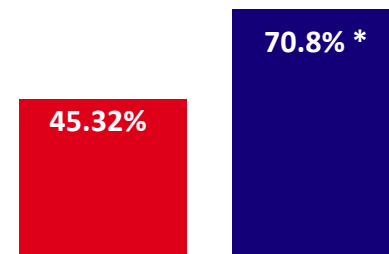
Average Reading Percentile Before Any PSM Matching



■ Comparison ■ Treatment



Average Reading Percentile After PSM Matching



70.8% *

45.32%

PSM: Matching Variables

We matched students on the following variables:

- Gender (female or male)
- Race: Black
- Race: Hispanic
- School Attendance Percentage
- Spanish Speaking at Home
- Spanish Speaking as Primary Language
- Tardy Number
- Referral Number
- Pretest Scores:
 - ITBS for 1st and 2nd Grade
 - STAAR for 3rd-5th Grade

Results

PSM Results: 1st & 2nd Grade

CORE conducted a Propensity Score Match technique that matched a sample of 1st and 2nd graders who attended DAS sites during the 2015-16 school year. In order to help isolate the impacts of attending afterschool programs vs not, the matching process took into account other contributing variables such as demographics and previous performance on standardized exams. These analyses show that there is a significant effect of afterschool attendance on both the reading and math scores for 1st and 2nd grade students.

Original 2015-16 Sample

Before Matching

DAS 1st and 2nd
graders n= 55

Non-DAS 1st and 2nd
graders n= 3,498

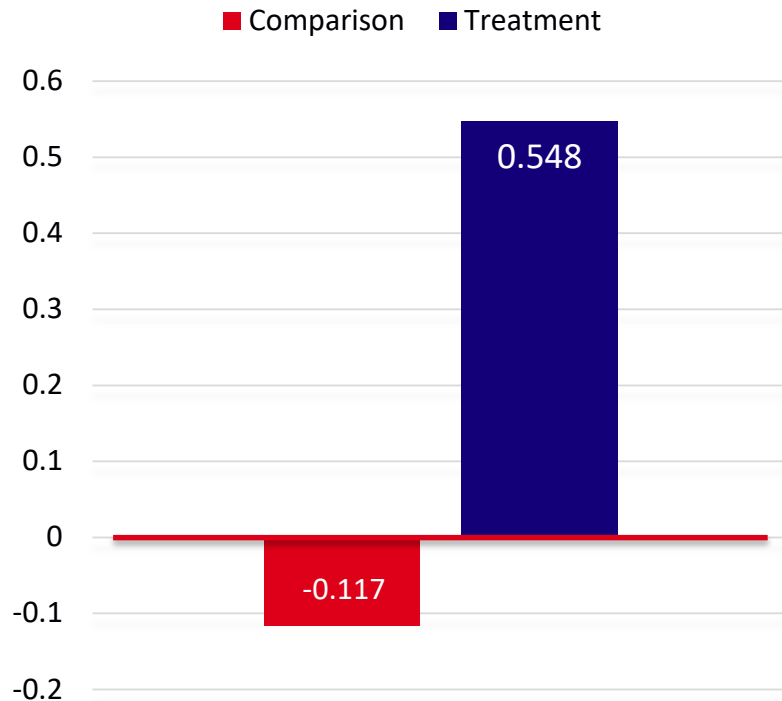
After Matching; sample
used for analysis

DAS 1st and 2nd
graders n= 3,553

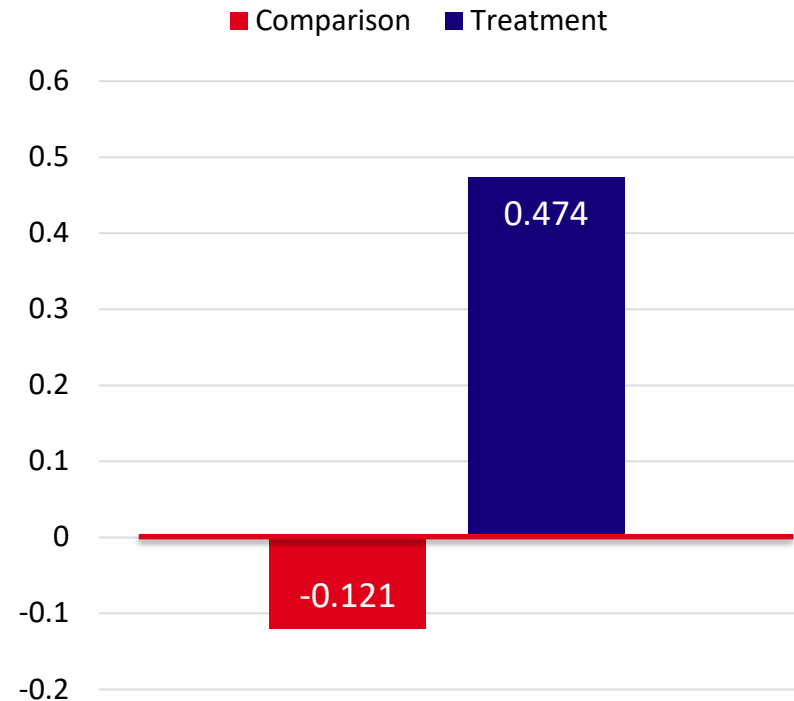
Non-DAS 1st and 2nd
graders n= 3,553

PSM Results: 1st & 2nd Grade

Average Effect of Participation
in DAS Sites on ITBS **Reading***
For 1st & 2nd Grade ($n=3,553$)



Average Effect of Participation
in DAS Sites on ITBS **Math*** For
1st & 2nd Grade ($n=3,553$)



*A significant finding ($p<.05$)

Interpreting 1st & 2nd Grade Differences

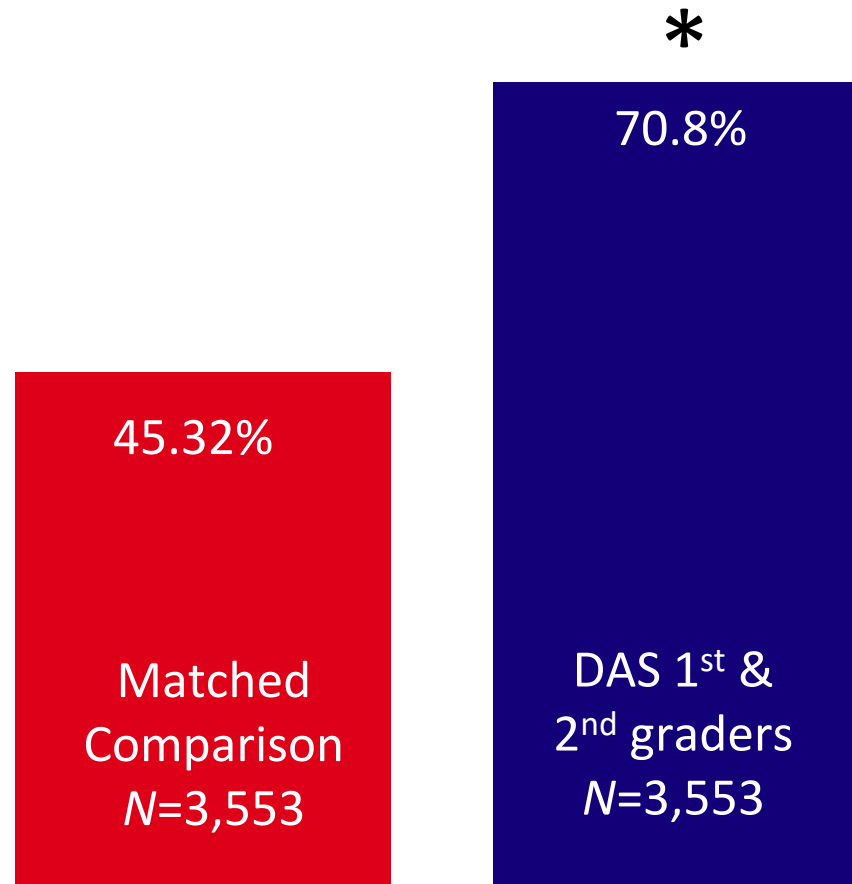
CORE converted the standardized scores into percentile ranks. (For example, a standardized score of -0.11 translated into a percentile rank of 45).

On average, in 2015-16 the comparison group scored in the 45th percentile for both reading and math.

However, students who participated in DAS OST sites scored in the 70th percentile in reading and the 68th percentile in math.

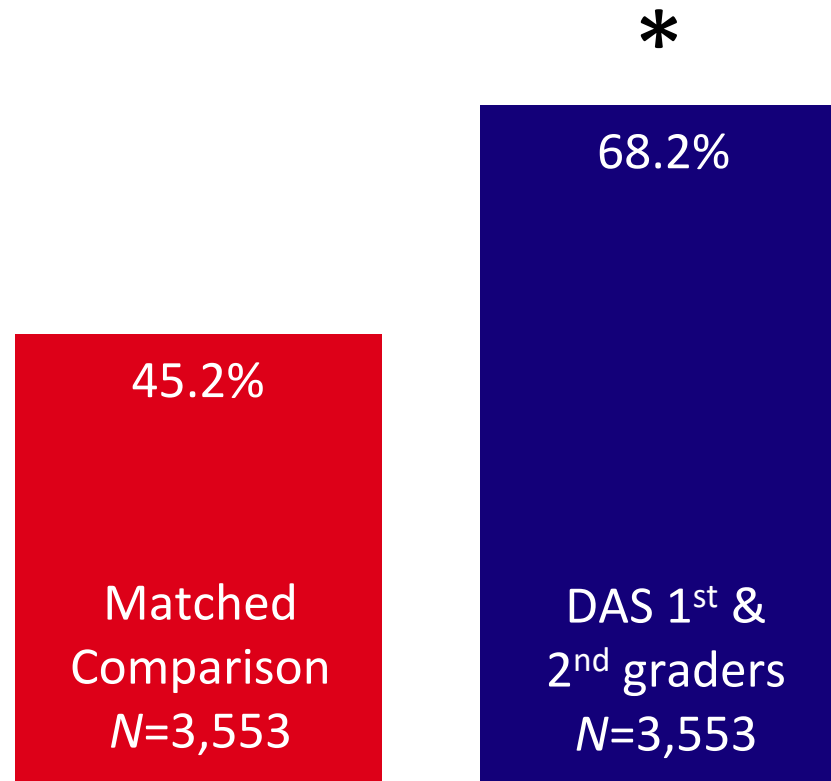
Average Percentile Rank on 2015-16 ITBS Reading Scores

**The effect of attending a DAS program was statistically significant, $p < .05$*



Average Percentile Rank on 2015-16 ITBS Math Scores

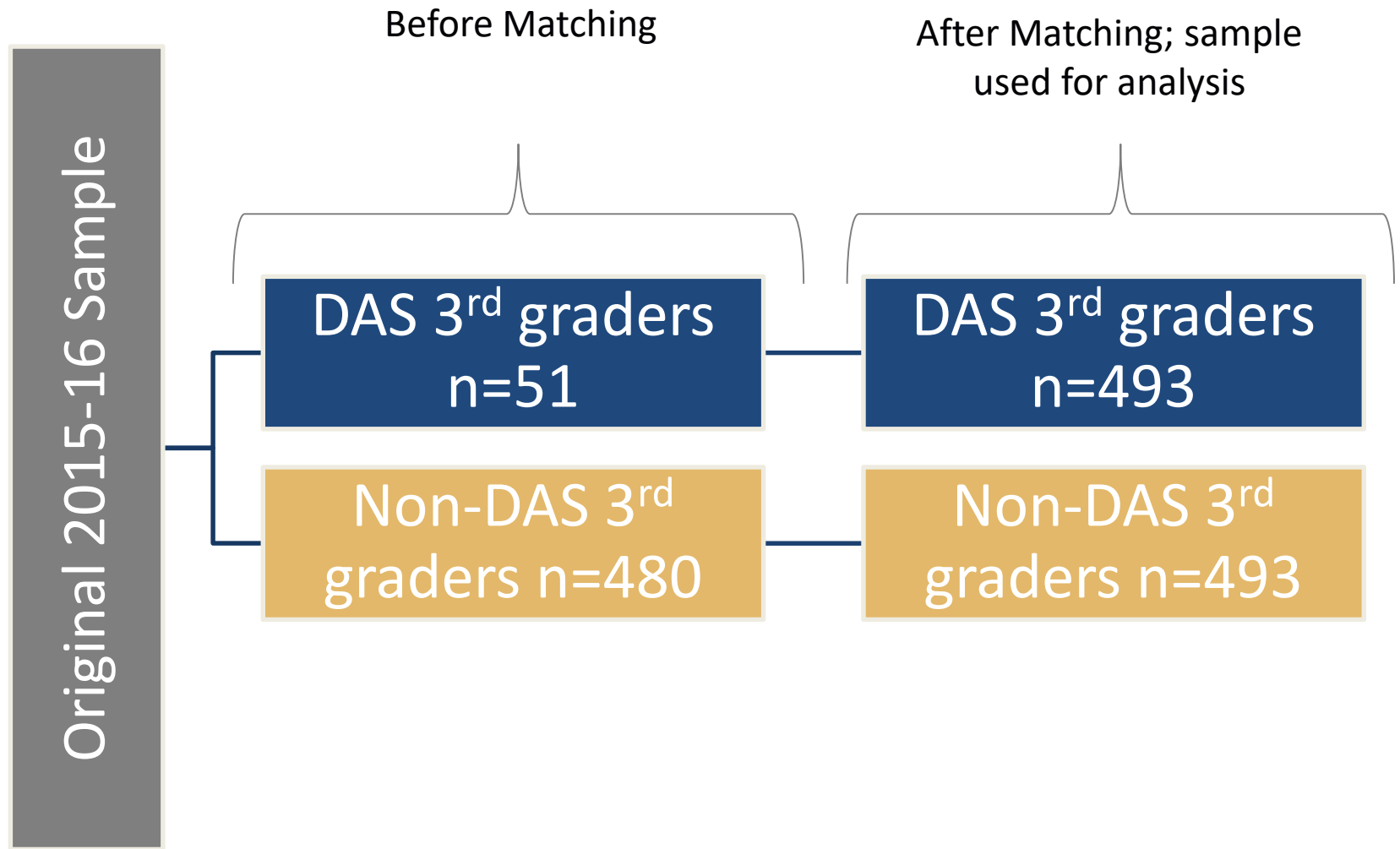
**The effect of attending a DAS program was statistically significant, $p < .05$*



PSM: 3rd through 5th Grade

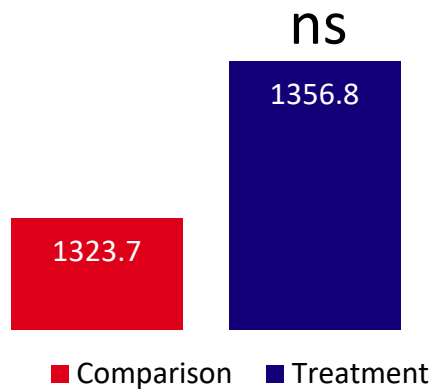
CORE also conducted Propensity Score Matching techniques to match a sample of 3rd, 4th and 5th graders who attended DAS sites during the 2015-16 school year. In order to help isolate the impacts of attending afterschool programs vs not, the matching process took into account other contributing variables such as demographics and previous performance on standardized exams. These analyses show that DAS afterschool has positive impacts on third grade math, and on fifth grade reading and math. DAS third graders out-performed non-DAS third graders on STAAR reading though the differences were not significant. On average, DAS fourth graders performed under non-DAS fourth graders on both reading and math.

*A significant finding ($p < .05$)

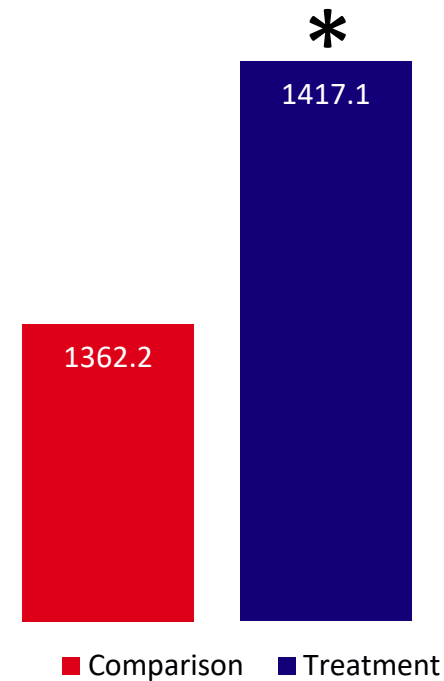


PSM Results: 3rd Grade

Average Scale Scores - 3rd
Grade STAAR **Reading** 2015-16,
N=493



Average Scale Scores - 3rd Grade
STAAR **Math** 2015-16,
N=493



*effects were significant (p<.05)

Original 2015-16 Sample

Before Matching

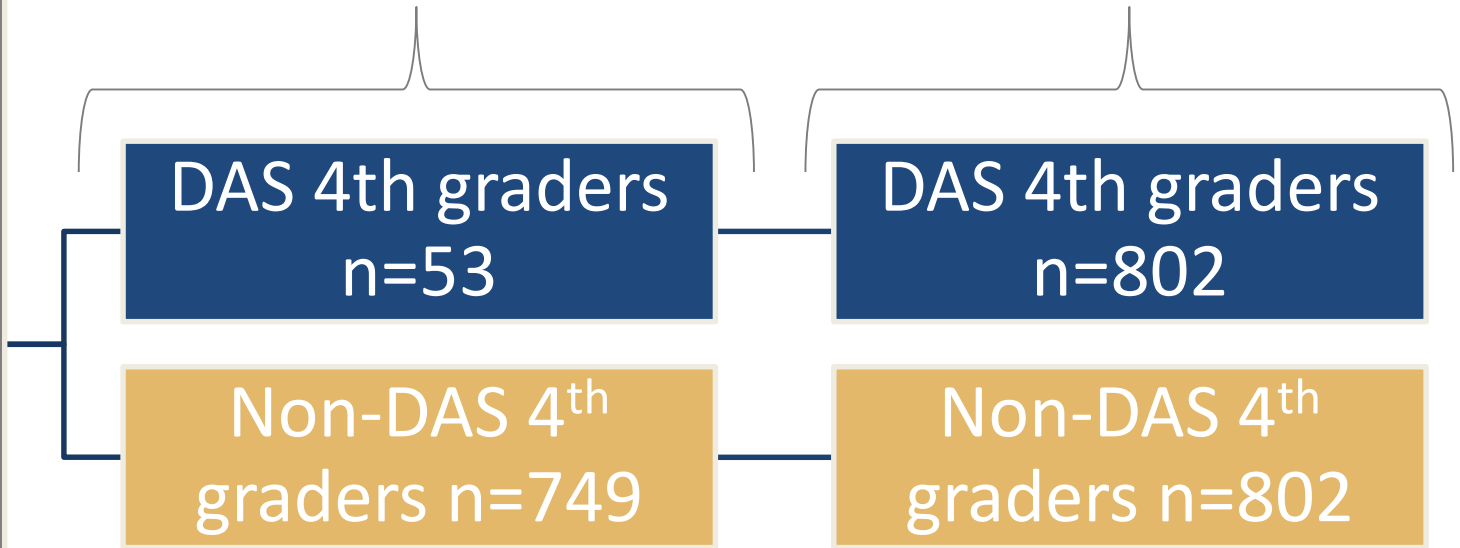
DAS 4th graders
n=53

Non-DAS 4th
graders n=749

After Matching; sample
used for analysis

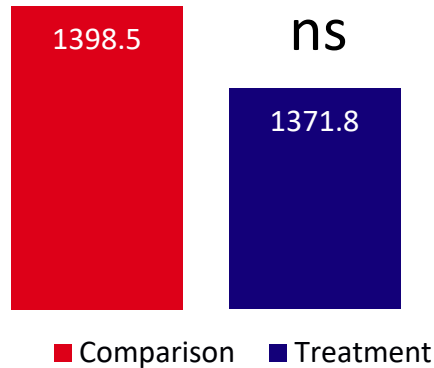
DAS 4th graders
n=802

Non-DAS 4th
graders n=802

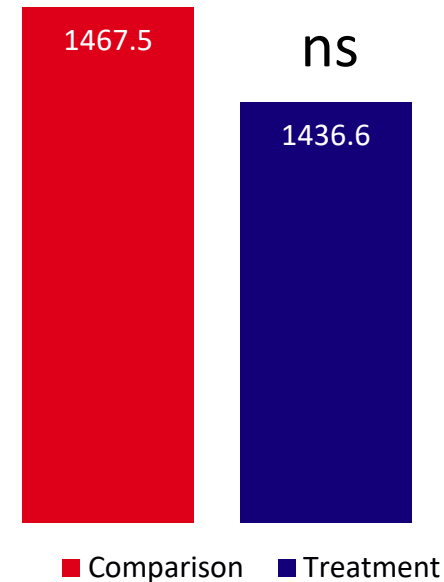


PSM Results: 4th Grade

Average Scale Score STAAR
Reading 2015-16
N=802



Average Scale Score STAAR
Math 2015-16
N=802



Effects of afterschool on 4th grade scores were not significant; mean differences between treatment and control 15-16 scores were not significant

Original 2015-16 Sample

Before Matching

DAS 5th graders
n=64

Non-DAS 5th
graders n=817

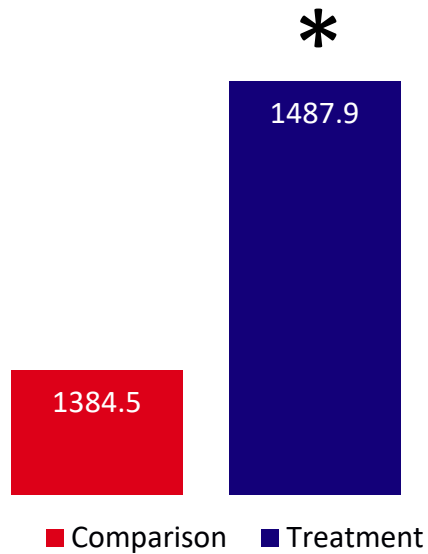
After Matching; sample
used for analysis

DAS 5th graders
n=881

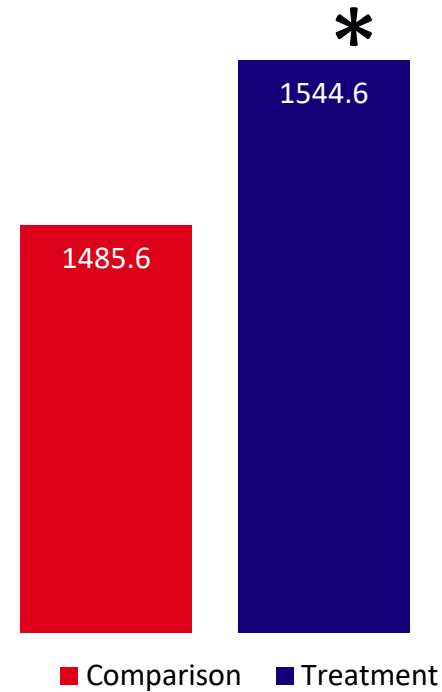
Non-DAS 5th
graders n=881

PSM Results: 5th Grade

Average Scale Score STAAR
Reading 2015-16
N=881



Average Scale Score STAAR
Math 2015-16
N=881



*effects were significant at $p < .05$