TECHNICAL SUPPLEMENT

Do Early Social-Emotional Learning Programs Have Lasting Effects Through Middle School?

Middle School Follow-Up Findings from a Randomized Trial of INSIGHTS

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Technical Supplement Table S.1. Expected Grade Level by School Year and Study Cohort

Academic Year	Cohort 1	Cohort 2	Cohort 3
2008-2009	Kindergarten	-	-
2009-2010	1st grade	Kindergarten	-
2010-2011	2nd grade	1st grade	Kindergarten
2011-2012	3rd grade	2nd grade	1st grade
2012-2013	4th grade	3rd grade	2nd grade
2013-2014	5th grade	4th grade	3rd grade
2014-2015	6th grade	5th grade	4th grade
2015-2016	7th grade	6th grade	5th grade
2016-2017	8th grade	7th grade	6th grade
2017-2018	-	8th grade	7th grade
2018-2019	-	-	8th grade

NOTE: This table describes the expected year and grade for students following an educational trajectory with no grade retention and no accelerated promotion (that is, "skipping" a grade).

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Technical Supplement Table S.2. Analysis Sample Retention Rate for the INSIGHTS and Attention-Control Groups

Outcome	Total		INSIGHTS		Attention-Control Group		Estimated Difference	P-Value
	Number	%	Number	%	Number	%		
State ELA test								
Grade 6	1,012	76.15	507	79.10	505	75.06	4.04	0.176
Grade 7	996	74.94	504	78.63	492	72.51	6.12 **	0.030
Grade 8	918	69.07	470	73.32	448	66.53	6.79 **	0.047
Attempted state test	1,027	77.28	506	78.94	521	76.06	2.88	0.266
State math test								
Grade 6	1,004	75.55	506	78.94	498	74.41	4.53	0.140
Grade 7	969	72.91	492	76.76	477	70.35	6.40 **	0.029
Grade 8	727	54.70	392	61.15	335	51.46	9.70 **	0.043
Attempted state test	1,027	77.28	506	78.94	521	76.06	2.88	0.266
Math Regents test in middle school								
Attempted math Regents test	1,027	77.28	506	78.94	521	76.06	2.88	0.266
Passed math Regents test	1,027	77.28	506	78.94	521	76.06	2.88	0.266
Attendance rate								
Middle school average (grades 6-8)	893	67.19	437	68.17	456	66.71	1.47	0.596
Retained in grade								
Ever retained in middle school (grades 6-8)	1,028	77.35	509	79.41	519	76.08	3.33	0.188
SPED classification								
Ever classified as SPED in middle school (grades 6-8)	1,099	82.69	548	85.49	551	80.20	5.29 **	0.025

SOURCE: District records collected between 2007 and 2019 and provided by the Research Alliance for New York City Schools (RANYCS).

NOTES: ELA = English language arts. SPED = Special education.

Dichotomous sample retention indicators (0 if a student was not actively enrolled or actively enrolled but had no valid value for the given outcome, 1 if a student had a valid value for the given outcome) were generated for each outcome.

Values for the INSIGHTS group are the simple means for each outcome. Impact values are estimated from a hierarchical regression that controls for cohorts of random assignment and school- and student-level baseline covariates. Values for the attention-control group equal the values for the INSIGHTS group minus the estimated impacts. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to the estimated impact. Statistical significance levels are indicated as: * = $p < 0.10$; ** = $p < 0.05$; *** = $p < 0.01$.

Technical Supplement Table S.3. Summary of Baseline Analyses for Outcome Samples with Significant Differences in Retention Rates for the INSIGHTS and Attention-Control Groups

Outcome with Significant Differential Attrition in the Analysis Sample	Number of Baseline Variables with Significant Differences	P-Value of Overall Baseline Differences
Ever classified as SPED in middle school (grades 6-8)	0	0.444
Grade 7 state ELA test score	0	0.992
Grade 8 state ELA test score	0	0.981
Grade 7 state math test score	0	0.990
Grade 8 state math test score	0	0.984

SOURCE: District records collected between 2007 and 2019 and provided by the Research Alliance for New York City Schools (RANYCS).

NOTES: ELA = English language arts. SPED = Special education. Complete baseline equivalence tables for each outcome analysis sample are available upon request from the authors. This table summarizes the number of baseline variables with statistically significant differences and the p-value of the overall baseline differences between the INSIGHTS and attention-control groups, determined by an F-test, for samples with significant differential retention rates.

Technical Supplement Table S.4. Baseline Characteristics for Students Who Were Eligible and Not Eligible for Free or Reduced-Price Lunch

Baseline Variable (%)	Eligible Students	Non-Eligible Students	Estimated Difference	Standard Error	P-Value
Baseline age (in years)	5.02	4.98	0.04 **	0.01	0.013
Female	48.78	45.30	3.48	3.22	0.280
Black, non-Hispanic	76.20	74.57	1.63	3.14	0.604
Hispanic	17.96	8.88	9.08 ***	2.70	0.001
White, non-Hispanic	1.70	11.10	-9.40 ***	1.68	<0.000
Other	4.14	6.59	-2.45	1.67	0.143
Dual language learner[a]	11.58	8.72	2.86	2.26	0.206
SPED classification	10.06	6.40	3.65 *	2.18	0.094
Sample size	941	370			

SOURCE: District records collected between 2007 and 2019 and provided by the Research Alliance for New York City Schools (RANYCS).

NOTES: SPED = Special education.

Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to the estimated difference. Statistical significance levels are indicated as: * = p < 0.10; ** = p < 0.05; *** = p < 0.01.

[a]Based on having a home language other than English.

Technical Supplement Table S.5. Baseline Characteristics for the INSIGHTS and Attention-Control Groups, Sample of Students Who Were Eligible for Free or Reduced-Price Lunch

Baseline Variable (%)	INSIGHTS	Attention-Control Group	Estimated Difference	Standard Error	P-Value
Baseline age (in years)	5.03	5.01	0.02	0.03	0.515
Female	47.94	48.29	-0.35	3.35	0.918
Black, non-Hispanic	77.01	72.41	4.60	6.18	0.466
Hispanic	16.31	21.56	-5.25	5.44	0.346
White, non-Hispanic	1.77	2.23	-0.46	1.82	0.802
Other	4.91	3.68	1.24	2.20	0.580
Dual language learner[a]	11.00	12.26	-1.26	3.42	0.718
SPED classification	9.18	12.94	-3.76	3.70	0.322
Sample size	509	432			

SOURCE: District records collected between 2007 and 2019 and provided by the Research Alliance for New York City Schools (RANYCS).

NOTES: SPED = Special education.

Values for the INSIGHTS group are the simple means for each characteristic. Differences are estimated from a hierarchical regression that controls for cohorts of random assignment. Values for the attention-control group equal the values for the INSIGHTS group minus the estimated differences. Rounding may cause slight discrepancies in calculating sums and differences.

A two-tailed t-test was applied to the estimated difference. None of the estimated differences are significant at the 5 percent level.

An F-test was used to determine whether there is a systematic difference between the INSIGHTS schools and the control schools, with respect to the characteristics included in this table. The p-value for this test is 0.472.

[a]Based on having a home language other than English.

Technical Supplement Table S.6. Baseline Characteristics for Consented and Non-Consented Students

Baseline Variable (%)	Consented Students	Non-Consented Students	Estimated Difference	Standard Error	P-Value
Baseline age (in years)	5.02	5.02	-0.01	0.01	0.646
Female	46.70	48.53	-1.83	3.02	0.545
Black, non-Hispanic	77.92	70.27	7.65 ***	2.48	0.002
Hispanic	14.47	17.53	-3.06	2.18	0.160
White, non-Hispanic	4.06	6.12	-2.06	1.34	0.125
Other	3.55	6.08	-2.53 *	1.39	0.069
Eligible for free or reduced-price lunch	77.66	74.05	3.61 *	2.17	0.095
Dual language learner[a]	5.33	13.31	-7.98 ***	1.89	<0.000
SPED classification	9.79	9.51	0.28	1.81	0.875
Sample size	394	916			

SOURCE: District records collected between 2007 and 2019 and provided by the Research Alliance for New York City Schools (RANYCS).

NOTES: SPED = Special education.

Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to the estimated difference. Statistical significance levels are indicated as: * = $p < 0.10$; ** = $p < 0.05$; *** = $p < 0.01$.

[a]Based on having a home language other than English.

Technical Supplement Table S.7. Baseline Characteristics for the INSIGHTS and Attention-Control Groups, Consented Students

Baseline Variable (%)	INSIGHTS	Attention-Control	Estimated Difference	Standard Error	P-Value
Baseline age (in years)	5.02	5.01	0.02	0.02	0.476
Female	47.60	45.02	2.57	5.63	0.653
Black, non-Hispanic	78.85	74.47	4.37	8.94	0.630
Hispanic	16.35	15.53	0.81	5.43	0.882
White, non-Hispanic	1.44	4.84	-3.39	3.98	0.405
Other	3.37	4.04	-0.67	3.06	0.828
Eligible for free or reduced-price lunch	82.69	76.88	5.81	11.43	0.617
Dual language learner[a]	4.33	7.52	-3.19	4.01	0.435
SPED classification	11.71	7.26	4.44	3.14	0.173
Sample size	208	186			

SOURCE: District records collected between 2007 and 2019 and provided by the Research Alliance for New York City Schools (RANYCS).

NOTES: SPED = Special education.

Values for the INSIGHTS group are the simple means for each characteristic. Differences are estimated from a hierarchical regression that controls for cohorts of random assignment. Values for the attention-control group equal the values for the INSIGHTS group minus the estimated differences. Rounding may cause slight discrepancies in calculating sums and differences.

A two-tailed t-test was applied to the estimated difference. None of the estimated differences are significant at the 5 percent level.

An F-test was used to determine whether there is a systematic difference between the INSIGHTS schools and comparison schools, with respect to the characteristics included in this table. The p-value for this test is 0.971.

[a]Based on having a home language other than English.

Technical Supplement Table S.8. Estimated Impacts of INSIGHTS on the Percentage of Students Who Scored At or Above Proficiency Level in State Standardized Tests

Percentage At or Above Proficiency Level	INSIGHTS	Attention-Control Group	Estimated Impact	Standard Error	P-Value
State ELA test					
Grade 6	21.89	17.27	4.62	2.98	0.140
Grade 7	29.37	26.22	3.15	4.06	0.449
Grade 8	37.02	37.69	-0.67	3.94	0.868
State math test					
Grade 6	25.49	17.43	8.06 **	3.10	0.019
Grade 7	22.56	20.02	2.54	3.51	0.479
Grade 8	21.94	12.35	9.59 **	3.47	0.013

SOURCE: District records collected between 2007 and 2019 and provided by the Research Alliance for New York City Schools (RANYCS).

NOTES: Total sample size varies by outcome, ranging from 727 to 1,081.
ELA = English language arts.
Values for the INSIGHTS group are the simple means for each outcome. Impact values are estimated from a hierarchical regression that controls for cohorts of random assignment and school- and student-level baseline covariates. Values for the attention-control group equal the values for the INSIGHTS group minus the estimated impacts.
Rounding may cause slight discrepancies in calculating sums and differences.
A two-tailed t-test was applied to the estimated impact. Statistical significance levels are indicated as: * = $p < 0.10$; ** = $p < 0.05$; *** = $p < 0.01$.

Technical Supplement Table S.9. Estimated Impacts of INSIGHTS on Attendance Rate

Attendance Rate (%)	INSIGHTS	Attention-Control Group	Estimated Impact	Standard Error	P-Value
Grade 6	91.36	91.71	-0.35	0.65	0.594
Grade 7	91.57	92.00	-0.42	1.02	0.684
Grade 8	90.43	89.76	0.67	1.28	0.610
Middle school average (grades 6-8)	90.80	90.97	-0.17	0.84	0.845

SOURCE: District records collected between 2007 and 2019 and provided by the Research Alliance for New York City Schools (RANYCS).

NOTES: Total sample size varies by outcome, ranging from 794 to 1,289.
Values for the INSIGHTS group are the simple means for each outcome. Impact values are estimated from a hierarchical regression that controls for cohorts of random assignment and school- and student-level baseline covariates. Values for the attention-control group equal the values for the INSIGHTS group minus the estimated impacts. Rounding may cause slight discrepancies in calculating sums and differences.
A two-tailed t-test was applied to the estimated impact. Statistical significance levels are indicated as: * = $p < 0.10$; ** = $p < 0.05$; *** = $p < 0.01$.

Technical Supplement Table S.10. Estimated Impacts of INSIGHTS on Alternative Attendance Outcomes

Outcome	INSIGHTS	Attention-Control Group	Estimated Impact	Standard Error	P-Value
Chronically absent (%)					
Grade 6	32.10	32.62	-0.52	3.64	0.888
Grade 7	35.35	23.25	12.10 **	4.41	0.014
Grade 8	34.75	36.24	-1.49	6.82	0.830
Number of days absent					
Grade 6	14.34	13.54	0.80	0.99	0.428
Grade 7	14.51	13.93	0.58	1.72	0.742
Grade 8	16.11	17.12	-1.01	2.13	0.641

SOURCE: District records collected between 2007 and 2019 and provided by the Research Alliance for New York City Schools (RANYCS).

NOTES: Total sample size varies by outcome, ranging from 794 to 1,260.

Values for the INSIGHTS group are the simple means for each outcome. Impact values are estimated from a hierarchical regression that controls for cohorts of random assignment and school- and student-level baseline covariates. Values for the attention-control group equal the values for the INSIGHTS group minus the estimated impacts. Rounding may cause slight discrepancies in calculating sums and differences.

A two-tailed t-test was applied to the estimated impact. Statistical significance levels are indicated as: * = $p < 0.10$; ** = $p < 0.05$; *** = $p < 0.01$.

Technical Supplement Table S.11. Estimated Impacts of INSIGHTS on Retention Rate

Retained in Grade (%)	INSIGHTS	Attention-Control Group	Estimated Impact	Standard Error	P-Value
Grade 6	2.26	1.03	1.24	1.10	0.278
Grade 7	1.27	1.47	-0.19	1.11	0.864
Grade 8	0.43	1.39	-0.96	0.67	0.171
Ever retained in middle school (grades 6-8)	3.14	3.24	-0.10	1.35	0.943

SOURCE: District records collected between 2007 and 2019 and provided by the Research Alliance for New York City Schools (RANYCS).

NOTES: Total sample size varies by outcome, ranging from 933 to 1,202.

Values for the INSIGHTS group are the simple means for each outcome. Impact values are estimated from a hierarchical regression that controls for cohorts of random assignment and school- and student-level baseline covariates. Values for the attention-control group equal the values for the INSIGHTS group minus the estimated impacts. Rounding may cause slight discrepancies in calculating sums and differences.

A two-tailed t-test was applied to the estimated impact. Statistical significance levels are indicated as: * = $p < 0.10$; ** = $p < 0.05$; *** $p = < 0.01$.

Technical Supplement Table S.12. Estimated Impacts of INSIGHTS on Special Education (SPED) Identification

IEP Status (%)	INSIGHTS	Attention-Control Group	Estimated Impact	Standard Error	P-Value
Grade 6	29.09	32.52	-3.43	4.27	0.433
Grade 7	29.71	31.70	-1.98	3.87	0.615
Grade 8	30.04	32.11	-2.07	4.03	0.613
Ever classified as SPED in middle school (grades 6-8)	30.11	33.74	-3.63	3.75	0.346

SOURCE: District records collected between 2007 and 2019 and provided by the Research Alliance for New York City Schools (RANYCS).

NOTES: Total sample size varies by outcome, ranging from 1,027 to 1,300.
IEP = Individualized Education Programs.
Values for the INSIGHTS group are the simple means for each outcome. Impact values are estimated from a hierarchical regression that controls for cohorts of random assignment and school- and student-level baseline covariates. Values for the attention-control group equal the values for the INSIGHTS group minus the estimated impacts. Rounding may cause slight discrepancies in calculating sums and differences.
A two-tailed t-test was applied to the estimated impact. Statistical significance levels are indicated as: * = p < 0.10; ** = p < 0.05; *** = p < 0.01.

Technical Supplement Table S.13. Estimated Impacts of INSIGHTS on Alternative Special Education Outcomes

Outcome	INSIGHTS	Attention-Control Group	Estimated Impact	Standard Error	P-Value
SPED classification (%)					
Grade 6	8.56	9.89	-1.33	2.44	0.593
Grade 7	8.57	9.60	-1.03	2.29	0.658
Grade 8	8.70	9.51	-0.82	2.59	0.756
Ever classified as SPED in middle school (grades 6-8)	10.58	11.59	-1.01	2.88	0.731

SOURCE: District records collected between 2007 and 2019 and provided by the Research Alliance for New York City Schools (RANYCS).

NOTES: SPED = Special education. Defined as those receiving special education services who are not classified by the traditional K-12 grade levels (that is, ungraded students). This is the SPED definition used in earlier INSIGHTS studies (McCormick et al., 2019). Total sample size varies by outcome, ranging from 1,027 to 1,300.
Values for the INSIGHTS group are the simple means for each outcome. Impact values are estimated from a hierarchical regression that controls for cohorts of random assignment and school- and student-level baseline covariates. Values for the attention-control group equal the values for the INSIGHTS group minus the estimated impacts. Rounding may cause slight discrepancies in calculating sums and differences.
A two-tailed t-test was applied to the estimated impact. Statistical significance levels are indicated as: * = p < 0.10; ** = p < 0.05; *** = p < 0.01.

Technical Supplement Table S.14. Sensitivity of Estimated Impacts of INSIGHTS to Model Specification

	Benchmark Model		Model 1		Model 2	
Outcome	**Estimated Impact**	**Standard Error**	**Estimated Impact**	**Standard Error**	**Estimated Impact**	**Standard Error**
State ELA test						
Grade 6	0.10	0.08	0.01	0.12	0.05	0.08
Grade 7	0.06	0.09	-0.03	0.12	0.00	0.09
Grade 8	0.03	0.07	-0.06	0.10	0.00	0.09
State math test						
Grade 6	0.15 *	0.08	0.05	0.12	0.09	0.09
Grade 7	0.01	0.08	-0.08	0.12	-0.04	0.09
Grade 8	0.13	0.10	0.02	0.11	0.06	0.10
Attempted state test	7.01	4.26	10.07 *	5.35	8.57 **	3.93
Math Regents test in middle school						
Attempted math Regents test	-3.42	3.48	-5.35	4.37	-4.05	3.79
Passed math Regents test	-5.01	3.07	-7.98 *	4.42	-6.58 *	3.60
Attendance rate						
Middle school average (grades 6-8)	-0.17	0.84	-0.67	0.87	-0.45	0.74
Retained in grade						
Ever retained in middle school (grades 6-8)	-0.10	1.35	0.39	1.23	0.15	1.24
SPED classification						
Ever classified as SPED in middle school (grades 6-8)	-3.63	3.75	-1.36	3.54	-3.11	3.20

SOURCE: District records collected between 2007 and 2019 and provided by the Research Alliance for New York City Schools (RANYCS).

NOTES: ELA = English language arts. SPED = Special education.

The benchmark model is a two-level hierarchical model that controls for cohorts of random assignment, student-level covariates, and school-level covariates. Model 1 is the same two-level hierarchical model but only controls for cohorts of random assignment. Model 2 is the same model that controls for cohorts and student-level covariates only.

A two-tailed t-test was applied to the estimated impact. Statistical significance levels are indicated as: * = $p < 0.10$; ** = $p < 0.05$; *** = $p < 0.01$.

Technical Supplement Table S.15. Sensitivity of Estimated Impacts of INSIGHTS to Estimation Method

	Linear Probability Model		Logistic Model	
Outcome	**Estimated Impact**	**Standard Error**	**Estimated Difference in Log Odds**	**Standard Error**
Retained in grade				
Grade 6	1.24	1.10	1.18 **	0.51
Grade 7	-0.19	1.11	0.11	0.75
Grade 8	-0.96	0.67	-1.75	1.58
Ever retained in middle school (grades 6-8)	-0.10	1.35	0.11	0.34
SPED classification				
Grade 6	-3.43	4.27	-0.16	0.15
Grade 7	-1.98	3.87	-0.09	0.14
Grade 8	-2.07	4.03	-0.10	0.16
Ever classified as SPED in middle school (grades 6-8)	-3.63	3.75	-0.18	0.14
Grade 8 state math test				
Attempted state test	7.01	4.26	0.36	0.22
Attempted math Regents test	-3.42	3.48	-0.17	0.17
Passed math Regents test	-5.01	3.07	-0.30	0.18

SOURCE: District records collected between 2007 and 2019 and provided by the Research Alliance for New York City Schools (RANYCS).

NOTES: SPED = Special education.

The linear probability model is estimated using PROC MIXED in SAS. The logistic model is estimated using PROC SURVEYLOGISTIC in SAS. A two-tailed t-test was applied to the estimated impact.

Statistical significance levels are indicated as: * = $p < 0.10$; ** = $p < 0.05$; *** = $p < 0.01$.

Technical Supplement Table S.16. Sensitivity of Estimated Impacts of INSIGHTS to Treatment of Retained Students

	Benchmark Method		Method 1		Method 2		Method 3	
Outcome	**Estimated Impact**	**Standard Error**	**Estimated Impact**	**Standard Error**	**Estimated Impact**	**Standard Error**	**Estimated Impact**	**Standard Error**
State ELA test								
Grade 6	0.10	0.08	0.14	0.09	0.05	0.08	0.10	0.08
Grade 7	0.06	0.09	0.11	0.10	0.00	0.09	0.08	0.09
Grade 8	0.03	0.07	0.03	0.07	0.00	0.09	0.00	0.07
State math test								
Grade 6	0.15 *	0.08	0.19 *	0.09	0.09	0.09	0.15 *	0.08
Grade 7	0.01	0.08	0.03	0.08	-0.04	0.09	0.01	0.07
Grade 8	0.13	0.10	0.18 *	0.10	0.06	0.10	0.14	0.10
Attempted state test	7.01	4.26	N.A.	N.A.	8.57 **	3.93	6.68	5.21
Math Regents test in middle school								
Attempted math Regents test	-3.42	3.48	0.72	5.91	-4.05	3.79	-3.02	4.16
Passed math Regents test	-5.01	3.07	1.39	4.75	-6.58 *	3.60	-5.18	3.72

SOURCE: District records collected between 2007 and 2019 and provided by the Research Alliance for New York City Schools (RANYCS).

NOTES: ELA = English language arts. N.A. = Not applicable.

The benchmark method keeps all students with a valid test score in a given follow-up year, regardless of whether the actual test grade matches the expected grade level. Method 1 excludes any students who were not tested in the expected grade level for a given year. Method 2 excludes a student from the analysis starting in the first off-track year. Method 3 excludes a student from the analysis in any years if they are ever off track.

A two-tailed t-test was applied to the estimated impact. Statistical significance levels are indicated as: * = $p < 0.10$; ** = $p < 0.05$; *** = $p < 0.01$.

Technical Supplement Table S.17. Sensitivity of Estimated Impacts of INSIGHTS to Treatment of Missing Data

	Case-Wise Deletion		Multiple Imputation	
Outcome	**Estimated Impact**	**Standard Error**	**Estimated Impact**	**Standard Error**
State ELA test				
Grade 6	0.10	0.08	0.10	0.08
Grade 7	0.06	0.09	0.06	0.09
Grade 8	0.03	0.07	0.03	0.07
State math test				
Grade 6	0.15 *	0.08	0.15 *	0.08
Grade 7	0.01	0.08	0.01	0.08
Grade 8	0.13	0.10	0.13	0.10
Attempted state test	6.78	4.36	7.20 *	4.24
Math Regents test in middle school				
Attempted math Regents test	-3.31	3.47	-3.22	3.44
Passed math Regents test	-5.07	3.08	-4.99	3.11
Attendance rate				
Middle school average (grades 6-8)	-0.17	0.83	-0.16	0.84
Retained in grade				
Ever retained in middle school (grades 6-8)	-0.08	1.35	-0.10	1.35
SPED classification				
Ever classified as SPED in middle school (6-8)	-3.52	3.80	-3.59	3.78

SOURCE: District records collected between 2007 and 2019 and provided by the Research Alliance for New York City Schools (RANYCS).

NOTES: ELA = English language arts. SPED = Special education.

The case-wise deletion approach excludes observations with any missing covariate values. The multiple imputation approach uses PROC MI in SAS to impute for missing covariate values. Statistical significance levels are indicated as: * = $p < 0.10$; ** = $p < 0.05$; *** = $p < 0.01$.

Technical Supplement Table S.18. Estimated Impacts of INSIGHTS on Academic Performance, with Multiple Hypotheses Testing Adjustment

Outcome	Estimated Impact	Standard Error	P-Value	Significant at the 5% Level with BH Adjustment
State ELA test				
Grade 6	0.10	0.08	0.208	N
Grade 7	0.06	0.09	0.499	N
Grade 8	0.03	0.07	0.684	N
State math test				
Grade 6	0.15 *	0.08	0.078	N
Grade 7	0.01	0.08	0.906	N
Grade 8	0.13	0.10	0.222	N
Attempted state test	7.01	4.26	0.118	N
Math Regents test in middle school				
Attempted math Regents test	-3.42	3.48	0.340	N
Passed math Regents test	-5.01	3.07	0.121	N

SOURCE: District records collected between 2007 and 2019 and provided by the Research Alliance for New York City Schools (RANYCS).

NOTES: ELA = English language arts. Total sample size varies by outcome, ranging from 727 to 1,081.

Values for the INSIGHTS group are the simple means for each outcome. Impact values are estimated from a hierarchical regression that controls for cohorts of random assignment and school- and student-level baseline covariates. Values for the attention-control group equal the values for the INSIGHTS group minus the estimated impacts. Estimated p-values are compared with the Benjamini-Hochberg (BH) adjusted threshold p-values within each outcome domain (reading or math). They are marked as "N" for not significant if the estimated p-value exceeds the adjusted threshold, or "Y" for significant if it is below. See Y. Benjamini and Y. Hochberg, "Controlling the False Discovery Rate: A Practical and Powerful Approach to Multiple Testing," Journal of the Royal Statistical Society: Series B (Methodological), 57, 1 (1995): 289–300.

A two-tailed t-test was applied to the estimated impact.

Statistical significance levels are indicated as: * = $p < 0.10$; ** = $p < 0.05$; *** = $p < 0.01$.

Technical Supplement Table S.19. Estimated Impacts of INSIGHTS on Consented Student Test Performances, Compared with Earlier Findings

	Current Sample		Current Sample with Pre-Test Covariates		Reported in Tables 3 and 4 of McCormick et al. (2021)	
State Test Performance	**Estimated Impact**	**Standard Error**	**Estimated Impact**	**Standard Error**	**Estimated Impact**	**Standard Error**
State English language arts test						
Grade 3	0.00	0.15	0.03	0.12	0.27 **	0.11
Grade 4	-0.07	0.13	-0.01	0.12	0.23 **	0.12
Grade 5	-0.20	0.14	-0.20	0.14	-0.06	0.18
Grade 6	0.03	0.12	0.08	0.10	-0.05	0.14
State math test						
Grade 3	0.03	0.16	0.07	0.14	0.14	0.12
Grade 4	-0.05	0.12	0.01	0.11	-0.03	0.11
Grade 5	-0.15	0.13	-0.16	0.09	-0.11	0.11
Grade 6	0.08	0.12	0.14	0.10	-0.09	0.12

SOURCE: District records collected between 2007 and 2019 and provided by the Research Alliance for New York City Schools (RANYCS).

NOTES: Total sample size varies by outcome, ranging from 307 to 335 for the current sample, and from 332 to 353 for M. P. McCormick, R. Neuhaus, E. E. O'Connor, H. I. White, E. P. Horn, S. Harding, E. Cappella, and S. McClowry, "Long-Term Effects of Social-Emotional Learning on Academic Skills: Evidence from a Randomized Trial of INSIGHTS," Journal of Research on Educational Effectiveness, 14, 1 (2021): 1–27.

Impact values reported for the current sample are the confirmatory impact estimates reported in Table 4. Impact values reported for the current sample with pre-test covariates are estimated from the same hierarchical regression that controls for cohorts of random assignment and school- and student-level baseline demographic covariates, augmented with student baseline academic and behavioral outcomes from the original randomized controlled trial and parents' education levels, which are only available for consented students. Controlling for pre-test measures changed the estimated impacts numerically but not substantively. However, both sets of estimates differ from what was reported in McCormick et al. (2021, Tables 3 and 4), most likely due to slightly different samples used for the analysis. A two-tailed t-test was applied to the estimated impact. Statistical significance levels are indicated as: * = $p < 0.10$; ** = $p < 0.05$; *** = $p < 0.01$.

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