

Supplement

How are the Children? A Study of the Effectiveness of a Social-emotional Learning Curriculum for High School Students (Updated Version)

A REPORT OF A RANDOMIZED EXPERIMENT CONDUCTED IN
THE ROCK ISLAND MILAN SCHOOL DISTRICT

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EMPOWERING EDUCATORS THROUGH EVIDENCE AND INSIGHT

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This supplement contains complete technical details and raw results of analysis described here: Jaciw, A. P., Dowling, R., Waltower, M., Lin, L., & Zacamy, J. (2025). *How are the Children?* A Study of the Effectiveness of a Social-Emotional Learning Curriculum for High School Students: A Report of a Randomized Experiment Conducted in the Rock Island Milan School District. (Empirical Education report number: Empirical_HATC-7043-FR1-2025-O.3) Empirical Education Inc. <https://www.empiricaleducation.com/how-are-the-children/>

This document contains additional information for contextualizing results of the confirmatory and exploratory impact analyses.

For impacts on DESSA, we show results for three sample choices:

1. Inclusive of students who have a student- or teacher-rated DESSA posttest score: For a given student, if only one of the two scores was available, that one was used (after Z-transforming scores on that scale); If both were available, then the average of the within-scale z-transformed scores was used. The analysis included 632 students.
2. Inclusive of only students who had a *student-rated DESSA posttest score*, which was used as the outcome after being z-transformed. This analysis involved 501 students.
3. Inclusive of only students who had a *teacher-rated DESSA posttest score*, which was used as the outcome after being z-transformed. This analysis involved 616 students.

For each of the three samples described above, we show the full results of the impact model used to evaluate the effects of HATC on DESSA scores. We show the results for two models: without modeling the matched pairs within which teachers were randomly assigned, and with fixed effects for the pairs.

This Supplement also reports the result of analysis with the two main models (with and without matched pairs) for impacts on referrals, absenteeism, and ELA and math achievement.

Section 1: Attrition and baseline equivalence for DESSA

ANALYSIS OF STUDENTS WITH SELF-RATED OR TEACHER-RATED DESSA POSTTEST (N=632)

TABLE S1A. ATTRITION CALCULATION FOR DESSA SCORES FOR STUDENTS WITH A STUDENT-RATED OT TEACHER-RATED POSTTEST

	(A) Randomized	(B) Study teachers with at least one student who was both on the baseline roster of a randomized teacher, and who has a DESSA posttest score	(C) Randomized study teachers who do not have any students as described in B	(D) Number of students in classes of teachers counted under column C	(E) Number of students on rosters of randomized teachers, and who have a posttest	(F) N of students at baseline eligible for attrition calculation	(G) Rate of attrition of teachers	(H) Rate of attrition of students among non- attrititing teachers
HATC	Teachers	26	25	1			0.038	
	Students	387		9	303	378		0.198
Control	Teachers	27	27	0			0.000	
	Students	405		0	329	405		0.188
Total	Teachers	53	52	1			0.019	
	Students	792		9	632	783		0.193
Differential attrition	Teachers						0.038	
	Students							0.011

Note. Only students with a real (unimputed) posttest score were included in the impact analysis. A student without a posttest is included in the attrition count.

TABLE S1B. BASELINE EQUIVALENCE FOR THE SAMPLE WITH REAL (UNIMPUTED) STUDENT-RATED BASELINE DESSA SCORE REGARDLESS OF AVAILABILTY OF POSTTEST SCORE

	Condition	Means	Standard deviations	No. of students	No. of teachers	Effect size	p value	Percentile standing
Unadjusted effect size	Control	301.07	60.75	227	27	0.10	0.339	4%
	HATC	307.60	68.13	181	25			

TABLE S1C. BASELINE EQUIVALENCE FOR THE SAMPLE WITH A REAL (UNIMPUTED) STUDENT-RATED BASELINE DESSA SCORE WHO ALSO HAVE A STUDENT OR TEACHER-RATED POSTTEST

	Condition	Means	Standard deviations	No. of students	No. of teachers	Effect size	p value	Percentile standing
Unadjusted effect size	Control	298.45	58.92	200	25	0.20	0.063	8%
	HATC	311.50	69.70	153	22			

TABLE S1D. ADDITIONAL BASELINE EQUIVALENCE INFORMATION FOR SAMPLE WITH REAL (UNIMPUTED) STUDENT-RATED BASELINE DESSA SCORE AND A STUDENT OR TEACHER-RATED POSTTEST (TO SUPPORT WWC REVIEW)

Sample	Comparison group			Treatment group		
	No. of Individuals	Mean of Baseline Measure	Mean of Outcome Measure	No. of Individuals	Mean of Baseline Measure	Mean of Outcome Measure
Analytic sample (with dummy variable imputed pretest)	329	298.45	-0.04	303	311.50	-0.14
Subsample of individuals with non-missing values for outcome and baseline measures	200	298.45	0.02	153	311.50	0.01
Subsample of individuals with non-missing outcome measure and missing baseline measure	129	Not applicable	-0.12	150	Not applicable	-0.29

Subsample of individuals with non-missing baseline measures and missing outcome measure	27	320.48	Not applicable	28	286.25	Not applicable
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Note. Correlation between the baseline and outcome measures (calculated using only non-imputed data) is 0.40.

ANALYSIS OF STUDENTS WITH STUDENT-RATED DESSA POSTTEST (N=501)

TABLE S1E. ATTRITION CALCULATION FOR DESSA SCORES FOR STUDENTS WITH STUDENT-RATED POSTTEST SCORE

	(A) Randomized	(B) Study teachers with at least one student who was both on the baseline roster of a randomized teacher, and who has a DESSA posttest score	(C) Randomized study teachers who do not have any students as described in B	(D) Number of students in classes of teachers counted under column C	(E) Number of students on rosters of randomized teachers, and who have a posttest	(F) N of students at baseline eligible for attrition calculation	(G) Rate of attrition of teachers	(H) Rate of attrition of students among non- attrititing teachers
HATC	Teachers	26	25	1			0.038	
	Students	387		9	241	378		0.362
Control	Teachers	27	26	1			0.037	
	Students	405		6	260	399		0.348
Total	Teachers	53	51	2			0.038	
	Students	792		15	501	777		0.355

Differential attrition	Teachers	0.001
	Students	0.014

Table S1f. Baseline Equivalence for the Sample with real (unimputed) student-rated baseline dessa SCORE regardless of availability of posttest (to support WWC Review)

	Condition	Means	Standard deviations	No. of students	No. of teachers	Effect size	p value	Percentile standing
Unadjusted effect size	Control	301.07	60.75	227	27	0.10	0.339	4%
	HATC	307.60	68.13	181	25			

TABLE S1G. BASELINE EQUIVALENCE FOR THE SAMPLE WITH A REAL (UNIMPUTED) STUDENT-RATED BASELINE DESSA SCORE WHO ALSO HAVE AN UNIMPUTED STUDENT-RATED POSTTEST

	Condition	Means	Standard deviations	No. of students	No. of teachers	Effect size	p value	Percentile standing
Unadjusted effect size	Control	300.85	58.65	165	25	0.17	0.161	7%
	HATC	311.53	69.57	129	20			

TABLE S1H. ADDITIONAL BASELINE EQUIVALENCE INFORMATION FOR SAMPLE WITH REAL (UNIMPUTED) STUDENT-RATED BASELINE DESSA SCORE AND AN UNIMPUTED STUDENT-RATED POSTTEST (TO SUPPORT WWC REVIEW)

Sample	Comparison group			Treatment group		
	No. of Individuals	Mean of Baseline Measure	Mean of Outcome Measure	No. of Individuals	Mean of Baseline Measure	Mean of Outcome Measure

Analytic sample (with dummy variable imputed pretest)	260	300.85	298.07	241	311.53	308.17
Subsample of individuals with non-missing values for outcome and baseline measures	165	300.85	297.85	129	311.53	312.39
Subsample of individuals with non-missing outcome measure and missing baseline measure	95	Not applicable	298.45	112	Not applicable	303.30
Subsample of individuals with non-missing baseline measures and missing outcome measure	62	301.65	Not applicable	52	297.85	Not applicable

Note. Correlation between the baseline and outcome measures (calculated using only non-imputed data): 0.50

ANALYSIS OF STUDENTS WITH TEACHER-RATED DESSA POSTTEST (N=616)

TABLE S1I. ATTRITION CALCULATION FOR DESSA SCORES FOR STUDENTS WITH A TEACHER-RATED POSTTEST SCORE

	Randomized	Teachers for whom we can find at least one student they had at baseline with a posstest	Teachers for whom we cannot find any students they had at baseline with posttest	Number of students lost from baseline among teachers	Number of students with a posttest	N of students at baseline eligible for attrition calc	Rate of attrition teachers	Rate of attrition students
HATC	Teachers	26	25	1			0.038	
	Students	387		9	297	378		0.214
Control	Teachers	27	26	1			0.037	
	Students	405		18	319	387		0.176
Total	Teachers	53	51	2			0.038	
	Students	792		27	616	765		0.195

Differential attrition	Teachers	0.001
	Students	0.039

TABLE S1J. BASELINE EQUIVALENCE FOR THE SAMPLE WITH REAL (UNIMPUTED) STUDENT-RATED BASELINE DESSA SCORE REGARDLESS OF AVAILABILTY OF A POSTTEST

	Condition	Means	Standard deviations	No. of students	No. of teachers	Effect size	p value	Percentile standing
Unadjusted effect size	Control	301.07	60.75	227	27	0.10	0.339	4%
	HATC	307.60	68.13	181	25			

TABLE S1K. BASELINE EQUIVALENCE FOR THE SAMPLE WITH A REAL (UNIMPUTED) STUDENT-RATED BASELINE DESSA SCORE AND AN UNIMPUTED TEACHER-RATED POSTTEST

	Condition	Means	Standard deviations	No. of students	No. of teachers	Effect size	p value	Percentile standing
Unadjusted effect size	Control	298.64	58.99	191	24	0.20	0.068	8%
	HATC	311.72	70.14	151	22			

TABLE S1L. ADDITIONAL BASELINE EQUIVALENCE INFORMATION FOR SAMPLE WITH REAL (UNIMPUTED) STUDENT-RATED BASELINE DESSA SCORE AND AN UNIMPUTED TEACHER-RATED POSTTEST (TO SUPPORT WWC REVIEW)

Sample	Comparison group			Treatment group		
	No. of Individuals	Mean of Baseline Measure	Mean of Outcome Measure	No. of Individuals	Mean of Baseline Measure	Mean of Outcome Measure
Analytic sample (with dummy variable imputed pretest)	319	298.64	22.98	297	311.72	21.69
Subsample of individuals with non-missing values for outcome and baseline measures	191	298.64	23.71	151	311.72	22.87
Subsample of individuals with non-missing outcome measure and missing baseline measure	128	Not applicable	21.89	146	Not applicable	20.47
Subsample of individuals with non-missing baseline measures and missing outcome measure	36	313.94	Not applicable	30	286.87	Not applicable

Note. Correlation between the baseline and outcome measures (calculated using only non-imputed data): 0.18

SECTION 2: THE FULL RESULTS OF THE BENCHMARK IMPACT MODELS FOR EVALUATING IMPACTS ON DESSA

The covariates in the model covariate-adjusted regression model are as follows (they also apply to subsequent regression results for all other outcomes):

Table S2A. Description of Covariates used in Benchmark Impact Analyses

Variable	Definition	Coding
istx	Indicator of whether a class is assigned to (HATC) treatment or control	Istx=0 if class is in treatment Istx=1 if class is in control
ssrpreSEC_rawscore_n	SSR-DESSA pretest Scores	
missingpre	Indicator of missing pretest	1 = missing; 0 = not missing
Schoolid (classification variable)	School: Rock Island High School or Thurgood Marshall High school	Schoolid=1 Schoolid=2
Grade	Student current Grade	grade=09

(classification variable)
position_s0_r (classification variable)
yrs_ft_ed_S0
tchGender_S0
lvl_exper_SEL_S0 (classification variable)
prev_pd_SEL_S0
SEL_belief_AVG_S0
ismale
ethnicity_n
islep_n
isfeewaiver_n
isspeced_n

Primary Position: General education teacher	grade=10
Special education teacher	grade=11
EL teacher or missing, Other or Missing	grade=12
Total number of years as an educator:	Position_s0_r=MS
Teacher Gender	Position_s0_r=Special Education Teacher
Level of experience teaching SEL	Position_s0_r= teacher_general_ELL_oth
SEL PD	Open response
SEL beliefs scale (composite)	1 = male, 0 =female
Student Being male	4 = A lot of experience; 3 = Moderate experience; 2 = minimal experience; 1 = no experience
Student ethnicity	1 = Yes, 0 = No
Has an EL teacher for advisory	5 = Strongly agree; 4 = agree; 3 = neutral; 2 = disagree; 1 = strongly disagree
Student Fee Waiver	1= male; 0 = others
Student Special Education	0 = Not Hispanic or Latine, 1 = Hispanic or Latine
	0=NO, 1=YES
	0 =no fee waiver, 1=yes fee waiver
	0= no special education, 1=Special Education

isdisability_n	Student Disability	1=YES, the student has an identified disability; 0=NO, the student does not have an identified disability. "Disabilities" include anything that the district has identified (e.g., mental, emotional, physical, learning). We are interested only in whether the student has been designated with a disability, not the type of disability.
MSstuvar	Missing student covariate information (islep, isfeewaver, isspeced, isdisability)	1 = missing; 0 = not missing

MODEL S2B ANALYSIS RESTRICTED TO STUDENTS WITH DESSA POSTTESTS (N=632) (NO MATCHED PAIRS)

Number of Observations

Number of Observations Read	632
Number of Observations Used	632
Number of Observations Not Used	0

Covariance Parameter Estimates

Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z
Intercept	teacherid	0.1121	0.04118	2.72	0.0032
Residual		0.6135	0.03648	16.82	<.0001

Solution for Fixed Effects

Effect	grade	position_s0_r	schoolid	Estimate	Standard Error	DF	t Value	Pr > t
Intercept				-1.2571	0.7476	42	-1.68	0.1001
istx				-0.1716	0.1223	42	-1.40	0.1678

Solution for Fixed Effects

Effect	grade	position_s0_r	schoolid	Estimate	Standard Error	DF	t Value	Pr > t
ssrpreSEC_rawscore_n				0.004869	0.000682	568	7.14	<.0001
missingpre				1.2648	0.2207	568	5.73	<.0001
schoolid			1	0.1400	0.2275	42	0.62	0.5415
schoolid			2	0	.	.	.	.
grade	09			-0.07078	0.1675	37	-0.42	0.6751
grade	10			0.2241	0.1697	37	1.32	0.1948
grade	11			0.2317	0.1649	37	1.41	0.1683
grade	12			0	.	.	.	.
position_s0_r		MS		0.2906	0.6828	42	0.43	0.6726
position_s0_r		Special education teach		-0.1283	0.3311	42	-0.39	0.7003
position_s0_r		teacher_general_ELL_oth		0	.	.	.	.
yrs_ft_ed_S0				0.003455	0.006888	42	0.50	0.6186
tchGender_S0				0.2097	0.1454	42	1.44	0.1565
lvl_exper_SEL_S0				-0.1982	0.09353	42	-2.12	0.0401
prev_pd_SEL_S0				-0.08401	0.1277	42	-0.66	0.5142
SEL_belief_AVG_S0				0.03221	0.1680	42	0.19	0.8489
ismale				-0.2039	0.06533	568	-3.12	0.0019
ethnicity_n				-0.05729	0.08788	568	-0.65	0.5147
islep_n				0.2896	0.1826	568	1.59	0.1133
isfeewaiver_n				-0.03664	0.06681	568	-0.55	0.5836
isspeced_n				-0.08832	0.3517	568	-0.25	0.8018
isdisability_n				0.08296	0.1809	568	0.46	0.6467

Solution for Fixed Effects

Effect	grade	position_s0_r	schoolid	Estimate	Standard Error	DF	t Value	Pr > t
MSstuvr				0.08410	0.3472	568	0.24	0.8087

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
istx	1	42	1.97	0.1678
ssrpreSEC_rawscore_n	1	568	51.03	<.0001
missingpre	1	568	32.83	<.0001
schoolid	1	42	0.38	0.5415
grade	3	37	2.39	0.0846
position_s0_r	2	42	0.29	0.7531
yrs_ft_ed_S0	1	42	0.25	0.6186
tchGender_S0	1	42	2.08	0.1565
lvl_exper_SEL_S0	1	42	4.49	0.0401
prev_pd_SEL_S0	1	42	0.43	0.5142
SEL_belief_AVG_S0	1	42	0.04	0.8489
ismale	1	568	9.74	0.0019
ethnicity_n	1	568	0.42	0.5147
islep_n	1	568	2.52	0.1133
isfeewaiver_n	1	568	0.30	0.5836
isspeced_n	1	568	0.06	0.8018
isdisability_n	1	568	0.21	0.6467
MSstuvr	1	568	0.06	0.8087

MODEL S2C. ANALYSIS RESTRICTED TO STUDENTS WITH DESSA POSTTESTS (N=632) (WITH MATCHED PAIRS)

Number of Observations

Number of Observations Read	632
Number of Observations Used	632
Number of Observations Not Used	0

Covariance Parameter Estimates

Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z
Intercept	teacherid	0.1194	0.06066	1.97	0.0245
Residual		0.6110	0.03635	16.81	<.0001

Solution for Fixed Effects

Effect	grade	position_s0_r	schoolid	block	Estimate	Standard Error	DF	t Value	Pr > t
Intercept					-1.4248	1.0230	22	-1.39	0.1776
istx					-0.1226	0.1296	22	-0.95	0.3541
ssrpreSEC_rawscore_n					0.004768	0.000685	568	6.96	<.0001
missingpre					1.2111	0.2221	568	5.45	<.0001
schoolid			1		0.2019	0.3190	22	0.63	0.5334
schoolid			2		0	.	.	.	.
grade	09				-0.4041	0.2734	37	-1.48	0.1478
grade	10				0.1641	0.2717	37	0.60	0.5495
grade	11				0.2027	0.2565	37	0.79	0.4344
grade	12				0	.	.	.	.

Solution for Fixed Effects

Effect	grade	position_s0_r	schoolid	block	Estimate	Standard Error	DF	t Value	Pr > t
position_s0_r	MS				0.02687	0.7765	22	0.03	0.9727
position_s0_r	Special education teach				-0.3718	0.4584	22	-0.81	0.4260
position_s0_r	teacher_general_ELL_oth				0	.	.	.	.
yrs_ft_ed_S0					0.005978	0.009051	22	0.66	0.5158
tchGender_S0					0.2232	0.2170	22	1.03	0.3147
lvl_exper_SEL_S0					-0.2489	0.1168	22	-2.13	0.0445
prev_pd_SEL_S0					-0.09946	0.1859	22	-0.54	0.5980
SEL_belief_AVG_S0					0.009965	0.2401	22	0.04	0.9673
ismale					-0.1999	0.06553	568	-3.05	0.0024
ethnicity_n					-0.06618	0.08888	568	-0.74	0.4568
islep_n					0.3359	0.2527	568	1.33	0.1843
isfeewaiver_n					-0.04487	0.06727	568	-0.67	0.5050
isspeced_n					0.000484	0.3642	568	0.00	0.9989
isdisability_n					0.08877	0.1813	568	0.49	0.6245
MSstuar					0.1196	0.3515	568	0.34	0.7338
block				1	0.6336	0.5711	22	1.11	0.2792
block				2	0.3899	0.6080	22	0.64	0.5279
block				3	1.0428	0.6895	22	1.51	0.1446
block				4	0.3401	0.5851	22	0.58	0.5669
block				91	0.8790	0.5270	22	1.67	0.1095
block				92	0.4412	0.5546	22	0.80	0.4348
block				93	1.1192	0.6024	22	1.86	0.0766

Solution for Fixed Effects

Effect	grade	position_s0_r	schoolid	block	Estimate	Standard Error	DF	t Value	Pr > t
block				94	0.8411	0.5233	22	1.61	0.1222
block				95	0.8287	0.5537	22	1.50	0.1486
block				101	0.5545	0.5291	22	1.05	0.3060
block				102	0.4195	0.5888	22	0.71	0.4837
block				103	0.2700	0.5606	22	0.48	0.6349
block				104	-0.3135	0.5202	22	-0.60	0.5529
block				111	0.4524	0.5761	22	0.79	0.4406
block				112	-0.04678	0.5533	22	-0.08	0.9334
block				113	0.5403	0.6194	22	0.87	0.3925
block				114	0.3788	0.5782	22	0.66	0.5192
block				121	0.1899	0.5308	22	0.36	0.7239
block				122	0.5314	0.5372	22	0.99	0.3334
block				123	0.1934	0.4794	22	0.40	0.6904
block				124	0	.	.	.	.

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
istx	1	22	0.90	0.3541
ssrpreSEC_rawscore_n	1	568	48.46	<.0001
missingpre	1	568	29.73	<.0001
schoolid	1	22	0.40	0.5334
grade	3	37	4.55	0.0082

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
position_s0_r	2	22	0.41	0.6669
yrs_ft_ed_S0	1	22	0.44	0.5158
tchGender_S0	1	22	1.06	0.3147
lvl_exper_SEL_S0	1	22	4.54	0.0445
prev_pd_SEL_S0	1	22	0.29	0.5980
SEL_belief_AVG_S0	1	22	0.00	0.9673
ismale	1	568	9.31	0.0024
ethnicity_n	1	568	0.55	0.4568
islep_n	1	568	1.77	0.1843
isfeewaiver_n	1	568	0.44	0.5050
isspeced_n	1	568	0.00	0.9989
isdisability_n	1	568	0.24	0.6245
MSstuvvar	1	568	0.12	0.7338
block	20	22	1.04	0.4658

Model S2D Analysis restricted to students with self-rated posttests (N=501) (no matched pairs)

Number of Observations

Number of Observations Read	632
Number of Observations Used	501
Number of Observations Not Used	131

Covariance Parameter Estimates

Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z
Intercept	teacherid	0	.	.	.
Residual		3451.17	223.00	15.48	<.0001

Solution for Fixed Effects

Effect	grade	position_s0_r	schoolid	Estimate	Standard Error	DF	t Value	Pr > t
Intercept				200.90	38.6109	41	5.20	<.0001
istx				3.9933	5.7655	41	0.69	0.4925
ssrpreSEC_rawscore_n				0.5182	0.05523	438	9.38	<.0001
missingpre				155.02	17.8795	438	8.67	<.0001
schoolid			1	-11.3214	14.4452	41	-0.78	0.4377
schoolid			2	0	.	.	.	.
grade	09			-22.8559	10.4664	26	-2.18	0.0382
grade	10			-25.1532	10.4834	26	-2.40	0.0239
grade	11			-12.0178	10.7297	26	-1.12	0.2729
grade	12			0	.	.	.	.
position_s0_r		MS		-0.6338	51.4875	41	-0.01	0.9902
position_s0_r		Special education teach		-31.4808	26.4725	41	-1.19	0.2412
position_s0_r		teacher_general_ELL_oth		0	.	.	.	.
yrs_ft_ed_S0				0.1824	0.3230	41	0.56	0.5752
tchGender_S0				5.9599	7.1511	41	0.83	0.4094
lvl_exper_SEL_S0				-5.1395	4.5691	41	-1.12	0.2672
prev_pd_SEL_S0				-5.6095	6.2735	41	-0.89	0.3765
SEL_belief_AVG_S0				-5.6892	7.5508	41	-0.75	0.4555
ismale				-8.3182	5.3795	438	-1.55	0.1228

Solution for Fixed Effects

Effect	grade	position_s0_r	schoolid	Estimate	Standard Error	DF	t Value	Pr > t
ethnicity_n				6.3476	7.5892	438	0.84	0.4034
islep_n				8.4973	9.3198	438	0.91	0.3624
isfeewaiver_n				11.6924	5.5759	438	2.10	0.0366
isspeced_n				-0.5314	31.0886	438	-0.02	0.9864
isdisability_n				19.9635	15.7960	438	1.26	0.2070
MSstubar				19.2315	29.4718	438	0.65	0.5144

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
istx	1	41	0.48	0.4925
ssrpreSEC_rawscore_n	1	438	88.05	<.0001
missingpre	1	438	75.17	<.0001
schoolid	1	41	0.61	0.4377
grade	3	26	2.52	0.0798
position_s0_r	2	41	0.93	0.4024
yrs_ft_ed_S0	1	41	0.32	0.5752
tchGender_S0	1	41	0.69	0.4094
lvl_exper_SEL_S0	1	41	1.27	0.2672
prev_pd_SEL_S0	1	41	0.80	0.3765
SEL_belief_AVG_S0	1	41	0.57	0.4555
ismale	1	438	2.39	0.1228
ethnicity_n	1	438	0.70	0.4034
islep_n	1	438	0.83	0.3624
isfeewaiver_n	1	438	4.40	0.0366
isspeced_n	1	438	0.00	0.9864

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
isdisability_n	1	438	1.60	0.2070
MSstuvr	1	438	0.43	0.5144

MODEL S2E. ANALYSIS RESTRICTED TO STUDENTS WITH SELF-RATED POSTTESTS (N=501) (WITH MATCHED PAIRS)

Number of Observations

Number of Observations Read	632
Number of Observations Used	501
Number of Observations Not Used	131

Covariance Parameter Estimates

Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z
Intercept	teacherid	0	.	.	.
Residual		3429.83	226.40	15.15	<.0001

Solution for Fixed Effects

Effect	grade	position_s0_r	schoolid	block	Estimate	Standard Error	DF	t Value	Pr > t
Intercept					250.64	53.1971	21	4.71	0.0001
istx					3.4525	6.2239	21	0.55	0.5850
ssrpreSEC_rawscore_n					0.5195	0.05609	438	9.26	<.0001
missingpre					156.24	18.2867	438	8.54	<.0001

Solution for Fixed Effects

Effect	grade	position_s0_r	schoolid	block	Estimate	Standard Error	DF	t Value	Pr > t
schoolid			1		0.02572	20.6409	21	0.00	0.9990
schoolid			2		0	.	.	.	.
grade	09				-39.0388	23.3734	26	-1.67	0.1069
grade	10				-24.2106	22.8428	26	-1.06	0.2989
grade	11				-0.7326	21.9537	26	-0.03	0.9736
grade	12				0	.	.	.	.
position_s0_r		MS			-51.2409	57.3430	21	-0.89	0.3817
position_s0_r		Special education teach			-80.0494	35.1035	21	-2.28	0.0331
position_s0_r		teacher_general_ELL_oth			0	.	.	.	.
yrs_ft_ed_S0					0.4619	0.4133	21	1.12	0.2764
tchGender_S0					4.6568	11.0276	21	0.42	0.6771
lvl_exper_SEL_S0					-5.8041	5.3562	21	-1.08	0.2908
prev_pd_SEL_S0					-16.8904	8.6396	21	-1.95	0.0640
SEL_belief_AVG_S0					-17.0920	11.0779	21	-1.54	0.1378
ismale					-8.9684	5.4461	438	-1.65	0.1003
ethnicity_n					8.7548	7.8448	438	1.12	0.2650
islep_n					-4.4424	21.8634	438	-0.20	0.8391
isfeewaiver_n					9.5305	5.7508	438	1.66	0.0982
isspeced_n					21.5830	34.1337	438	0.63	0.5275
isdisability_n					17.4190	16.0099	438	1.09	0.2772
MSstuar					20.5347	30.5344	438	0.67	0.5016
block				1	41.4994	35.5027	21	1.17	0.2555

Solution for Fixed Effects

Effect	grade	position_s0_r	schoolid	block	Estimate	Standard Error	DF	t Value	Pr > t
block				2	2.4964	36.6115	21	0.07	0.9463
block				3	43.1405	43.2592	21	1.00	0.3300
block				4	9.3259	36.7007	21	0.25	0.8019
block				91	12.9067	32.8358	21	0.39	0.6982
block				92	4.6771	33.0847	21	0.14	0.8889
block				93	7.0213	35.2364	21	0.20	0.8440
block				94	-5.9258	31.7038	21	-0.19	0.8535
block				95	1.9308	33.1299	21	0.06	0.9541
block				101	6.2990	31.3694	21	0.20	0.8428
block				102	-23.5726	34.4297	21	-0.68	0.5010
block				103	-21.0623	32.9142	21	-0.64	0.5291
block				104	-22.9822	31.0188	21	-0.74	0.4670
block				111	-13.4252	33.6427	21	-0.40	0.6939
block				112	-61.7014	33.8195	21	-1.82	0.0823
block				113	-35.1243	35.8590	21	-0.98	0.3385
block				114	-28.7862	34.2716	21	-0.84	0.4104
block				121	-32.4062	31.0564	21	-1.04	0.3086
block				122	-41.8139	28.6528	21	-1.46	0.1593
block				123	-6.1846	26.5209	21	-0.23	0.8179
block				124	0	.	.	.	.

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
istx	1	21	0.31	0.5850
ssrpreSEC_rawscore_n	1	438	85.78	<.0001
missingpre	1	438	73.00	<.0001
schoolid	1	21	0.00	0.9990
grade	3	26	2.78	0.0609
position_s0_r	2	21	2.67	0.0925
yrs_ft_ed_S0	1	21	1.25	0.2764
tchGender_S0	1	21	0.18	0.6771
lvl_exper_SEL_S0	1	21	1.17	0.2908
prev_pd_SEL_S0	1	21	3.82	0.0640
SEL_belief_AVG_S0	1	21	2.38	0.1378
ismale	1	438	2.71	0.1003
ethnicity_n	1	438	1.25	0.2650
islep_n	1	438	0.04	0.8391
isfeewaiver_n	1	438	2.75	0.0982
isspeced_n	1	438	0.40	0.5275
isdisability_n	1	438	1.18	0.2772
MSstuvvar	1	438	0.45	0.5016
block	20	21	1.15	0.3767

MODEL S2F. ANALYSIS RESTRICTED TO STUDENTS WITH TEACHER-RATED POSTTESTS (N=616) (NO MATCHED PAIRS)

Number of Observations

Number of Observations Read 632

Number of Observations Used 616

Number of Observations Not Used 16

Covariance Parameter Estimates

Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z
Intercept	teacherid	9.7127	3.1550	3.08	0.0010
Residual		40.2285	2.4154	16.66	<.0001

Solution for Fixed Effects

Effect	grade	position_s0_r	schoolid	Estimate	Standard Error	DF	t Value	Pr > t
Intercept				20.6992	6.6581	41	3.11	0.0034
istx				-2.0215	1.1064	41	-1.83	0.0750
ssrpreSEC_rawscore_n				0.01209	0.005597	553	2.16	0.0312
missingpre				2.0140	1.8147	553	1.11	0.2676
schoolid			1	2.3297	2.0273	41	1.15	0.2572
schoolid			2	0	.	.	.	.
grade	09			-3.5731	1.4480	33	-2.47	0.0190
grade	10			-2.8888	1.4809	33	-1.95	0.0596
grade	11			-0.7940	1.4465	33	-0.55	0.5868
grade	12			0	.	.	.	.
position_s0_r		MS		3.7459	5.9497	41	0.63	0.5324
position_s0_r		Special education teach		0.4997	3.0214	41	0.17	0.8694

Solution for Fixed Effects

Effect	grade	position_s0_r	schoolid	Estimate	Standard Error	DF	t Value	Pr > t
position_s0_r		teacher_general_ELL_oth	0	.	.	.	.	.
yrs_ft_ed_S0				0.02210	0.06233	41	0.35	0.7247
tchGender_S0				1.8471	1.3100	41	1.41	0.1661
lvl_exper_SEL_S0				-1.5206	0.8339	41	-1.82	0.0755
prev_pd_SEL_S0				-0.6465	1.1539	41	-0.56	0.5783
SEL_belief_AVG_S0				0.9962	1.5090	41	0.66	0.5128
ismale				-1.4161	0.5379	553	-2.63	0.0087
ethnicity_n				-1.2757	0.7264	553	-1.76	0.0796
islep_n				3.0008	1.5599	553	1.92	0.0549
isfeewaiver_n				-0.9755	0.5496	553	-1.78	0.0764
isspeced_n				-2.5976	3.1479	553	-0.83	0.4096
isdisability_n				0.7741	1.4674	553	0.53	0.5980
MSstuvr				-1.0323	3.3382	553	-0.31	0.7572

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
istx	1	41	3.34	0.0750
ssrpreSEC_rawscore_n	1	553	4.67	0.0312
missingpre	1	553	1.23	0.2676
schoolid	1	41	1.32	0.2572
grade	3	33	2.88	0.0508
position_s0_r	2	41	0.21	0.8144

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
yrs_ft_ed_S0	1	41	0.13	0.7247
tchGender_S0	1	41	1.99	0.1661
lvl_exper_SEL_S0	1	41	3.33	0.0755
prev_pd_SEL_S0	1	41	0.31	0.5783
SEL_belief_AVG_S0	1	41	0.44	0.5128
ismale	1	553	6.93	0.0087
ethnicity_n	1	553	3.08	0.0796
islep_n	1	553	3.70	0.0549
isfeewaiver_n	1	553	3.15	0.0764
isspeced_n	1	553	0.68	0.4096
isdisability_n	1	553	0.28	0.5980
MSstuar	1	553	0.10	0.7572

Model S2G. Analysis restricted to students with TEACHER-rated posttests (N=616) (with matched pairs)

Number of Observations

Number of Observations Read	632
Number of Observations Used	616
Number of Observations Not Used	16

Covariance Parameter Estimates

Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z
Intercept	teacherid	6.7547	3.5386	1.91	0.0281
Residual		40.2124	2.4182	16.63	<.0001

Solution for Fixed Effects

Effect	grade	position_s0_r	schoolid	block	Estimate	Standard Error	DF	t Value	Pr > t
Intercept					17.2611	8.0293	21	2.15	0.0434
istx					-2.0819	1.0323	21	-2.02	0.0567
ssrpreSEC_rawscore_n					0.01125	0.005629	553	2.00	0.0461
missingpre					1.4996	1.8241	553	0.82	0.4114
schoolid			1		2.5380	2.5497	21	1.00	0.3309
schoolid			2		0	.	.	.	.
grade	09				-5.9747	2.2513	33	-2.65	0.0121
grade	10				-3.5875	2.2595	33	-1.59	0.1219
grade	11				-2.0004	2.1475	33	-0.93	0.3583
grade	12				0	.	.	.	.
position_s0_r		MS			5.5842	6.3643	21	0.88	0.3902
position_s0_r		Special education teach			1.0064	3.9069	21	0.26	0.7992
position_s0_r		teacher_general_ELL_oth			0	.	.	.	.
yrs_ft_ed_S0					0.001780	0.07178	21	0.02	0.9805
tchGender_S0					1.5971	1.7824	21	0.90	0.3804
lvl_exper_SEL_S0					-1.8662	0.9087	21	-2.05	0.0527
prev_pd_SEL_S0					0.5011	1.4578	21	0.34	0.7344

Solution for Fixed Effects

Effect	grade	position_s0_r	schoolid	block	Estimate	Standard Error	DF	t Value	Pr > t
SEL_belief_AVG_S0					1.1959	1.8671	21	0.64	0.5288
ismale					-1.3955	0.5389	553	-2.59	0.0099
ethnicity_n					-1.3884	0.7335	553	-1.89	0.0589
islep_n					3.4014	2.0453	553	1.66	0.0969
isfeewaiver_n					-1.0020	0.5526	553	-1.81	0.0703
isspeced_n					-2.6204	3.2791	553	-0.80	0.4246
isdisability_n					0.8570	1.4708	553	0.58	0.5603
MSstubar					-0.3024	3.3574	553	-0.09	0.9283
block				1	2.0103	4.5174	21	0.45	0.6609
block				2	2.7171	4.8116	21	0.56	0.5783
block				3	7.9420	5.4205	21	1.47	0.1577
block				4	4.2083	4.6208	21	0.91	0.3728
block				91	6.3813	4.1543	21	1.54	0.1395
block				92	3.3534	4.3581	21	0.77	0.4502
block				93	9.6930	4.7102	21	2.06	0.0522
block				94	9.1808	4.1198	21	2.23	0.0369
block				95	7.2402	4.3589	21	1.66	0.1116
block				101	4.6795	4.1839	21	1.12	0.2760
block				102	5.6756	4.6238	21	1.23	0.2332
block				103	3.5670	4.4078	21	0.81	0.4274
block				104	-1.6167	4.0884	21	-0.40	0.6965
block				111	6.3766	4.5330	21	1.41	0.1741

Solution for Fixed Effects

Effect	grade	position_s0_r	schoolid	block	Estimate	Standard Error	DF	t Value	Pr > t
block				112	3.6849	4.3792	21	0.84	0.4096
block				113	8.3773	4.8854	21	1.71	0.1011
block				114	9.9682	5.2208	21	1.91	0.0700
block				121	3.8157	4.1166	21	0.93	0.3645
block				122	8.1842	4.1773	21	1.96	0.0635
block				123	1.2629	3.7205	21	0.34	0.7377
block				124	0	.	.	.	.

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
istx	1	21	4.07	0.0567
ssrpreSEC_rawscore_n	1	553	3.99	0.0461
missingpre	1	553	0.68	0.4114
schoolid	1	21	0.99	0.3309
grade	3	33	3.28	0.0328
position_s0_r	2	21	0.40	0.6752
yrs_ft_ed_S0	1	21	0.00	0.9805
tchGender_S0	1	21	0.80	0.3804
lvl_exper_SEL_S0	1	21	4.22	0.0527
prev_pd_SEL_S0	1	21	0.12	0.7344
SEL_belief_AVG_S0	1	21	0.41	0.5288
ismale	1	553	6.71	0.0099

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
ethnicity_n	1	553	3.58	0.0589
islep_n	1	553	2.77	0.0969
isfeewaiver_n	1	553	3.29	0.0703
isspeced_n	1	553	0.64	0.4246
isdisability_n	1	553	0.34	0.5603
MSstovar	1	553	0.01	0.9283
block	20	21	1.54	0.1660

SECTION 3: SUMMARY TABLE FOR SEVEN MODELS USED TO EVALUATE IMPACTS ON DESSA

TABLE S3A. SUMMARY TABLE OF RESULTS FOR SEVEN MODELS RESTRICTED TO STUDENTS WITH DESSA POSTTESTS

Label	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
N obs	(N=632)	(N=632)	(N=632)	(N=632)	(N=632)	(N=353)	(N=353)
	FIXED EFFECTS						
Intercept	-0.09(0.09,P=0.336)	-0.43(0.19,P=0.025)	-0.55(0.25,P=0.029)	-1.88(0.31,P=<.001)	-1.26(0.75,P=0.100)	-1.71(0.32,P=<.001)	-1.69(0.76,P=0.032)
Treatment	-0.09(0.13,P=0.482)	-0.07(0.12,P=0.561)	-0.10(0.13,P=0.437)	-0.11(0.12,P=0.391)	-0.17(0.12,P=0.168)	-0.11(0.14,P=0.425)	-0.19(0.13,P=0.156)
Pretest				0.00(0.00,P=<.001)	0.00(0.00,P=<.001)		
MS Pretest				1.27(0.22,P=<.001)	1.26(0.22,P=<.001)		
Rock Island High School		0.39(0.19,P=0.042)	0.44(0.20,P=0.031)	0.38(0.18,P=0.044)	0.14(0.23,P=0.542)	0.14(0.20,P=0.510)	-0.01(0.24,P=0.955)
Thurgood Marshall High School		0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)
Grade 9			-0.11(0.17,P=0.518)	-0.10(0.16,P=0.525)	-0.07(0.17,P=0.675)	0.04(0.20,P=0.858)	0.10(0.20,P=0.633)
Grade 10			0.20(0.17,P=0.261)	0.22(0.16,P=0.183)	0.22(0.17,P=0.195)	0.11(0.21,P=0.607)	0.14(0.20,P=0.499)
Grade 11			0.28(0.17,P=0.111)	0.22(0.16,P=0.178)	0.23(0.16,P=0.168)	0.07(0.20,P=0.714)	0.06(0.19,P=0.757)
Grade 12			0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)
MS Position					0.29(0.68,P=0.673)		
Special education teachers					-0.13(0.33,P=0.700)		
General ELL or Other teachers					0.00(.,P=.)		
Experience as teacher					0.00(0.01,P=0.619)		0.00(0.01,P=0.538)
Teacher Gender					0.21(0.15,P=0.156)		0.23(0.15,P=0.134)
Level of experience teaching soc					-0.20(0.09,P=0.040)		-0.18(0.10,P=0.088)
Professional learning on SEL					-0.08(0.13,P=0.514)		0.02(0.13,P=0.883)
Average SEL belief					0.03(0.17,P=0.849)		0.13(0.17,P=0.443)
Gender					-0.20(0.07,P=0.002)		-0.24(0.08,P=0.003)

Ethnicity					-0.06(0.09,P=0.515)		-0.03(0.11,P=0.790)
Being LEP					0.29(0.18,P=0.113)		0.33(0.21,P=0.122)
SES status					-0.04(0.07,P=0.584)		0.04(0.08,P=0.649)
Spe ed					-0.09(0.35,P=0.802)		-0.02(0.52,P=0.976)
Disability					0.08(0.18,P=0.647)		-0.15(0.23,P=0.505)
MS stu var					0.08(0.35,P=0.809)		-0.07(0.40,P=0.856)
RANDOM EFFECTS							
Teacher	0.14(<.001)	0.13(<.001)	0.15(<.001)	0.13(<.001)	0.11(0.003)	0.11(0.004)	0.07(0.030)
Residual	0.69(<.001)	0.69(<.001)	0.67(<.001)	0.62(<.001)	0.61(<.001)	0.52(<.001)	0.52(<.001)
Note: Models 6 and 7 are limited to students with unimputed pretest and posttest. Zero estimates with no <i>p</i> values correspond to the reference category for a nomial variable.							

TABLE S3B. SUMMARY TABLE OF RESULTS FOR SEVEN MODELS USED TO EVALUATE IMPACTS ON DESSA RESTRICTED TO STUDENTS WITH SELF-RATED POSTTESTS

Label	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
N obs	(N=501)	(N=501)	(N=501)	(N=501)	(N=501)	(N=294)	(N=294)
FIXED EFFECTS							
Intercept	298.07(4.01,P=<.001)	290.32(13.33,P=<.001)	313.29(16.31,P=<.001)	159.57(21.99,P=<.001)	200.90(38.61,P=<.001)	162.46(24.50,P=<.001)	166.04(48.87,P=0.002)
Treatment	10.09(5.78,P=0.087)	10.22(5.78,P=0.084)	7.54(5.86,P=0.205)	4.73(5.44,P=0.388)	3.99(5.77,P=0.492)	5.03(7.53,P=0.508)	4.78(8.27,P=0.567)
Pretest				0.53(0.05,P=<.001)	0.52(0.06,P=<.001)	0.53(0.05,P=<.001)	0.53(0.06,P=<.001)
MS Pretest				157.61(17.58,P=<.001)	155.02(17.88,P=<.001)		
Rock Island High School		8.10(13.27,P=0.545)	7.25(13.22,P=0.586)	-1.82(12.21,P=0.882)	-11.32(14.45,P=0.438)	-5.32(14.06,P=0.707)	-5.49(17.28,P=0.752)
Thurgood Marshall High School		0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)
Grade 9			-26.00(10.56,P=0.021)	-21.37(9.71,P=0.037)	-22.86(10.47,P=0.038)	-21.61(13.79,P=0.138)	-21.27(14.50,P=0.163)
Grade 10			-29.06(10.55,P=0.011)	-23.06(9.72,P=0.025)	-25.15(10.48,P=0.024)	-23.33(13.56,P=0.106)	-24.35(14.76,P=0.120)
Grade 11			-12.93(10.72,P=0.239)	-9.19(9.91,P=0.363)	-12.02(10.73,P=0.273)	-8.78(13.57,P=0.527)	-12.12(15.15,P=0.436)
Grade 12			0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)
MS Position					-0.63(51.49,P=0.990)		
Special education teachers					-31.48(26.47,P=0.241)		
General ELL or Other teachers					0.00(.,P=.)		
Experience as teacher					0.18(0.32,P=0.575)		0.35(0.39,P=0.376)
Teacher Gender					5.96(7.15,P=0.409)		6.06(9.20,P=0.515)

Level of experience teaching soc					-5.14(4.57,P=0.267)		-5.29(6.77,P=0.439)
Professional learning on SEL					-5.61(6.27,P=0.376)		-4.44(7.93,P=0.579)
Average SEL belief					-5.69(7.55,P=0.455)		1.96(10.17,P=0.848)
Gender					-8.32(5.38,P=0.123)		-16.27(7.14,P=0.024)
Ethnicity					6.35(7.59,P=0.403)		1.49(10.40,P=0.886)
Being LEP					8.50(9.32,P=0.362)		0.66(12.14,P=0.956)
SES status					11.69(5.58,P=0.037)		9.07(7.35,P=0.218)
Spe ed					-0.53(31.09,P=0.986)		0.00(.,P=.)
Disability					19.96(15.80,P=0.207)		5.83(23.35,P=0.803)
MS stu var					19.23(29.47,P=0.514)		20.85(42.71,P=0.626)
RANDOM EFFECTS							
Teacher	0.00(.)	0.00(.)	0.00(.)	0.00(.)	0.00(.)	0.00(.)	0.00(.)
Residual	4172.66(<.001)	4177.91(<.001)	4115.15(<.001)	3471.66(<.001)	3451.17(<.001)	3450.89(<.001)	3504.73(<.001)
Note: Models 6 and 7 are limited to students with unimputed pretest and posttest. Zero estimates with no <i>p</i> values correspond to the reference category for a nomial variable.							

MODEL S3C. SUMMARY TABLE OF RESULTS FOR SEVEN MODELS USED TO EVALUATE IMPACTS ON DESSA RESTRICTED TO STUDENTS WITH TEACHER-RATED POSTTESTS

Label	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
N obs	(N=616)	(N=616)	(N=616)	(N=616)	(N=616)	(N=342)	(N=342)
FIXED EFFECTS							
Intercept	22.60(0.83,P=<.001)	18.87(1.68,P=<.001)	21.48(2.04,P=<.001)	18.74(2.60,P=<.001)	20.70(6.66,P=0.003)	20.19(2.97,P=<.001)	20.33(7.85,P=0.014)
Treatment	-1.14(1.19,P=0.345)	-0.97(1.14,P=0.399)	-1.50(1.12,P=0.187)	-1.39(1.10,P=0.212)	-2.02(1.11,P=0.075)	-1.31(1.42,P=0.363)	-2.27(1.39,P=0.112)
Pretest				0.01(0.01,P=0.029)	0.01(0.01,P=0.031)	0.01(0.01,P=0.024)	0.01(0.01,P=0.027)
MS Pretest				2.02(1.81,P=0.265)	2.01(1.81,P=0.268)		
Rock Island High School		4.22(1.67,P=0.015)	4.10(1.65,P=0.017)	4.00(1.61,P=0.017)	2.33(2.03,P=0.257)	1.89(1.98,P=0.345)	0.25(2.41,P=0.917)
Thurgood Marshall High School		0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)
Grade 9			-3.93(1.42,P=0.009)	-4.03(1.39,P=0.007)	-3.57(1.45,P=0.019)	-2.30(1.91,P=0.244)	-1.89(1.90,P=0.333)
Grade 10			-3.07(1.43,P=0.039)	-3.18(1.40,P=0.030)	-2.89(1.48,P=0.060)	-3.69(1.97,P=0.077)	-3.47(1.98,P=0.097)
Grade 11			-0.61(1.44,P=0.674)	-1.02(1.42,P=0.477)	-0.79(1.45,P=0.587)	-2.26(1.89,P=0.246)	-2.23(1.84,P=0.241)
Grade 12			0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)

MS Position					3.75(5.95,P=0.532)		
Special education teachers					0.50(3.02,P=0.869)		
General ELL or Other teachers					0.00(.,P=.)		
Experience as teacher					0.02(0.06,P=0.725)		-0.02(0.07,P=0.828)
Teacher Gender					1.85(1.31,P=0.166)		2.41(1.57,P=0.133)
Level of experience teaching soc					-1.52(0.83,P=0.076)		-1.30(1.07,P=0.232)
Professional learning on SEL					-0.65(1.15,P=0.578)		0.69(1.37,P=0.617)
Average SEL belief					1.00(1.51,P=0.513)		1.15(1.86,P=0.541)
Gender					-1.42(0.54,P=0.009)		-1.60(0.68,P=0.019)
Ethnicity					-1.28(0.73,P=0.080)		-0.88(0.93,P=0.344)
Being LEP					3.00(1.56,P=0.055)		4.84(2.17,P=0.027)
SES status					-0.98(0.55,P=0.076)		-0.18(0.68,P=0.787)
Spe ed					-2.60(3.15,P=0.410)		-2.88(4.31,P=0.505)
Disability					0.77(1.47,P=0.598)		0.12(1.83,P=0.948)
MS stu var					-1.03(3.34,P=0.757)		-2.34(3.83,P=0.542)
RANDOM EFFECTS							
Teacher	13.73(<.001)	12.10(<.001)	11.46(<.001)	10.69(<.001)	9.71(0.001)	14.58(<.001)	11.62(0.004)
Residual	42.05(<.001)	42.01(<.001)	41.49(<.001)	40.96(<.001)	40.23(<.001)	33.80(<.001)	33.67(<.001)

Note: Models 6 and 7 are limited to students with unimputed pretest and posttest. Zero estimates with no *p* values correspond to the reference category for a nominal variable.

SECTION 4: ATTRITION AND BASELINE EQUIVALENCE FOR THE SAMPLES USED TO EVALUATE IMPACTS ON STUDENT ABSENCES FROM SCHOOL

TABLE S4A. ATTRITION CALCULATION FOR STUDENT ABSENCES

		(A) Randomized	(B) Study teachers with at least one student who was both on the baseline roster of a randomized teacher, and who has a DESSA posttest score	(C) Randomized study teachers who do not have any students as described in B	(D) Number of students in classes of teachers counted under column C	(E) Number of students on rosters of randomized teachers, and who have a posttest	(F) N of students at baseline eligible for attrition calculation	(G) Rate of attrition of teachers	(H) Rate of attrition of students among non- attrititing teachers
HATC	Teachers	26	26	0				0.000	
	Students	387			0	377	387		0.026
Control	Teachers	27	27	0				0.000	
	Students	405			0	391	405		0.035
Total	Teachers	53	53	0				0.000	
	Students	792			0	768	792		0.030
Differential attrition	Teachers							0.000	
	Students								-0.009

TABLE S4B. BASELINE EQUIVALENCE FOR THE STUDY WITH NON-MISSING BASELINE FOR ATTENDANCE REGARDLESS OF AVAILABILITY OF POSTTEST FOR ATTENDANCE (TO SUPPORT WWC REVIEW)

	Condition	Means	Standard deviations	No. of students	No. of teachers	Effect size	<i>p</i> value	Percentile standing
Unadjusted effect size	Control	12.74	13.29	387	26	0.02	0.840	1%
	HATC	12.97	14.00	352	24			

TABLE S4C. BASELINE EQUIVALENCE FOR THE SAMPLE WITH NON-MISSING BASELINE ATTENDANCE THAT ALSO HAS POST INTERVENTION ATTENDANCE (TO SUPPORT WWC REVIEW)

	Condition	Means	Standard deviations	No. of students	No. of teachers	Effect size	<i>p</i> value	Percentile standing
Unadjusted effect size	Control	12.42	12.89	374	26	0.02	0.851	1%
	HATC	12.64	13.71	344	24			

TABLE S4D. ADDITIONAL BASELINE EQUIVALENCE RESULTS FOR THE SAMPLE WITH REAL (UNIMPUTED) BASELINE ATTENDANCE INFORMATION FOR INDIVIDUALS WHO ALSO HAVE REAL (UNIMPUTED) POST-INTERVENTION ATTENDANCE OUTCOME (TO SUPPORT WWC REVIEW)

Sample	Comparison group			Treatment group		
	No. of Individuals	Mean of Baseline Measure	Mean of Outcome Measure	No. of Individuals	Mean of Baseline Measure	Mean of Outcome Measure
Analytic sample (with dummy variable imputed pretest)	391	12.42	16.73	377	12.64	19.26

Subsample of individuals with non-missing values for outcome and baseline measures	374	12.42	15.46	344	12.64	16.38
Subsample of individuals with non-missing outcome measure and missing baseline measure	17	Not applicable	44.60	33	Not applicable	49.18
Subsample of individuals with non-missing baseline measures and missing outcome measure	0	Not applicable		0	Not applicable	

Note. Correlation between the baseline and outcome measures (calculated using only non-imputed data): 0.75

SECTION 5: FULL RESULTS OF BENCHMARK ANALYSIS OF IMPACTS ON STUDENT ABSENCES

MODEL S5A. ANALYSIS RESTRICTED TO STUDENTS WITH ABSENTEEISM OUTCOMES (N=768) (WITHOUT MATCHED PAIRS)

Model Information	
Data Set	IN.ANALYTICAL
Dependent Variable	postabsent
Covariance Structure	Variance Components
Subject Effect	teacherid
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Between-Within
Number of Observations	
Number of Observations Read	768
Number of Observations Used	768
Number of Observations Not Used	0

Covariance Parameter Estimates

Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z
Intercept	teacherid	12.3900	7.4155	1.67	0.0474
Residual		140.01	7.7128	18.15	<.0001

Solution for Fixed Effects

Effect	grade_n	position_s0_r	race_n	schoolid	Estimate	Standard Error	DF	t Value	Pr > t
Intercept					16.9957	16.3665	43	1.04	0.3049
istx					1.6108	1.3887	43	1.16	0.2525
ripreabsent_n					0.9065	0.03660	696	24.77	<.0001
missingpre					19.6081	4.3375	696	4.52	<.0001
schoolid				1	-25.4339	4.3488	43	-5.85	<.0001
schoolid				2	0	.	.	.	.
grade_n	08				11.3275	13.2220	70	0.86	0.3945
grade_n	09				3.9996	12.8676	70	0.31	0.7569
grade_n	10				3.2746	12.8556	70	0.25	0.7997
grade_n	11				3.2092	12.8111	70	0.25	0.8029
grade_n	12				3.1876	12.7569	70	0.25	0.8034
grade_n	MS				0	.	.	.	.
position_s0_r		MS			7.9206	8.0508	43	0.98	0.3307
position_s0_r		Special education teach			-3.7731	4.2392	43	-0.89	0.3784
position_s0_r		teacher_general_ELL_oth			0	.	.	.	.
race_n			A		2.8977	1.9872	110	1.46	0.1476
race_n			B		2.1592	1.1644	110	1.85	0.0664
race_n			M		-0.5805	1.5280	110	-0.38	0.7047
race_n			MS		0	.	.	.	.

Solution for Fixed Effects

Effect	grade_n	position_s0_r	race_n	schoolid	Estimate	Standard Error	DF	t Value	Pr > t
race_n			W		0	.	.	.	.
yrs_ft_ed_S0					0.08179	0.07814	43	1.05	0.3011
tchGender_S0					-2.1647	1.6582	43	-1.31	0.1987
lvl_exper_SEL_S0					1.1267	1.0854	43	1.04	0.3051
prev_pd_SEL_S0					0.2241	1.4566	43	0.15	0.8785
SEL_belief_AVG_S0					0.04695	1.9724	43	0.02	0.9811
ismale					1.0698	0.8952	696	1.20	0.2325
ethnicity_n					0.03114	1.2884	696	0.02	0.9807
islep_n					0.8146	2.4013	696	0.34	0.7345
isfeewaiver_n					0.9698	0.9418	696	1.03	0.3035
isspeced_n					8.6905	4.6723	696	1.86	0.0633
isdisability_n					-4.4035	2.4825	696	-1.77	0.0765
MSstuvr					-8.2444	5.1176	696	-1.61	0.1076
ssrpreSEC_rawscore_n					0.004134	0.009540	696	0.43	0.6649
MSscorepre					5.3730	3.0606	696	1.76	0.0796

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
istx	1	43	1.35	0.2525
ripreabsent_n	1	696	613.59	<.0001
missingpre	1	696	20.44	<.0001
schoolid	1	43	34.21	<.0001
grade_n	4	70	1.45	0.2269
position_s0_r	2	43	1.37	0.2646
race_n	3	110	1.71	0.1700

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
yrs_ft_ed_S0	1	43	1.10	0.3011
tchGender_S0	1	43	1.70	0.1987
lvl_exper_SEL_S0	1	43	1.08	0.3051
prev_pd_SEL_S0	1	43	0.02	0.8785
SEL_belief_AVG_S0	1	43	0.00	0.9811
ismale	1	696	1.43	0.2325
ethnicity_n	1	696	0.00	0.9807
islep_n	1	696	0.12	0.7345
isfeewaiver_n	1	696	1.06	0.3035
isspeced_n	1	696	3.46	0.0633
isdisability_n	1	696	3.15	0.0765
MSstubar	1	696	2.60	0.1076
ssrpreSEC_rawscore_n	1	696	0.19	0.6649
MSscorepre	1	696	3.08	0.0796

MODEL S5B. ANALYSIS RESTRICTED TO STUDENTS WITH ABSENTEEISM OUTCOMES (N=768) (WITH MATCHED PAIRS)

Model Information	
Data Set	IN.ANALYTICAL
Dependent Variable	postabsent
Covariance Structure	Variance Components
Subject Effect	teacherid
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Between-Within

Number of Observations

Number of Observations Read	768
Number of Observations Used	768
Number of Observations Not Used	0

Covariance Parameter Estimates

Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z
Intercept	teacherid	10.2156	8.3912	1.22	0.1117
Residual		138.15	7.4793	18.47	<.0001

Solution for Fixed Effects

Effect	grade_n	position_s0_r	race_n	schoolid	block	Estimate	Standard Error	DF	t Value	Pr > t
Intercept						30.5049	17.6454	23	1.73	0.0973
istx						0.7468	1.3635	23	0.55	0.5892
ripreabsent_n						0.8924	0.03714	696	24.03	<.0001
missingpre						20.9111	4.3699	696	4.79	<.0001

Solution for Fixed Effects

Effect	grade_n	position_s0_r	race_n	schoolid	block	Estimate	Standard Error	DF	t Value	Pr > t
schoolid				1		-28.8434	5.1574	23	-5.59	<.0001
schoolid				2		0	.	.	.	.
grade_n	08					14.5816	13.3816	70	1.09	0.2796
grade_n	09					6.2530	12.9616	70	0.48	0.6310
grade_n	10					4.6478	12.8990	70	0.36	0.7197
grade_n	11					2.4248	12.7994	70	0.19	0.8503
grade_n	12					1.9458	12.7271	70	0.15	0.8789
grade_n	MS					0	.	.	.	.
position_s0_r		MS				22.1689	8.9188	23	2.49	0.0206
position_s0_r		Special education teach				10.5500	5.6007	23	1.88	0.0723
position_s0_r		teacher_general_ELL_oth				0	.	.	.	.
race_n			A			2.7291	1.9914	110	1.37	0.1733
race_n			B			2.3274	1.1621	110	2.00	0.0477
race_n			M			-0.5029	1.5286	110	-0.33	0.7428
race_n			MS			0	.	.	.	.
race_n			W			0	.	.	.	.
yrs_ft_ed_S0						0.02112	0.09674	23	0.22	0.8291
tchGender_S0						-1.0530	2.3200	23	-0.45	0.6542
lvl_exper_SEL_S0						1.7830	1.2651	23	1.41	0.1721
prev_pd_SEL_S0						-0.2389	1.9655	23	-0.12	0.9043
SEL_belief_AVG_S0						-1.6073	2.5570	23	-0.63	0.5358
ismale						0.8243	0.8924	696	0.92	0.3560
ethnicity_n						0.2801	1.2929	696	0.22	0.8285
islep_n						-0.3591	3.6377	696	-0.10	0.9214

Solution for Fixed Effects

Effect	grade_n	position_s0_r	race_n	schoolid	block	Estimate	Standard Error	DF	t Value	Pr > t
isfeewaiver_n						1.2041	0.9412	696	1.28	0.2012
isspeced_n						6.2781	4.7310	696	1.33	0.1849
isdisability_n						-4.5868	2.4817	696	-1.85	0.0650
MSstubar						-9.9009	5.1508	696	-1.92	0.0550
ssrpreSEC_rawscore_n						0.005465	0.009548	696	0.57	0.5672
MSscorepre						5.3675	3.0617	696	1.75	0.0800
block					1	-19.8379	6.2373	23	-3.18	0.0042
block					2	-20.9751	6.3450	23	-3.31	0.0031
block					3	-18.9250	7.2190	23	-2.62	0.0153
block					4	-3.1180	6.3024	23	-0.49	0.6255
block					91	-5.9347	5.4402	23	-1.09	0.2866
block					92	-6.2928	5.6740	23	-1.11	0.2789
block					93	-9.7323	6.2982	23	-1.55	0.1359
block					94	-9.9854	5.2974	23	-1.88	0.0721
block					95	-9.8373	5.5976	23	-1.76	0.0922
block					101	-7.8860	5.2421	23	-1.50	0.1461
block					102	-6.5132	5.8814	23	-1.11	0.2796
block					103	-6.5967	5.6117	23	-1.18	0.2518
block					104	-4.1424	5.0858	23	-0.81	0.4237
block					111	-3.2994	5.6656	23	-0.58	0.5660
block					112	-2.6778	5.3808	23	-0.50	0.6234
block					113	-3.7213	6.0920	23	-0.61	0.5473
block					114	-2.5094	5.4969	23	-0.46	0.6523
block					121	-1.6633	5.4928	23	-0.30	0.7648

Solution for Fixed Effects

Effect	grade_n	position_s0_r	race_n	schoolid	block	Estimate	Standard Error	DF	t Value	Pr > t
block					122	-2.5676	5.4922	23	-0.47	0.6445
block					123	-2.9716	4.8807	23	-0.61	0.5486
block					124	0	.	.	.	.

SECTION 6: SUMMARY TABLE FOR SEVEN MODELS USED TO EVALUATE IMPACTS ON SCHOOL ABSENCES

MODEL S61. SUMMARY TABLE OF RESULTS FOR SEVEN MODELS RESTRICTED TO STUDENTS WITH ABSENTEEISM OUTCOMES

Label	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
N obs	(N=768)	(N=768)	(N=768)	(N=768)	(N=768)	(N=718)	(N=718)
	FXED EFFECTS						
Intercept	19.42(2.94,P=<.001)	54.56(2.43,P=<.001)	48.67(16.98,P=0.006)	21.96(13.98,P=0.123)	17.00(16.37,P=0.305)	24.88(4.32,P=<.001)	15.87(7.39,P=0.038)
Treatment	4.03(4.20,P=0.342)	1.48(1.22,P=0.231)	2.32(1.73,P=0.186)	1.71(1.25,P=0.177)	1.61(1.39,P=0.253)	0.61(0.93,P=0.516)	0.13(0.90,P=0.888)
Pretest				0.90(0.04,P=<.001)	0.91(0.04,P=<.001)	0.93(0.03,P=<.001)	0.93(0.03,P=<.001)
MS Pretest				17.56(3.81,P=<.001)	19.61(4.34,P=<.001)		
Rock Island High School		-40.09(2.41,P=<.001)		-29.63(3.68,P=<.001)	-25.43(4.35,P=<.001)	-21.78(4.00,P=<.001)	-18.10(4.33,P=<.001)
Thurgood Marshall High School		0.00(.,P=.)		0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)
Grade 8			26.56(17.22,P=0.128)	20.51(13.09,P=0.122)	11.33(13.22,P=0.395)	9.02(3.10,P=0.005)	7.33(3.19,P=0.025)
Grade 9			10.06(16.76,P=0.550)	11.03(12.77,P=0.391)	4.00(12.87,P=0.757)	-0.02(1.55,P=0.990)	-0.70(1.54,P=0.655)
Grade 10			5.16(16.75,P=0.759)	11.14(12.75,P=0.385)	3.27(12.86,P=0.800)	0.58(1.56,P=0.714)	-0.24(1.54,P=0.878)
Grade 11			3.29(16.74,P=0.845)	10.66(12.75,P=0.406)	3.21(12.81,P=0.803)	0.90(1.52,P=0.558)	0.24(1.50,P=0.873)

Grade 12
MS Grade
MS
Special education teachers
General ELL or Other teachers
Race A
Race B
Race M
Race MS
Race W
Experience as teacher
Teacher Gender
Level of experience teaching soc
Professional learning on SEL
Average SEL belief
Gender
Ethnicity
Being LEP
SES status
Spe ed
Disability
MS stu var
Pre Score

1.64(16.75,P=0.922)	9.40(12.71,P=0.462)	3.19(12.76,P=0.803)	0.00(.,P=.)	0.00(.,P=.)
0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)		
		7.92(8.05,P=0.331)		
		-3.77(4.24,P=0.378)		
		0.00(.,P=.)		
		2.90(1.99,P=0.148)		2.13(1.87,P=0.255)
		2.16(1.16,P=0.066)		1.49(1.12,P=0.186)
		-0.58(1.53,P=0.705)		0.36(1.47,P=0.808)
		0.00(.,P=.)		
		0.00(.,P=.)		0.00(.,P=.)
		0.08(0.08,P=0.301)		0.03(0.05,P=0.550)
		-2.16(1.66,P=0.199)		-1.22(1.12,P=0.282)
		1.13(1.09,P=0.305)		1.56(0.71,P=0.034)
		0.22(1.46,P=0.878)		0.59(0.95,P=0.540)
		0.05(1.97,P=0.981)		-0.75(1.23,P=0.545)
		1.07(0.90,P=0.232)		2.03(0.85,P=0.017)
		0.03(1.29,P=0.981)		-0.74(1.22,P=0.547)
		0.81(2.40,P=0.735)		2.24(1.65,P=0.174)
		0.97(0.94,P=0.303)		0.90(0.90,P=0.316)
		8.69(4.67,P=0.063)		9.61(4.92,P=0.051)
		-4.40(2.48,P=0.077)		-4.15(2.31,P=0.073)
		-8.24(5.12,P=0.108)		-3.47(8.03,P=0.666)
		0.00(0.01,P=0.665)		0.01(0.01,P=0.553)

MS Pre Score					5.37(3.06,P=0.080)	4.56(2.99,P=0.127)	
	RANDOM EFFECTS						
Teacher	209.48(<.001)	0.00(.)	18.74(0.081)	9.13(0.052)	12.39(0.047)	1.31(0.275)	0.00(.)
Residual	281.84(<.001)	286.02(<.001)	265.44(<.001)	145.56(<.001)	140.01(<.001)	128.24(<.001)	125.09(<.001)
Note: Models 6 and 7 are limited to students with unimputed pretest and posttest. Zero estimates with no <i>p</i> values correspond to the reference category for a nomial variable.							

SECTION 7: ATTRITION AND BASELINE EQUIVALENCE FOR REFERRALS OUTCOME

TABLE S71. ATTRITION CALCULATION FOR REFERRALS OUTCOME

		(A) Randomized	(B) Study teachers with at least one student who was both on the baseline roster of a randomized teacher, and who has a DESSA posttest score	(C) Randomized study teachers who do not have any students as described in B	(D) Number of students in classes of teachers counted under column C	(E) Number of students on rosters of randomized teachers, and who have a posttest	(F) N of students at baseline eligible for attrition calculation	(G) Rate of attrition of teachers	(H) Rate of attrition of students among non- attrititing teachers
HATC	Teachers	26	26	0				0.000	
	Students	387			0	377	387		0.026
Control	Teachers	27	27	0				0.000	
	Students	405			0	391	405		0.035
Total	Teachers	53	53	0				0.000	
	Students	792			0	768	792		0.030
Differential attrition	Teachers							0.000	
	Students								-0.009

TABLE S7B. BASELINE EQUIVALENCE FOR THE STUDY SAMPLE WITH REAL (UNIMPUTED) BASELINE VALUES FOR REFERRALS REGARDLESS OF AVAILABILITY OF POSTTEST REFERRAL OUTCOMES (TO SUPPORT WWC REVIEW)

	Condition	Means	Standard deviations	No. of students	No. of teachers	Effect size	p value	Percentile standing
Unadjusted effect size	Control	0.31	0.82	387	26	-0.04	0.821	-2%
	HATC	0.23	0.69	352	24			

TABLE S7C. BASELINE EQUIVALENCE FOR THE STUDY SAMPLE WITH REAL (UNIMPUTED) BASELINE VALUES FOR REFERRALS AND WHO ALSO HAVE A REAL (UNIMPUTED) POSTTEST REFERRAL OUTCOMES (TO SUPPORT WWC REVIEW)

	Condition	Means	Standard deviations	No. of students	No. of teachers	Effect size	p value	Percentile standing
Unadjusted effect size	Control	0.30	0.82	374	26	-0.04	0.849	-1%
	HATC	0.23	0.69	344	24			

TABLE S7D. ADDITIONAL BASELINE EQUIVALENCE RESULTS FOR THE SAMPLE WITH REAL (UNIMPUTED) BASELINE REFERRAL INFORMATION FOR INDIVIDUALS WHO ALSO HAVE REAL (UNIMPUTED) REFERRAL OUTCOMES (TO SUPPORT WWC REVIEW)

Sample	Comparison group			Treatment group		
	No. of Individuals	Mean of Baseline Measure	Mean of Outcome Measure	No. of Individuals	Mean of Baseline Measure	Mean of Outcome Measure
Analytic sample (including students with dummy variable imputed attendance baseline)	391	0.30	0.41	377	0.23	0.42
Subsample of individuals with non-missing values for outcome and baseline measures	374	0.30	0.41	344	0.23	0.43
Subsample of individuals with non-missing outcome measure and missing baseline measure	17	Not applicable	0.45	33	Not applicable	0.30

Subsample of individuals with non-missing baseline measures and missing outcome measure	13	0.56	Not applicable	8	0.26	Not applicable
Note. Correlation between the baseline and outcome measures (calculated using only non-imputed data): 0.47						

SECTION 8: FULL RESULTS OF BENCHMARK IMPACT MODELS FOR REFERRAL OUTCOMES

MODEL S8A. ANALYSIS RESTRICTED TO STUDENTS WITH REFERRAL OUTCOMES (N=768) (WITHOUT MATCHED PAIRS)

Number of Observations									
Number of Observations Read				768					
Number of Observations Used				768					
Number of Observations Not Used				0					
Covariance Parameter Estimates									
Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z				
Intercept	teacherid	0	.	.	.				
Residual		1.2496	0.06501	19.22	<.0001				
Solution for Fixed Effects									
Effect	grade_n	position_s0_r	race_n	schoolid	Estimate	Standard Error	DF	t Value	Pr > t
Intercept					-2.0700	1.4142	43	-1.46	0.1505
istx					0.07294	0.08634	43	0.84	0.4029
ripreSDR_n					0.8703	0.06008	696	14.48	<.0001

Solution for Fixed Effects

Effect	grade_n	position_s0_r	race_n	schoolid	Estimate	Standard Error	DF	t Value	Pr > t
missingpre					1.7504	0.3963	696	4.42	<.0001
schoolid			1		1.6452	0.3689	43	4.46	<.0001
schoolid			2	0	.	.	.	.	.
grade_n	08				0.8351	1.2332	70	0.68	0.5005
grade_n	09				0.3016	1.2031	70	0.25	0.8028
grade_n	10				0.1163	1.2022	70	0.10	0.9232
grade_n	11				0.1568	1.2003	70	0.13	0.8965
grade_n	12				0.1697	1.1975	70	0.14	0.8877
grade_n	MS				0	.	.	.	.
position_s0_r		MS			-0.06736	0.6576	43	-0.10	0.9189
position_s0_r		Special education teach			-0.4948	0.3696	43	-1.34	0.1877
position_s0_r		teacher_general_ELL_oth			0	.	.	.	.
race_n			A		0.2139	0.1848	110	1.16	0.2497
race_n			B		0.3113	0.1086	110	2.87	0.0050
race_n			M		0.1384	0.1425	110	0.97	0.3338
race_n			MS		0	.	.	.	.
race_n			W		0	.	.	.	.
yrs_ft_ed_S0					0.005089	0.004731	43	1.08	0.2882
tchGender_S0					-0.1777	0.1064	43	-1.67	0.1021
lvl_exper_SEL_S0					-0.00165	0.06885	43	-0.02	0.9810
prev_pd_SEL_S0					0.1255	0.09124	43	1.38	0.1762
SEL_belief_AVG_S0					-0.09026	0.1212	43	-0.74	0.4604

Solution for Fixed Effects

Effect	grade_n	position_s0_r	race_n	schoolid	Estimate	Standard Error	DF	t Value	Pr > t
ismale					0.2104	0.08272	696	2.54	0.0112
ethnicity_n					-0.00686	0.1195	696	-0.06	0.9543
islep_n					0.2941	0.1615	696	1.82	0.0690
isfeewaiver_n					-0.1240	0.08801	696	-1.41	0.1592
isspeced_n					0.7147	0.4312	696	1.66	0.0978
isdisability_n					-0.09156	0.2298	696	-0.40	0.6905
MSstuvar					-1.3878	0.4723	696	-2.94	0.0034
ssrpreSEC_rawscore_n					0.001455	0.000891	696	1.63	0.1029
MSscorepre					0.5666	0.2841	696	1.99	0.0465

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
istx	1	43	0.71	0.4029
ripreSDR_n	1	696	209.81	<.0001
missingpre	1	696	19.51	<.0001
schoolid	1	43	19.89	<.0001
grade_n	4	70	1.93	0.1158
position_s0_r	2	43	1.01	0.3726
race_n	3	110	2.75	0.0459
yrs_ft_ed_S0	1	43	1.16	0.2882
tchGender_S0	1	43	2.79	0.1021
lvl_exper_SEL_S0	1	43	0.00	0.9810

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
prev_pd_SEL_S0	1	43	1.89	0.1762
SEL_belief_AVG_S0	1	43	0.55	0.4604
ismale	1	696	6.47	0.0112
ethnicity_n	1	696	0.00	0.9543
islep_n	1	696	3.32	0.0690
isfeewaiver_n	1	696	1.99	0.1592
isspeced_n	1	696	2.75	0.0978
isdisability_n	1	696	0.16	0.6905
MSstuvr	1	696	8.64	0.0034
ssrpreSEC_rawscore_n	1	696	2.67	0.1029
MSscorepre	1	696	3.98	0.0465

MODEL S8A. ANALYSIS RESTRICTED TO STUDENTS WITH REFERRAL OUTCOMES (N=768) (WITH MATCHED PAIRS)

Number of Observations

Number of Observations Read	768
Number of Observations Used	768
Number of Observations Not Used	0

Covariance Parameter Estimates

Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z
Intercept	teacherid	0.006676	0.03682	0.18	0.4281

Covariance Parameter Estimates

Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z
Residual		1.2580	0.06774	18.57	<.0001

Solution for Fixed Effects

Effect	grade_n	position_s0_r	race_n	schoolid	block	Estimate	Standard Error	DF	t Value	Pr > t
Intercept						-1.4756	1.5317	23	-0.96	0.3454
istx						0.09281	0.09458	23	0.98	0.3367
ripreSDR_n						0.8600	0.06247	696	13.77	<.0001
missingpre						1.7238	0.4112	696	4.19	<.0001
schoolid				1		1.9332	0.4539	23	4.26	0.0003
schoolid				2		0	.	.	.	.
grade_n	08					0.5976	1.2680	70	0.47	0.6389
grade_n	09					0.1656	1.2304	70	0.13	0.8933
grade_n	10					0.1144	1.2244	70	0.09	0.9259
grade_n	11					0.1673	1.2154	70	0.14	0.8909
grade_n	12					0.1948	1.2096	70	0.16	0.8725
grade_n	MS					0	.	.	.	.
position_s0_r		MS				-0.1957	0.7560	23	-0.26	0.7981
position_s0_r		Special education teach				-0.9331	0.4854	23	-1.92	0.0670
position_s0_r		teacher_general_ELL_oth				0	.	.	.	.
race_n			A			0.1758	0.1886	110	0.93	0.3535
race_n			B			0.3192	0.1104	110	2.89	0.0046
race_n			M			0.1386	0.1454	110	0.95	0.3424

Solution for Fixed Effects

Effect	grade_n	position_s0_r	race_n	schoolid	block	Estimate	Standard Error	DF	t Value	Pr > t
race_n			MS			0	.	.	.	.
race_n			W			0	.	.	.	.
yrs_ft_ed_S0						0.000761	0.006628	23	0.11	0.9096
tchGender_S0						-0.3000	0.1637	23	-1.83	0.0799
lvl_exper_SEL_S0						0.04733	0.08693	23	0.54	0.5914
prev_pd_SEL_S0						0.05454	0.1349	23	0.40	0.6897
SEL_belief_AVG_S0						-0.3132	0.1738	23	-1.80	0.0847
ismale						0.2097	0.08405	696	2.49	0.0128
ethnicity_n						0.01452	0.1221	696	0.12	0.9054
islep_n						-0.1801	0.3372	696	-0.53	0.5935
isfeewaiver_n						-0.1379	0.08953	696	-1.54	0.1240
isspeced_n						0.7495	0.4482	696	1.67	0.0949
isdisability_n						-0.1644	0.2348	696	-0.70	0.4842
MSstuar						-1.4181	0.4859	696	-2.92	0.0036
ssrpreSEC_rawscore_n						0.001218	0.000907	696	1.34	0.1799
MSscorepre						0.5519	0.2894	696	1.91	0.0570
block					1	0.5559	0.4822	23	1.15	0.2607
block					2	0.6336	0.4802	23	1.32	0.1999
block					3	0.7653	0.5680	23	1.35	0.1910
block					4	0.8184	0.4947	23	1.65	0.1116
block					91	0.1814	0.4064	23	0.45	0.6596
block					92	0.4487	0.4171	23	1.08	0.2932

Solution for Fixed Effects

Effect	grade_n	position_s0_r	race_n	schoolid	block	Estimate	Standard Error	DF	t Value	Pr > t
block					93	0.5898	0.4524	23	1.30	0.2053
block					94	-0.01971	0.3901	23	-0.05	0.9601
block					95	-0.09111	0.4039	23	-0.23	0.8235
block					101	0.1341	0.3804	23	0.35	0.7277
block					102	0.1809	0.4211	23	0.43	0.6715
block					103	-0.1215	0.4004	23	-0.30	0.7642
block					104	0.07403	0.3584	23	0.21	0.8382
block					111	0.2949	0.4026	23	0.73	0.4714
block					112	-0.3285	0.3849	23	-0.85	0.4022
block					113	0.05043	0.4367	23	0.12	0.9091
block					114	-0.1345	0.3906	23	-0.34	0.7338
block					121	0.1291	0.3787	23	0.34	0.7363
block					122	0.08311	0.3755	23	0.22	0.8268
block					123	-0.1851	0.3341	23	-0.55	0.5849
block					124	0	.	.	.	.

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
istx	1	23	0.96	0.3367
ripreSDR_n	1	696	189.49	<.0001
missingpre	1	696	17.57	<.0001
schoolid	1	23	18.14	0.0003

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
grade_n	4	70	0.57	0.6844
position_s0_r	2	23	2.05	0.1516
race_n	3	110	2.80	0.0434
yrs_ft_ed_S0	1	23	0.01	0.9096
tchGender_S0	1	23	3.36	0.0799
lvl_exper_SEL_S0	1	23	0.30	0.5914
prev_pd_SEL_S0	1	23	0.16	0.6897
SEL_belief_AVG_S0	1	23	3.25	0.0847
ismale	1	696	6.22	0.0128
ethnicity_n	1	696	0.01	0.9054
islep_n	1	696	0.29	0.5935
isfeewaiver_n	1	696	2.37	0.1240
isspeced_n	1	696	2.80	0.0949
isdisability_n	1	696	0.49	0.4842
MSstuar	1	696	8.52	0.0036
ssrpreSEC_rawscore_n	1	696	1.80	0.1799
MSscorepre	1	696	3.64	0.0570
block	20	23	0.64	0.8390

SECTION 9: SUMMARY TABLE FOR SEVEN MODELS USED TO EVALUATE IMPACTS ON REFERRALS

MODEL S91. SUMMARY TABLE OF RESULTS FOR SEVEN MODELS RESTRICTED TO STUDENTS WITH REFERRAL OUTCOMES

Label	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
N obs	(N=768)	(N=768)	(N=768)	(N=768)	(N=768)	(N=718)	(N=718)
Intercept	0.41(0.08,P=<.001)	0.34(0.20,P=0.098)	-0.12(1.31,P=0.926)	-2.48(1.30,P=0.063)	-2.07(1.41,P=0.151)	-1.93(0.43,P=<.001)	-2.56(0.74,P=0.001)
Treatment	0.01(0.11,P=0.902)	0.02(0.11,P=0.884)	0.05(0.10,P=0.588)	0.08(0.08,P=0.330)	0.07(0.09,P=0.403)	0.11(0.09,P=0.213)	0.10(0.09,P=0.298)
Pretest				0.87(0.06,P=<.001)	0.87(0.06,P=<.001)	0.91(0.06,P=<.001)	0.90(0.06,P=<.001)
MS Pretest				1.24(0.34,P=<.001)	1.75(0.40,P=<.001)		
Rock Island High School		0.08(0.20,P=0.685)	0.06(0.19,P=0.761)	1.17(0.32,P=<.001)	1.65(0.37,P=<.001)	2.04(0.40,P=<.001)	2.28(0.44,P=<.001)
Thurgood Marshall High School		0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)
FIXED EFFECTS							
Grade 8			1.22(1.33,P=0.363)	2.28(1.22,P=0.065)	0.84(1.23,P=0.501)	0.83(0.31,P=0.010)	0.59(0.32,P=0.073)
Grade 9			0.65(1.30,P=0.617)	1.61(1.19,P=0.181)	0.30(1.20,P=0.803)	0.19(0.15,P=0.219)	0.08(0.16,P=0.597)
Grade 10			0.50(1.30,P=0.703)	1.42(1.19,P=0.236)	0.12(1.20,P=0.923)	-0.04(0.15,P=0.782)	-0.11(0.16,P=0.482)
Grade 11			0.25(1.30,P=0.850)	1.37(1.19,P=0.253)	0.16(1.20,P=0.896)	-0.08(0.15,P=0.609)	-0.07(0.15,P=0.646)
Grade 12			0.26(1.30,P=0.844)	1.37(1.19,P=0.252)	0.17(1.20,P=0.888)	0.00(.,P=.)	0.00(.,P=.)
MS Grade			0.00(.,P=.)	0.00(.,P=.)	0.00(.,P=.)		
MS Position					-0.07(0.66,P=0.919)		
Special education teachers					-0.49(0.37,P=0.188)		
General ELL or Other teachers					0.00(.,P=.)		
Race A					0.21(0.18,P=0.250)		0.22(0.19,P=0.257)
Race B					0.31(0.11,P=0.005)		0.29(0.11,P=0.011)
Race M					0.14(0.14,P=0.334)		0.16(0.15,P=0.281)
Race MS					0.00(.,P=.)		

Race W					0.00(.,P=.)		0.00(.,P=.)
Experience as teacher					0.01(0.00,P=0.288)		0.01(0.00,P=0.206)
Teacher Gender					-0.18(0.11,P=0.102)		-0.23(0.11,P=0.052)
Level of experience teaching soc					-0.00(0.07,P=0.981)		0.01(0.07,P=0.865)
Professional learning on SEL					0.13(0.09,P=0.176)		0.14(0.10,P=0.158)
Average SEL belief					-0.09(0.12,P=0.460)		-0.11(0.12,P=0.394)
Gender					0.21(0.08,P=0.011)		0.23(0.09,P=0.007)
Ethnicity					-0.01(0.12,P=0.954)		0.01(0.12,P=0.905)
Being LEP					0.29(0.16,P=0.069)		0.33(0.17,P=0.052)
SES status					-0.12(0.09,P=0.159)		-0.12(0.09,P=0.184)
Spe ed					0.71(0.43,P=0.098)		1.10(0.50,P=0.027)
Disability					-0.09(0.23,P=0.690)		-0.05(0.23,P=0.833)
MS stu var					-1.39(0.47,P=0.003)		-1.56(0.82,P=0.057)
Pre Score					0.00(0.00,P=0.103)		0.00(0.00,P=0.071)
MS Pre Score					0.57(0.28,P=0.046)		0.63(0.30,P=0.037)
RANDOM EFFECTS							
Teacher	0.04(0.137)	0.04(0.129)	0.01(0.338)	0.00(0.485)	0.00(.)	0.00(0.434)	0.00(.)
Residual	1.67(<.001)	1.67(<.001)	1.67(<.001)	1.30(<.001)	1.25(<.001)	1.33(<.001)	1.29(<.001)

Note: Models 6 and 7 are limited to students with unimputed pretest and posttest. Zero estimates with no *p* values correspond to the reference category for a nomial variable.

SECTION 10: FULL ATTRITION AND BASELINE EQUIVALENCE CALCULATIONS FOR READING ACHIEVEMENT

TABLE S10A: ATTRITION TABLE FOR READING ACHIEVEMENT

	(A) Randomized	(B) Study teachers with at least one student who was both on the baseline roster of a randomized teacher, and who has a DESSA posttest score	(C) Randomized study teachers who do not have any students as described in B	(D) Number of students in classes of teachers counted under column C	(E) Number of students on rosters of randomized teachers, and who have a posttest	(F) N of students at baseline eligible for attrition calculation	(G) Rate of attrition of teachers	(H) Rate of attrition of students among non- attrititing teachers
HATC	Teachers	26	21	5			0.192	
	Students	323		27	227	296		0.233
Control	Teachers	27	23	4			0.148	
	Students	353		21	265	332		0.202
Total	Teachers	53	46	0			0.044	
	Students	676		48	492	628		0.217
Differential attrition	Teachers						0.044	
	Students							.0313

*sample of students (676) is lower than for other outcomes (792) because 12th grade was excluded from analysis.

TABLE S10B. BASELINE EQUIVALENCE FOR THE SAMPLE WITH A REAL (UNIMPUTED) PRETEST REGARDLESS OF AVAILABILITY OF POSTTEST (TO SUPPORT WWC REVIEW))

	Condition	Means	Standard deviations	No. of students	No. of teachers	Effect size	p value	Percentile standing
Unadjusted effect size	Control	215.53	15.21	278	24	-0.02	0.941	-1%
	HATC	214.45	16.87	250	21			

TABLE S10C. BASELINE EQUIVALENCE FOR THE SAMPLE WITH A REAL (UNIMPUTED) PRETEST AND WHO ALSO HAVE A REAL UNIMPUTED POSTTEST (TO SUPPORT WWC REVIEW)

	Condition	Means	Standard deviations	No. of students	No. of teachers	Effect size	p value	Percentile standing
Unadjusted effect size	Control	216.25	14.87	241	23	0.01	0.960	0%
	HATC	215.91	16.53	203	21			

TABLE S10D. ADDITIONAL BASELINE EQUIVALENCE INFORMATION TO SUPPORT WWC REVIEW

Sample	Comparison group			Treatment group		
	No. of Individuals	Mean of Baseline Measure	Mean of Outcome Measure	No. of Individuals	Mean of Baseline Measure	Mean of Outcome Measure
Analytic sample (includes students with dummy variable imputed pretest)	265	216.25	217.81	227	215.91	217.80
Subsample of individuals with non-missing values for outcome and baseline measures	241	216.25	217.66	203	217.20	217.20
Subsample of individuals with non-missing outcome measure and missing baseline measure	24	Not applicable	219.29	24	Not applicable	222.88

Subsample of individuals with non-missing baseline measures and missing outcome measure	37	210.84	Not applicable	47	208.17	Not applicable
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Note. Correlation between the baseline and outcome measures (calculated using only non-imputed data): 0.85

SECTION 11: FULL RESULTS OF BENCHMARK ANALYSIS OF IMPACTS ON READING ACHIEVEMENT

Model S11A. Analysis restricted to students with reading achievement outcomes (N=492) (without matched pairs)

Number of Observations

Number of Observations Read	492
Number of Observations Used	492
Number of Observations Not Used	0

Covariance Parameter Estimates

Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z
Intercept	teacherid	0	.	.	.
Residual		83.8013	5.4724	15.31	<.0001

Solution for Fixed Effects

Effect	grade_n	position_s0_r	schoolid	Estimate	Standard Error	DF	t Value	Pr > t
Intercept				23.9542	10.0391	34	2.39	0.0227
istx				1.1307	0.8938	34	1.27	0.2145
reading_FL23_n				0.8422	0.03465	435	24.31	<.0001
missingpre				185.36	7.6388	435	24.27	<.0001
schoolid			1	9.8132	2.5371	34	3.87	0.0005
schoolid			2	0	.	.	.	.
grade_n	09			1.5586	1.2325	22	1.26	0.2193
grade_n	10			0.4419	1.1446	22	0.39	0.7032
grade_n	11			0	.	.	.	.

Solution for Fixed Effects

Effect	grade_n	position_s0_r	schoolid	Estimate	Standard Error	DF	t Value	Pr > t
position_s0_r		MS		-5.3902	7.1472	34	-0.75	0.4559
position_s0_r		Special education teach		1.1483	4.1452	34	0.28	0.7834
position_s0_r		teacher_general_ELL_oth		0	.	.	.	.
yrs_ft_ed_S0				-0.02905	0.05031	34	-0.58	0.5675
tchGender_S0				-0.1858	1.1537	34	-0.16	0.8730
lvl_exper_SEL_S0				-0.8187	0.7092	34	-1.15	0.2564
prev_pd_SEL_S0				0.7719	0.9989	34	0.77	0.4450
SEL_belief_AVG_S0				2.4134	1.1736	34	2.06	0.0475
ismale				0.4134	0.8520	435	0.49	0.6277
ethnicity_n				-0.6519	1.1357	435	-0.57	0.5663
islep_n				-6.8707	1.6397	435	-4.19	<.0001
isfeewaiver_n				-1.2062	0.8724	435	-1.38	0.1675
isspeced_n				-6.4642	4.6283	435	-1.40	0.1632
isdisability_n				4.3669	2.2507	435	1.94	0.0530
MSstuar				1.5351	6.9591	435	0.22	0.8255
ssrpreSEC_rawscore_n				-0.01413	0.008890	435	-1.59	0.1127
MSscorepre				-5.1104	2.8219	435	-1.81	0.0708

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
istx	1	34	1.60	0.2145
reading_FL23_n	1	435	590.91	<.0001
missingpre	1	435	588.82	<.0001
schoolid	1	34	14.96	0.0005
grade_n	2	22	0.89	0.4264

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
position_s0_r	2	34	0.63	0.5412
yrs_ft_ed_S0	1	34	0.33	0.5675
tchGender_S0	1	34	0.03	0.8730
lvl_exper_SEL_S0	1	34	1.33	0.2564
prev_pd_SEL_S0	1	34	0.60	0.4450
SEL_belief_AVG_S0	1	34	4.23	0.0475
ismale	1	435	0.24	0.6277
ethnicity_n	1	435	0.33	0.5663
islep_n	1	435	17.56	<.0001
isfeewaiver_n	1	435	1.91	0.1675
isspeced_n	1	435	1.95	0.1632
isdisability_n	1	435	3.76	0.0530
MSstuvr	1	435	0.05	0.8255
ssrpreSEC_rawscore_n	1	435	2.53	0.1127
MSscorepre	1	435	3.28	0.0708

Model S11B. Analysis restricted to students with reading achievement outcomes (N=492) (with matched pairs)

Number of Observations

Number of Observations Read	492
Number of Observations Used	492
Number of Observations Not Used	0

Covariance Parameter Estimates

Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z
Intercept	teacherid	1.8636	4.2310	0.44	0.3298
Residual		83.9183	5.7015	14.72	<.0001

Solution for Fixed Effects

Effect	grade_n	position_s0_r	schoolid	block	Estimate	Standard Error	DF	t Value	Pr > t
Intercept					18.5282	15.7963	17	1.17	0.2570
istx					0.8715	1.1119	17	0.78	0.4439
reading_FL23_n					0.8369	0.03581	435	23.37	<.0001
missingpre					184.07	7.9025	435	23.29	<.0001
schoolid			1		7.5929	3.6176	17	2.10	0.0511
schoolid			2		0	.	.	.	.
grade_n	09				1.1255	2.6576	22	0.42	0.6760
grade_n	10				-2.0998	1.7292	22	-1.21	0.2375
grade_n	11				0	.	.	.	.
position_s0_r		MS			-8.5676	8.5756	17	-1.00	0.3318
position_s0_r		Special education teach			0.1257	6.0536	17	0.02	0.9837
position_s0_r		teacher_general_ELL_oth			0	.	.	.	.
yrs_ft_ed_S0					-0.01604	0.07405	17	-0.22	0.8311
tchGender_S0					-1.2058	1.9750	17	-0.61	0.5496
lvl_exper_SEL_S0					-0.6046	0.9535	17	-0.63	0.5344
prev_pd_SEL_S0					0.6051	1.5063	17	0.40	0.6929
SEL_belief_AVG_S0					3.5290	1.9928	17	1.77	0.0945
ismale					0.3630	0.8669	435	0.42	0.6756
ethnicity_n					-0.9028	1.1784	435	-0.77	0.4440

Solution for Fixed Effects

Effect	grade_n	position_s0_r	schoolid	block	Estimate	Standard Error	DF	t Value	Pr > t
islep_n					-0.05457	3.6419	435	-0.01	0.9881
isfeewaiver_n					-1.0206	0.8953	435	-1.14	0.2549
isspeced_n					-3.9697	5.1249	435	-0.77	0.4390
isdisability_n					4.5088	2.3082	435	1.95	0.0514
MSstuar					2.3324	7.2466	435	0.32	0.7477
ssrpreSEC_rawscore_n					-0.01419	0.009044	435	-1.57	0.1174
MSscorepre					-5.5211	2.8942	435	-1.91	0.0571
block				1	2.7763	11.7574	17	0.24	0.8162
block				2	5.9265	11.3674	17	0.52	0.6088
block				3	-0.05799	12.0788	17	-0.00	0.9962
block				4	-2.0501	11.3899	17	-0.18	0.8593
block				91	4.3873	11.1477	17	0.39	0.6988
block				92	5.8435	10.9106	17	0.54	0.5992
block				93	4.2817	11.2091	17	0.38	0.7072
block				94	6.4738	11.0630	17	0.59	0.5661
block				95	4.8229	10.9898	17	0.44	0.6663
block				101	7.9678	10.7260	17	0.74	0.4677
block				102	9.7714	10.7376	17	0.91	0.3755
block				103	7.4865	10.7097	17	0.70	0.4940
block				104	6.0531	10.6643	17	0.57	0.5777
block				111	3.1895	10.8236	17	0.29	0.7718
block				112	5.0855	10.7780	17	0.47	0.6430
block				113	3.3264	10.8889	17	0.31	0.7637
block				114	5.7813	10.7373	17	0.54	0.5973

Solution for Fixed Effects

Effect	grade_n	position_s0_r	schoolid	block	Estimate	Standard Error	DF	t Value	Pr > t
block				121	0	.	.	.	.

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
istx	1	17	0.61	0.4439
reading_FL23_n	1	435	546.14	<.0001
missingpre	1	435	542.52	<.0001
schoolid	1	17	4.41	0.0511
grade_n	2	22	1.37	0.2741
position_s0_r	2	17	0.73	0.4971
yrs_ft_ed_S0	1	17	0.05	0.8311
tchGender_S0	1	17	0.37	0.5496
lvl_exper_SEL_S0	1	17	0.40	0.5344
prev_pd_SEL_S0	1	17	0.16	0.6929
SEL_belief_AVG_S0	1	17	3.14	0.0945
ismale	1	435	0.18	0.6756
ethnicity_n	1	435	0.59	0.4440
islep_n	1	435	0.00	0.9881
isfeewaiver_n	1	435	1.30	0.2549
isspeced_n	1	435	0.60	0.4390
isdisability_n	1	435	3.82	0.0514
MSstubar	1	435	0.10	0.7477
ssrpreSEC_rawscore_n	1	435	2.46	0.1174
MSscorepre	1	435	3.64	0.0571
block	17	17	0.70	0.7620

SECTION 12: ATTRITION AND BASELINE EQUIVALENCE CALCULATIONS FOR MATHEMATICS ACHIEVEMENT

TABLE S12A: ATTRITION TABLE FOR MATHEMETICS ACHIEVEMENT

		(A) Randomized	(B) Study teachers with at least one student who was both on the baseline roster of a randomized teacher, and who has a DESSA posttest score	(C) Randomized study teachers who do not have any students as described in B	(D) Number of students in classes of teachers counted under column C	(E) Number of students on rosters of randomized teachers, and who have a posttest	(F) N of students at baseline eligible for attrition calculation	(G) Rate of attrition of teachers	(H) Rate of attrition of students among non- attritting teachers
HATC	Teachers	26	21	5				0.192	
	Students	323			27	193	296		0.348
Control	Teachers	27	23	4				0.148	
	Students	353			21	253	332		0.238
Total	Teachers	53	46	0				0.044	
	Students	676			48	446	628		0.290
Differential attrition	Teachers							0.044	
	Students								0.110

*sample of students (676) is lower than for other outcomes (792) because 12th grade was excluded from analysis.

TABLE S12B. BASELINE EQUIVALENCE FOR THE SAMPLE WITH A REAL (UNIMPUTED) PRETEST REGARDLESS OF AVAILABILITY OF A POSTTEST (TO SUPPORT WWC REVIEW)

	Condition	Means	Standard deviations	No. of students	No. of teachers	Effect size	p value	Percentile standing
Unadjusted effect size	Control	221.73	19.35	293	24	0.04	0.858	2%
	HATC	220.43	22.37	251	22			

TABLE S12C. BASELINE EQUIVALENCE FOR THE SAMPLE OF STUDENTS WITH AN UNIMPUTED PRETEST AND AN UNIMPUTED POSTTEST (TO SUPPORT WWC REVIEW)

	Condition	Means	Standard deviations	No. of students	No. of teachers	Effect size	p value	Percentile standing
Unadjusted effect size	Control	224.99	17.40	240	23	0.05	0.835	2%
	HATC	227.03	19.17	177	21			

TABLE S12D. ADDITIONAL BASELINE EQUIVALENCE INFORMATION TO SUPPORT WWC REVIEW

Sample	Comparison group			Treatment group		
	No. of Individuals	Mean of Baseline Measure	Mean of Outcome Measure	No. of Individuals	Mean of Baseline Measure	Mean of Outcome Measure
Analytic sample (includes students with dummy variable imputed pretest)	253	224.99	231.69	193	227.03	231.94
Subsample of individuals with non-missing values for outcome and baseline measures	240	224.99	232.33	177	227.03	232.74
Subsample of individuals with non-missing outcome measure and missing baseline measure	13	Not applicable	219.92	16	Not applicable	223.13

Subsample of individuals with non-missing baseline measures and missing outcome measure	53	206.98	Not applicable	74	204.65	Not applicable
Note. Correlation between the baseline and outcome measures (calculated using only non-imputed data): ____0.87____						

SECTION 13: RESULTS OF BENCHMARK ANALYSIS OF IMPACTS ON MATHEMATICS ACHIEVEMENT

Model S13A. Analysis restricted to students with mathematics achievement outcomes (N=446) (without matched pairs)

Number of Observations	
Number of Observations Read	446
Number of Observations Used	446
Number of Observations Not Used	0

Covariance Parameter Estimates					
Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z
Intercept	teacherid	2.9150	3.5621	0.82	0.2066
Residual		95.5657	6.8388	13.97	<.0001

Solution for Fixed Effects							
Effect	grade_n	position_s0_r	schoolid	Estimate	Standard Error	DF	t Value Pr > t
Intercept				40.4605	10.2712	35	3.94 0.0004
istx				-1.0854	1.1628	35	-0.93 0.3570
math_FL23_n				0.7928	0.03194	388	24.82 <.0001
missingpre				171.88	7.3538	388	23.37 <.0001
schoolid			1	7.9566	2.8419	35	2.80 0.0083
schoolid			2	0	.	.	. .

Solution for Fixed Effects

Effect	grade_n	position_s0_r	schoolid	Estimate	Standard Error	DF	t Value	Pr > t
grade_n	09			1.7151	1.6419	15	1.04	0.3128
grade_n	10			2.9872	1.5258	15	1.96	0.0691
grade_n	11			0	.	.	.	.
position_s0_r		MS		12.7881	9.8225	35	1.30	0.2014
position_s0_r		Special education teach		9.3322	7.3614	35	1.27	0.2133
position_s0_r		teacher_general_ELL_oth		0	.	.	.	.
yrs_ft_ed_S0				-0.08538	0.07523	35	-1.13	0.2641
tchGender_S0				1.7418	1.5000	35	1.16	0.2534
lvl_exper_SEL_S0				-1.6731	0.9317	35	-1.80	0.0812
prev_pd_SEL_S0				-0.4974	1.3359	35	-0.37	0.7119
SEL_belief_AVG_S0				2.0327	1.6434	35	1.24	0.2244
ismale				1.2421	0.9622	388	1.29	0.1975
ethnicity_n				0.3483	1.2830	388	0.27	0.7861
islep_n				1.3284	3.0119	388	0.44	0.6594
isfeewaiver_n				-1.1638	0.9850	388	-1.18	0.2381
isspeced_n				-19.3901	7.6806	388	-2.52	0.0120
isdisability_n				1.3650	2.5708	388	0.53	0.5957
MSstuar				-16.2048	5.9625	388	-2.72	0.0069
ssrpreSEC_rawscore_n				0.01045	0.01099	388	0.95	0.3423
MSscorepre				1.5611	3.4647	388	0.45	0.6526

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
istx	1	35	0.87	0.3570
math_FL23_n	1	388	616.02	<.0001

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
missingpre	1	388	546.31	<.0001
schoolid	1	35	7.84	0.0083
grade_n	2	15	1.94	0.1779
position_s0_r	2	35	0.96	0.3933
yrs_ft_ed_S0	1	35	1.29	0.2641
tchGender_S0	1	35	1.35	0.2534
lvl_exper_SEL_S0	1	35	3.22	0.0812
prev_pd_SEL_S0	1	35	0.14	0.7119
SEL_belief_AVG_S0	1	35	1.53	0.2244
ismale	1	388	1.67	0.1975
ethnicity_n	1	388	0.07	0.7861
islep_n	1	388	0.19	0.6594
isfeewaiver_n	1	388	1.40	0.2381
isspeced_n	1	388	6.37	0.0120
isdisability_n	1	388	0.28	0.5957
MSstuar	1	388	7.39	0.0069
ssrpreSEC_rawscore_n	1	388	0.90	0.3423
MSscorepre	1	388	0.20	0.6526

Model S13B. Analysis restricted to students with mathematics achievement outcomes (N=446) (with matched pairs)

Number of Observations

Number of Observations Read	446
Number of Observations Used	446
Number of Observations Not Used	0

Covariance Parameter Estimates

Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z
Intercept	teacherid	0	.	.	.
Residual		95.9385	6.7336	14.25	<.0001

Solution for Fixed Effects

Effect	grade_n	position_s0_r	schoolid	block	Estimate	Standard Error	DF	t Value	Pr > t
Intercept					57.1545	18.0523	18	3.17	0.0053
istx					-1.1409	1.1177	18	-1.02	0.3209
math_FL23_n					0.7932	0.03250	388	24.41	<.0001
missingpre					173.07	7.4966	388	23.09	<.0001
schoolid			1		12.6287	3.7619	18	3.36	0.0035
schoolid			2		0	.	.	.	.
grade_n	09				1.4241	3.5276	15	0.40	0.6921
grade_n	10				1.6294	2.2335	15	0.73	0.4769
grade_n	11				0	.	.	.	.
position_s0_r		MS			28.4321	12.7113	18	2.24	0.0382
position_s0_r		Special education teach			15.1938	11.2817	18	1.35	0.1948
position_s0_r		teacher_general_ELL_oth			0	.	.	.	.
yrs_ft_ed_S0					-0.08041	0.08127	18	-0.99	0.3356
tchGender_S0					-0.9533	1.9773	18	-0.48	0.6355
lvl_exper_SEL_S0					-0.6764	0.9645	18	-0.70	0.4921
prev_pd_SEL_S0					2.2760	1.6081	18	1.42	0.1740
SEL_belief_AVG_S0					2.4145	2.1940	18	1.10	0.2856
ismale					1.1879	0.9769	388	1.22	0.2247
ethnicity_n					0.3481	1.3064	388	0.27	0.7900

Solution for Fixed Effects

Effect	grade_n	position_s0_r	schoolid	block	Estimate	Standard Error	DF	t Value	Pr > t
islep_n					0.4376	4.2735	388	0.10	0.9185
isfeewaiver_n					-1.1461	0.9965	388	-1.15	0.2508
isspeced_n					-31.8795	10.7319	388	-2.97	0.0032
isdisability_n					1.8985	2.6059	388	0.73	0.4667
MSstuar					-17.7823	6.0844	388	-2.92	0.0037
ssrpreSEC_rawscore_n					0.006944	0.01120	388	0.62	0.5358
MSscorepre					0.3741	3.5538	388	0.11	0.9162
block				1	-26.9256	15.6056	18	-1.73	0.1016
block				2	-15.5245	15.3526	18	-1.01	0.3253
block				3	-14.5588	15.9571	18	-0.91	0.3736
block				4	-21.5294	15.9003	18	-1.35	0.1925
block				91	-25.3326	15.1352	18	-1.67	0.1115
block				92	-23.1567	14.6467	18	-1.58	0.1313
block				93	-29.7260	15.1503	18	-1.96	0.0654
block				94	-26.1378	15.0193	18	-1.74	0.0989
block				95	-20.1443	14.9371	18	-1.35	0.1942
block				101	-23.9449	14.6179	18	-1.64	0.1188
block				102	-21.1857	14.6951	18	-1.44	0.1666
block				103	-20.5541	14.6680	18	-1.40	0.1781
block				104	-23.0231	14.7697	18	-1.56	0.1365
block				111	-22.9510	14.9475	18	-1.54	0.1421
block				112	-24.4249	14.8418	18	-1.65	0.1172
block				113	-25.5267	14.9132	18	-1.71	0.1041
block				114	-23.3278	14.8462	18	-1.57	0.1335

Solution for Fixed Effects

Effect	grade_n	position_s0_r	schoolid	block	Estimate	Standard Error	DF	t Value	Pr > t
block				121	0	.	.	.	.

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
istx	1	18	1.04	0.3209
math_FL23_n	1	388	595.75	<.0001
missingpre	1	388	533.00	<.0001
schoolid	1	18	11.27	0.0035
grade_n	2	15	0.27	0.7699
position_s0_r	2	18	2.76	0.0897
yrs_ft_ed_S0	1	18	0.98	0.3356
tchGender_S0	1	18	0.23	0.6355
lvl_exper_SEL_S0	1	18	0.49	0.4921
prev_pd_SEL_S0	1	18	2.00	0.1740
SEL_belief_AVG_S0	1	18	1.21	0.2856
ismale	1	388	1.48	0.2247
ethnicity_n	1	388	0.07	0.7900
islep_n	1	388	0.01	0.9185
isfeewaiver_n	1	388	1.32	0.2508
isspeced_n	1	388	8.82	0.0032
isdisability_n	1	388	0.53	0.4667
MSstuar	1	388	8.54	0.0037
ssrpreSEC_rawscore_n	1	388	0.38	0.5358
MSscorepre	1	388	0.01	0.9162
block	17	18	1.43	0.2310

