

The Unintended Consequences of Test-Based Remediation
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Online Appendix

Online Appendix Table 1. Baseline Equivalency of Student Characteristics Around the Remediation Cutoff

	Reading Cutoff	Math Cutoff
Prior year score - other subject	-0.011* (0.006)	0.000 (0.007)
Subsidized meal eligible	0.005 (0.004)	-0.004 (0.004)
Prior year disciplinary incident	0.005 (0.003)	0.000 (0.002)
Prior year % absent days	0.000 (0.000)	-0.000 (0.001)
White	-0.010* (0.005)	0.009* (0.005)
Black	0.010 (0.006)	-0.002 (0.004)
Hispanic	-0.001 (0.006)	-0.001 (0.004)
Male	0.006 (0.006)	0.006 (0.005)
Prior year - special education	0.011** (0.004)	0.001 (0.004)
Prior year – English learner	-0.003 (0.005)	-0.002 (0.003)
Foreign born	-0.003 (0.004)	-0.003 (0.003)
English non-native	-0.002 (0.006)	-0.001 (0.006)
N	90,414	115,092
Maternal characteristics -		
Less than HS diploma	-0.002 (0.006)	0.008 (0.007)
College degree or higher	0.001 (0.003)	-0.005 (0.004)
Married at birth	-0.006 (0.011)	-0.005 (0.008)
Teenage pregnancy	-0.006 (0.006)	0.003 (0.005)
N	48,382	61,705
Joint test of significance		
F-stat	1.06	0.87
p-value	0.38	0.60

Notes: Robust standard errors, clustered at the prior test score level, are given in parentheses. The estimates represent the discontinuities in student characteristics at the remediation cutoff, obtained using linear polynomial specification and a bandwidth of 10 points. The numbers in brackets represent the predicted control mean at the cutoff. *, **, and *** represent statistical significance at 10, 5, and 1 percent, respectively.

Online Appendix Table 2. Estimated Effects on Remedial Course-Taking in 6th Grade, by Race/Ethnicity and SES Quartile

		Failed prior year reading test			
		Overall	White	Black	Hispanic
Bottom quartile		0.420*** (0.012)	0.563*** (0.050)	0.415*** (0.015)	0.396*** (0.023)
	<i>N</i>	19,183	1,923	10,931	5,785
Second quartile		0.426*** (0.011)	0.523*** (0.027)	0.367*** (0.018)	0.423*** (0.020)
	<i>N</i>	19,137	4,079	7,369	6,783
Third quartile		0.415*** (0.011)	0.462*** (0.021)	0.377*** (0.028)	0.392*** (0.021)
	<i>N</i>	19,150	6,430	4,935	6,563
Top quartile		0.396*** (0.011)	0.414*** (0.016)	0.389*** (0.031)	0.350*** (0.023)
	<i>N</i>	19,174	10,164	2,463	4,455
Overall		0.373*** (0.006)	0.403*** (0.009)	0.358*** (0.009)	0.357*** (0.010)
	<i>N</i>	89,905	27,697	29,776	27,391
		Failed prior year math test			
		Overall	White	Black	Hispanic
Bottom quartile		0.131*** (0.007)	0.078*** (0.018)	0.127*** (0.010)	0.160*** (0.014)
	<i>N</i>	24,543	2,818	13,003	7,934
Second quartile		0.108*** (0.006)	0.062*** (0.009)	0.116*** (0.012)	0.128*** (0.011)
	<i>N</i>	24,461	6,369	7,880	8,861
Third quartile		0.104*** (0.006)	0.068*** (0.007)	0.129*** (0.015)	0.133*** (0.012)
	<i>N</i>	24,474	10,087	5,158	7,530
Top quartile		0.093*** (0.006)	0.083*** (0.007)	0.095*** (0.019)	0.108*** (0.013)
	<i>N</i>	24,505	14,554	2,836	5,212
Overall		0.100*** (0.003)	0.068*** (0.004)	0.116*** (0.006)	0.123*** (0.006)
	<i>N</i>	114,475	40,427	33,403	34,024

Notes: All regressions control for the baseline student characteristics listed in the upper panel of Table 1 along with school-by-year fixed effects, and robust standard errors, clustered at the prior year test score level, are given in parentheses. The estimates represent the effect of failing the 5th grade test in reading (top panel) or math (bottom panel) on the likelihood of taking an additional remedial course in that subject in 6th grade, broken down by race/ethnicity and SES quartile, obtained using linear polynomial specification and a bandwidth of 10 points. The breakdown by SES quartiles use the subset of students who were also observed in birth records. *, **, and *** represent statistical significance at 10, 5, and 1 percent, respectively.

Online Appendix Table 3. Estimated Effects on Teacher Experience, Class Size, and Teacher Race/Ethnicity by Course Subject, Student Race/Ethnicity, and SES Quartile

Failed prior year reading test								
	Average Teacher VA Score		Assigned to a Teacher with 10+ Years of Experience		Class size		Assigned to a Same Race/Ethnicity Teacher	
	ELA	Math	ELA	Other Subjects	ELA	Other Subjects	ELA	Other Subjects
Overall	0.003*** (0.000)	0.002 (0.001)	0.039*** (0.006) [0.474]	-0.007 (0.005) [0.687]	-1.177*** (0.048) [21.021]	-0.172*** (0.036) [21.547]	0.036*** (0.005) [0.514]	-0.003 (0.005) [0.652]
Race/Ethnicity								
White	0.003*** (0.001)	0.004 (0.003)	0.013 (0.010) [0.542]	0.002 (0.009) [0.742]	-1.370*** (0.087) [21.263]	-0.176*** (0.067) [21.68]	0.000 (0.006) [0.878]	-0.011*** (0.003) [0.963]
Black	0.001 (0.001)	0.001 (0.003)	0.053*** (0.009) [0.413]	-0.002 (0.009) [0.627]	-1.087*** (0.083) [20.468]	-0.199*** (0.065) [20.966]	0.057*** (0.010) [0.432]	0.008 (0.008) [0.629]
Hispanic	0.005*** (0.001)	0.001 (0.003)	0.059*** (0.010) [0.467]	-0.010 (0.009) [0.690]	-1.039*** (0.091) [21.377]	-0.114* (0.067) [22.042]	0.044*** (0.008) [0.331]	-0.009 (0.008) [0.457]
SES Quartile								
Bottom	0.002** (0.001)	0.006 (0.004)	0.058*** (0.012) [0.422]	-0.007 (0.011) [0.640]	-1.009*** (0.107) [19.853]	-0.137* (0.077) [20.551]	0.048*** (0.012) [0.486]	-0.011 (0.010) [0.664]
Second	0.001 (0.001)	-0.001 (0.004)	0.047*** (0.012) [0.464]	0.001 (0.011) [0.663]	-1.359*** (0.106) [20.448]	-0.123 (0.082) [20.936]	0.028** (0.012) [0.475]	-0.022** (0.010) [0.613]
Third	0.005*** (0.001)	0.003 (0.004)	0.044*** (0.012) [0.486]	-0.004 (0.011) [0.700]	-1.352*** (0.101) [20.896]	-0.225*** (0.079) [21.242]	0.032*** (0.012) [0.450]	-0.011 (0.011) [0.633]
Top	0.004*** (0.001)	0.007** (0.003)	0.028** (0.013) [0.532]	-0.005 (0.011) [0.737]	-1.389*** (0.100) [21.254]	-0.227*** (0.078) [21.652]	0.039*** (0.010) [0.587]	-0.015* (0.009) [0.705]
Failed prior year math test								
	Average Teacher VA Score		Assigned to a Teacher with 10+ Years of Experience		Class size		Assigned to a Same Race/Ethnicity Teacher	
	Math	Other subjects	Math	Other Subjects	Math	Other Subjects	Math	Other Subjects
Overall	0.000	-0.000	0.013***	0.008*	-0.362***	-0.143***	0.017***	0.002

	(0.001)	(0.001)	(0.005)	(0.004)	(0.044)	(0.031)	(0.005)	(0.004)
			[0.382]	[0.727]	[21.478]	[21.395]	[0.478]	[0.684]
Race/Ethnicity								
White	0.002 (0.001)	0.000 (0.001)	0.017** (0.008) [0.434]	0.004 (0.007) [0.784]	-0.341*** (0.076) [21.613]	-0.089* (0.051) [21.559]	0.009 (0.006) [0.804]	0.004 (0.003) [0.968]
Black	0.000 (0.002)	0.001 (0.001)	0.005 (0.008) [0.330]	0.030*** (0.009) [0.654]	-0.345*** (0.082) [20.888]	-0.201*** (0.062) [20.842]	0.018** (0.008) [0.373]	-0.005 (0.008) [0.652]
Hispanic	-0.001 (0.001)	-0.001 (0.001)	0.010 (0.008) [0.372]	-0.007 (0.008) [0.729]	-0.456*** (0.085) [21.913]	-0.177*** (0.059) [21.776]	0.015** (0.007) [0.297]	0.004 (0.007) [0.513]
SES Quartile								
Bottom	-0.002 (0.002)	-0.000 (0.001)	0.026*** (0.010) [0.328]	0.023** (0.009) [0.674]	-0.189* (0.097) [20.399]	-0.126* (0.071) [20.218]	0.012 (0.011) [0.425]	-0.002 (0.009) [0.680]
Second	-0.001 (0.002)	-0.002 (0.001)	-0.007 (0.010) [0.379]	-0.000 (0.009) [0.719]	-0.345*** (0.095) [21.031]	-0.094 (0.064) [20.773]	0.028*** (0.010) [0.405]	0.020** (0.009) [0.619]
Third	0.004** (0.002)	0.001 (0.001)	0.013 (0.010) [0.396]	0.004 (0.009) [0.747]	-0.310*** (0.097) [21.200]	-0.100 (0.068) [21.154]	0.019* (0.010) [0.480]	-0.000 (0.009) [0.672]
Top	-0.001 (0.002)	0.000 (0.001)	0.019* (0.010) [0.431]	0.003 (0.009) [0.777]	-0.521*** (0.095) [21.572]	-0.089 (0.068) [21.533]	0.004 (0.009) [0.579]	0.008 (0.007) [0.726]

Notes: All regressions control for the baseline student characteristics listed in the upper panel of Table 1 along with school-by-year fixed effects, and robust standard errors, clustered at the prior year reading score level, are given in parentheses. The estimates represent the treatment effect (β) on the corresponding outcome obtained using linear polynomial specification and a bandwidth of 10 points. The numbers in brackets represent the predicted control mean at the cutoff. *, **, and *** represent statistical significance at 10, 5, and 1 percent, respectively. Sample sizes are provided in Online Appendix Table 2.

Online Appendix Table 4. Estimated Effects on Advanced Course-Taking in 6th Grade, by Course Subject, Race/Ethnicity, and SES Quartile

		Failed prior year reading test			
		Took an advanced course in...			
		ELA	Math	Science	Social Studies
Overall		-0.114*** (0.004) [0.264]	-0.033*** (0.004) [0.246]	-0.053*** (0.004) [0.221]	-0.058*** (0.003) [0.138]
Race/Ethnicity					
	White	-0.074*** (0.007) [0.225]	-0.015* (0.008) [0.233]	-0.028*** (0.007) [0.195]	-0.032*** (0.005) [0.090]
	Black	-0.172*** (0.008) [0.320]	-0.055*** (0.008) [0.255]	-0.089*** (0.008) [0.249]	-0.100*** (0.007) [0.193]
	Hispanic	-0.085*** (0.008) [0.236]	-0.022*** (0.008) [0.235]	-0.036*** (0.007) [0.213]	-0.040*** (0.006) [0.134]
SES Quartile					
	Bottom	-0.199*** (0.011) [0.341]	-0.048*** (0.010) [0.257]	-0.090*** (0.010) [0.269]	-0.101*** (0.009) [0.175]
	Second	-0.118*** (0.010) [0.273]	-0.039*** (0.009) [0.241]	-0.053*** (0.009) [0.227]	-0.062*** (0.007) [0.141]
	Third	-0.105*** (0.009) [0.250]	-0.038*** (0.010) [0.235]	-0.048*** (0.009) [0.206]	-0.052*** (0.007) [0.130]
	Top	-0.088*** (0.010) [0.269]	-0.022** (0.010) [0.271]	-0.046*** (0.009) [0.234]	-0.048*** (0.007) [0.138]
		Failed prior year math test			
		Took an advanced course in...			
		ELA	Math	Science	Social Studies
Overall		-0.024*** (0.004) [0.280]	-0.076*** (0.004) [0.284]	-0.030*** (0.004) [0.243]	-0.023*** (0.003) [0.156]
Race/Ethnicity					
	White	-0.011* (0.006) [0.259]	-0.052*** (0.006) [0.252]	-0.014** (0.006) [0.217]	-0.014*** (0.004) [0.108]
	Black	-0.057*** (0.008) [0.332]	-0.128*** (0.008) [0.352]	-0.061*** (0.008) [0.289]	-0.050*** (0.007) [0.222]
	Hispanic	-0.009 (0.007) [0.252]	-0.059*** (0.007) [0.253]	-0.025*** (0.007) [0.231]	-0.017*** (0.006) [0.159]
SES Quartile					
	Bottom	-0.042*** (0.009)	-0.121*** (0.010)	-0.051*** (0.009)	-0.034*** (0.008)

	[0.312]	[0.339]	[0.283]	[0.180]
Second	-0.026***	-0.089***	-0.042***	-0.026***
	(0.009)	(0.009)	(0.008)	(0.007)
	[0.274]	[0.276]	[0.244]	[0.150]
Third	-0.018**	-0.063***	-0.017**	-0.022***
	(0.008)	(0.008)	(0.008)	(0.007)
	[0.286]	[0.273]	[0.242]	[0.158]
Top	-0.015*	-0.061***	-0.014*	-0.014**
	(0.009)	(0.009)	(0.008)	(0.007)
	[0.322]	[0.286]	[0.257]	[0.167]

Notes: All regressions control for the baseline student characteristics listed in the upper panel of Table 1 along with school-by-year fixed effects, and robust standard errors, clustered at the prior year reading score level, are given in parentheses. The estimates represent the treatment effect (β) on the corresponding outcome obtained using linear polynomial specification and a bandwidth of 10 points. The numbers in brackets represent the predicted control mean at the cutoff. *, **, and *** represent statistical significance at 10, 5, and 1 percent, respectively. Sample sizes are provided in Online Appendix Table 2.

Online Appendix Table 5. Estimated Effects on Advanced Course-Taking in 6th Grade in the Subject of Remediation, by Race/Ethnicity and SES Quartile

Failed prior year reading test			
	White	Black	Hispanic
Bottom quartile	-0.114 ^{***} (0.043) [0.262]	-0.253 ^{***} (0.015) [0.374]	-0.129 ^{***} (0.020) [0.312]
Second quartile	-0.086 ^{***} (0.018) [0.219]	-0.157 ^{***} (0.018) [0.317]	-0.098 ^{***} (0.017) [0.252]
Third quartile	-0.094 ^{***} (0.015) [0.236]	-0.116 ^{***} (0.022) [0.298]	-0.077 ^{***} (0.018) [0.207]
Top quartile	-0.074 ^{***} (0.013) [0.266]	-0.142 ^{***} (0.038) [0.341]	-0.043 [*] (0.023) [0.195]
Failed prior year math test			
	White	Black	Hispanic
Bottom quartile	-0.082 [*] (0.032) [0.273]	-0.157 ^{***} (0.014) [0.377]	-0.088 ^{***} (0.016) [0.305]
Second quartile	-0.052 ^{***} (0.016) [0.219]	-0.146 ^{***} (0.017) [0.330]	-0.072 ^{***} (0.016) [0.263]
Third quartile	-0.059 ^{***} (0.012) [0.258]	-0.133 ^{***} (0.023) [0.394]	-0.027 (0.017) [0.220]
Top quartile	-0.071 ^{***} (0.012) [0.289]	-0.045 (0.033) [0.337]	-0.044 ^{**} (0.020) [0.237]

Notes: All regressions control for the baseline student characteristics listed in the upper panel of Table 1 along with school-by-year fixed effects, and robust standard errors, clustered at the prior year reading score level, are given in parentheses. The estimates represent the treatment effect (β) on the corresponding outcome obtained using linear polynomial specification and a bandwidth of 10 points. The numbers in brackets represent the predicted control mean at the cutoff. *, **, and *** represent statistical significance at 10, 5, and 1 percent, respectively. Sample sizes are provided in Online Appendix Table 2.

Online Appendix Table 6. Estimated Effects on Advanced Course-Taking in 6th Grade in the Other Subjects, by Race/Ethnicity and SES Quartile

Failed prior year reading test			
	White	Black	Hispanic
Bottom quartile	-0.058 (0.042) [0.277]	-0.111*** (0.015) [0.371]	-0.070*** (0.020) [0.358]
Second quartile	-0.044* (0.024) [0.276]	-0.102*** (0.017) [0.329]	-0.019 (0.019) [0.315]
Third quartile	-0.036* (0.018) [0.273]	-0.090*** (0.025) [0.339]	-0.026 (0.021) [0.268]
Top quartile	-0.028* (0.014) [0.321]	-0.118*** (0.041) [0.394]	-0.002 (0.023) [0.266]
Failed prior year math test			
	White	Black	Hispanic
Bottom quartile	-0.076* (0.031) [0.313]	-0.060*** (0.013) [0.393]	-0.028 (0.018) [0.361]
Second quartile	-0.034* (0.020) [0.269]	-0.077*** (0.019) [0.373]	-0.019 (0.016) [0.331]
Third quartile	-0.011 (0.014) [0.310]	-0.077*** (0.022) [0.442]	0.005 (0.018) [0.300]
Top quartile	-0.020* (0.011) [0.359]	0.002 (0.030) [0.396]	-0.008 (0.021) [0.325]

Notes: All regressions control for the baseline student characteristics listed in the upper panel of Table 1 along with school-by-year fixed effects, and robust standard errors, clustered at the prior year reading score level, are given in parentheses. The estimates represent the treatment effect (β) on the corresponding outcome obtained using linear polynomial specification and a bandwidth of 10 points. The numbers in brackets represent the predicted control mean at the cutoff. *, **, and *** represent statistical significance at 10, 5, and 1 percent, respectively. Sample sizes are provided in Online Appendix Table 2.

Online Appendix Table 7. Estimated Effects on Advanced Course-Taking in 6th Grade, by Race/Ethnicity, SES Quartile, and Prior Achievement Quartile

		ELA Cutoff			
		Prior Achievement Quartile			
		Bottom	Second	Third	Top
Race/Ethnicity	White	-0.070***	-0.060***	-0.038**	-0.043**
		(0.017)	(0.016)	(0.017)	(0.019)
		[0.170]	[0.226]	[0.285]	[0.470]
	<i>N</i>	4,676	6,184	7,591	9,246
	Black	-0.147***	-0.133***	-0.103***	-0.084***
		(0.015)	(0.019)	(0.021)	(0.030)
		[0.296]	[0.356]	[0.417]	[0.542]
	<i>N</i>	9,908	8,035	6,774	5,059
	Hispanic	-0.047***	-0.062***	-0.058***	-0.028
		(0.016)	(0.017)	(0.020)	(0.025)
		[0.215]	[0.263]	[0.350]	[0.510]
	<i>N</i>	6,926	7,074	6,734	6,657
SES Quartile	Bottom	-0.158***	-0.125***	-0.130***	-0.097**
		(0.018)	(0.022)	(0.029)	(0.047)
		[0.325]	[0.375]	[0.464]	[0.579]
	<i>N</i>	7,292	5,243	3,995	2,653
	Second	-0.075***	-0.114***	-0.055**	-0.099**
		(0.017)	(0.020)	(0.026)	(0.039)
		[0.236]	[0.327]	[0.407]	[0.545]
	<i>N</i>	5,912	5,385	4,543	3,297
	Third	-0.073***	-0.063***	-0.092***	-0.085**
		(0.020)	(0.022)	(0.025)	(0.035)
		[0.194]	[0.255]	[0.347]	[0.532]
	<i>N</i>	4,816	5,021	4,898	4,415
	Top	-0.081***	-0.049**	-0.074***	-0.054**
		(0.025)	(0.022)	(0.024)	(0.026)
		[0.185]	[0.239]	[0.346]	[0.556]
	<i>N</i>	2,941	4,342	5,382	6,509
		Math Cutoff			
Race/Ethnicity	White	-0.042***	-0.059***	-0.028**	-0.020
		(0.016)	(0.014)	(0.014)	(0.014)
		[0.200]	[0.276]	[0.353]	[0.468]
	<i>N</i>	6,636	9,079	11,074	13,638
	Black	-0.094***	-0.091***	-0.113***	-0.052**
		(0.015)	(0.016)	(0.018)	(0.025)
		[0.300]	[0.413]	[0.499]	[0.613]
	<i>N</i>	10,676	9,049	7,695	5,983
	Hispanic	-0.053***	-0.029*	-0.028	0.009
		(0.014)	(0.015)	(0.019)	(0.022)
		[0.233]	[0.304]	[0.401]	[0.501]
	<i>N</i>	9,905	8,827	8,153	7,138
SES Quartile	Bottom	-0.095***	-0.073***	-0.092***	-0.063
		(0.017)	(0.020)	(0.027)	(0.046)
		[0.322]	[0.430]	[0.524]	[0.622]
	<i>N</i>	9,925	6,636	4,942	3,040
	Second	-0.060***	-0.075***	-0.061***	-0.049

	(0.017)	(0.019)	(0.022)	(0.030)
	[0.234]	[0.345]	[0.426]	[0.539]
<i>N</i>	7,110	6,849	5,884	4,618
Third	-0.036*	-0.057***	-0.040*	-0.041
	(0.020)	(0.019)	(0.021)	(0.025)
	[0.219]	[0.326]	[0.405]	[0.543]
<i>N</i>	5,447	6,314	6,496	6,217
Top	-0.024	-0.022	-0.014	-0.022
	(0.021)	(0.018)	(0.018)	(0.019)
	[0.192]	[0.293]	[0.403]	[0.555]
<i>N</i>	3,582	5,653	6,997	8,273

Notes: All regressions control for the baseline student characteristics listed in the upper panel of Table 1 along with school-by-year fixed effects, and robust standard errors, clustered at the prior year reading score level, are given in parentheses. The estimates represent the treatment effect (β) on the corresponding outcome obtained using linear polynomial specification and a bandwidth of 10 points. The numbers in brackets represent the predicted control mean at the cutoff. *, **, and *** represent statistical significance at 10, 5, and 1 percent, respectively.

Online Appendix Table 8. Estimated Effects on Advanced Course-Taking in 6th Grade, by Race/Ethnicity, SES Quartile, and School Prior Achievement Quartile

		ELA Cutoff			
		School Quartile Based on Averaged Student Prior Achievement			
		Bottom	Second	Third	Top
Race/Ethnicity	White	-0.094***	-0.053***	-0.063***	-0.015
		(0.021)	(0.018)	(0.015)	(0.015)
		[0.335]	[0.325]	[0.309]	[0.300]
	<i>N</i>	4,577	6,196	7,923	9,001
	Black	-0.201***	-0.109***	-0.078***	-0.041*
		(0.015)	(0.017)	(0.017)	(0.022)
		[0.455]	[0.379]	[0.333]	[0.321]
	<i>N</i>	10,242	7,499	6,825	5,210
	Hispanic	-0.093***	-0.057***	-0.059***	-0.017
		(0.017)	(0.016)	(0.018)	(0.018)
		[0.394]	[0.336]	[0.311]	[0.306]
	<i>N</i>	6,570	7,523	6,357	6,941
SES Quartile	Bottom	-0.183***	-0.120***	-0.069***	-0.045
		(0.016)	(0.020)	(0.026)	(0.050)
		[0.444]	[0.406]	[0.348]	[0.342]
	<i>N</i>	9,061	5,842	3,186	1,094
	Second	-0.128***	-0.065***	-0.059***	-0.084**
		(0.018)	(0.017)	(0.021)	(0.038)
		[0.401]	[0.341]	[0.326]	[0.345]
	<i>N</i>	6,479	6,358	4,645	1,655
	Third	-0.090***	-0.060***	-0.095***	-0.053**
		(0.021)	(0.019)	(0.018)	(0.026)
		[0.354]	[0.305]	[0.333]	[0.334]
	<i>N</i>	4,438	5,834	5,760	3,118
	Top	-0.138***	-0.082***	-0.054***	-0.045**
		(0.034)	(0.022)	(0.017)	(0.020)
		[0.409]	[0.372]	[0.325]	[0.398]
	<i>N</i>	2,356	4,177	6,860	5,781
		Math Cutoff			
Race/Ethnicity	White	-0.035	-0.056***	-0.030**	-0.020*
		(0.021)	(0.015)	(0.012)	(0.011)
		[0.391]	[0.366]	[0.351]	[0.309]
	<i>N</i>	4,624	8,750	11,915	15,138
	Black	-0.124***	-0.086***	-0.038**	-0.049**
		(0.013)	(0.016)	(0.017)	(0.020)
		[0.476]	[0.440]	[0.363]	[0.425]
	<i>N</i>	12,541	8,729	6,806	5,327
	Hispanic	-0.066***	-0.033**	0.006	0.014
		(0.014)	(0.015)	(0.016)	(0.018)
		[0.396]	[0.337]	[0.313]	[0.337]
	<i>N</i>	10,184	9,389	8,086	6,364
SES Quartile	Bottom	-0.099***	-0.058***	-0.052*	0.013
		(0.013)	(0.018)	(0.028)	(0.040)
		[0.470]	[0.405]	[0.342]	[0.292]
	<i>N</i>	13,376	6,622	3,226	1,319
	Second	-0.080***	-0.061***	-0.053***	-0.004

	(0.016)	(0.017)	(0.021)	(0.025)
	[0.404]	[0.360]	[0.363]	[0.309]
<i>N</i>	7,840	7,980	5,703	2,938
Third	-0.086***	-0.040**	-0.013	-0.034*
	(0.022)	(0.017)	(0.016)	(0.020)
	[0.416]	[0.372]	[0.354]	[0.365]
<i>N</i>	4,889	7,105	7,329	5,151
Top	0.017	-0.079***	0.011	-0.041***
	(0.037)	(0.021)	(0.015)	(0.015)
	[0.336]	[0.404]	[0.356]	[0.431]
<i>N</i>	2,043	5,369	8,412	8,681

Notes: All regressions control for the baseline student characteristics listed in the upper panel of Table 1 along with school-by-year fixed effects, and robust standard errors, clustered at the prior year reading score level, are given in parentheses. The estimates represent the treatment effect (β) on the corresponding outcome obtained using linear polynomial specification and a bandwidth of 10 points. The numbers in brackets represent the predicted control mean at the cutoff. *, **, and *** represent statistical significance at 10, 5, and 1 percent, respectively.

Online Appendix Table 9. Estimated Effects on Course-Taking in 7th and 8th Grade, by Race/Ethnicity and SES Quartile

Failed prior year reading test						
	7 th Grade			8 th Grade		
	Remedial: ELA	Advanced: ELA	Advanced: Other Subjects	Remedial: ELA	Advanced: ELA	Advanced: Other Subjects
Overall	0.013** (0.006) [0.327]	-0.025*** (0.005) [0.262]	-0.018*** (0.005) [0.350]	-0.003 (0.006) [0.293]	-0.009 (0.006) [0.292]	-0.006 (0.006) [0.372]
Race/Ethnicity						
White	0.002 (0.011) [0.307]	-0.011 (0.008) [0.247]	-0.002 (0.009) [0.329]	-0.010 (0.013) [0.284]	-0.005 (0.010) [0.277]	-0.012 (0.011) [0.360]
Black	0.039*** (0.011) [0.369]	-0.047*** (0.009) [0.276]	-0.040*** (0.010) [0.349]	0.011 (0.012) [0.331]	-0.029*** (0.011) [0.315]	-0.016 (0.012) [0.380]
Hispanic	0.000 (0.011) [0.317]	-0.015* (0.009) [0.250]	-0.005 (0.010) [0.356]	-0.002 (0.012) [0.266]	-0.002 (0.011) [0.278]	0.005 (0.012) [0.364]
SES Quartile						
Bottom	0.033** (0.016) [0.403]	-0.049*** (0.011) [0.279]	-0.045*** (0.013) [0.364]	-0.002 (0.018) [0.389]	-0.016 (0.015) [0.291]	-0.001 (0.016) [0.366]
Second	0.023* (0.014) [0.358]	-0.023** (0.011) [0.255]	-0.018 (0.011) [0.335]	-0.011 (0.017) [0.346]	-0.012 (0.014) [0.270]	0.004 (0.015) [0.345]
Third	0.001 (0.014) [0.325]	-0.027** (0.011) [0.251]	-0.019 (0.012) [0.342]	0.008 (0.017) [0.299]	0.009 (0.014) [0.262]	0.004 (0.013) [0.346]
Top	0.004 (0.013) [0.260]	-0.025** (0.011) [0.301]	-0.016 (0.012) [0.390]	-0.018 (0.014) [0.249]	-0.011 (0.013) [0.325]	-0.008 (0.013) [0.409]
Failed prior year math test						
	7 th Grade			8 th Grade		
	Remedial: Math	Advanced: Math	Advanced: Other Subjects	Remedial: Math	Advanced: Math	Advanced: Other Subjects
Overall	-0.001 (0.003) [0.117]	-0.022*** (0.004) [0.254]	-0.010** (0.005) [0.380]	0.001 (0.004) [0.082]	-0.005 (0.004) [0.124]	-0.014** (0.005) [0.428]
Race/Ethnicity						

White	-0.005 (0.005) [0.090]	-0.011 (0.007) [0.239]	-0.010 (0.008) [0.355]	0.003 (0.005) [0.058]	-0.005 (0.007) [0.141]	-0.013 (0.009) [0.399]
Black	-0.001 (0.007) [0.141]	-0.028*** (0.009) [0.267]	-0.015 (0.009) [0.400]	0.003 (0.007) [0.105]	-0.019** (0.007) [0.130]	-0.025** (0.011) [0.458]
Hispanic	-0.000 (0.007) [0.131]	-0.025*** (0.008) [0.248]	-0.008 (0.009) [0.377]	-0.001 (0.007) [0.090]	-0.000 (0.007) [0.100]	-0.002 (0.011) [0.422]
SES Quartile						
Bottom	0.000 (0.009) [0.162]	-0.025** (0.010) [0.263]	-0.014 (0.011) [0.386]	-0.010 (0.010) [0.120]	-0.018* (0.009) [0.112]	-0.022 (0.014) [0.434]
Second	-0.004 (0.008) [0.128]	-0.018** (0.009) [0.243]	-0.012 (0.010) [0.366]	0.002 (0.008) [0.089]	-0.003 (0.009) [0.114]	-0.013 (0.013) [0.414]
Third	0.003 (0.008) [0.110]	-0.026*** (0.010) [0.251]	-0.007 (0.010) [0.385]	0.001 (0.008) [0.073]	-0.005 (0.009) [0.127]	-0.016 (0.012) [0.431]
Top	0.002 (0.007) [0.094]	-0.015 (0.009) [0.254]	-0.011 (0.010) [0.420]	0.010 (0.007) [0.058]	0.013 (0.009) [0.136]	-0.001 (0.012) [0.456]

Notes: All regressions control for the baseline student characteristics listed in the upper panel of Table 1 along with school-by-year fixed effects, and robust standard errors, clustered at the prior year reading score level, are given in parentheses. The estimates represent the treatment effect (β) on the corresponding outcome obtained using linear polynomial specification and a bandwidth of 10 points. The numbers in brackets represent the predicted control mean at the cutoff. *, **, and *** represent statistical significance at 10, 5, and 1 percent, respectively. Sample sizes are provided in Online Appendix Table 2.

Online Appendix Table 10. Estimated Effects of Taking a Remedial Course in 6th Grade on Advanced Course-Taking in Middle School, by Race/Ethnicity and SES Quartile, 2SLS Estimates

Failed prior year reading test						
	6 th grade		7 th grade		8 th grade	
	Advanced: ELA	Advanced: Other Subjects	Advanced: ELA	Advanced: Other Subjects	Advanced: ELA	Advanced: Other Subjects
Overall	-0.307*** (0.012) [0.262]	-0.141*** (0.010) [0.309]	-0.066*** (0.009) [0.262]	-0.043*** (0.014) [0.348]	-0.039** (0.016) [0.294]	-0.029 (0.022) [0.371]
Race/Ethnicity						
Black	-0.490*** (0.022) [0.321]	-0.285*** (0.025) [0.343]	-0.149*** (0.024) [0.280]	-0.122*** (0.023) [0.350]	-0.120*** (0.027) [0.324]	-0.092*** (0.030) [0.388]
White or Hispanic	-0.214*** (0.014) [0.229]	-0.066*** (0.014) [0.285]	-0.024 (0.017) [0.245]	-0.009 (0.021) [0.340]	-0.010 (0.017) [0.275]	-0.008 (0.023) [0.358]
SES Quartile						
Bottom	-0.482*** (0.021) [0.344]	-0.264*** (0.020) [0.363]	-0.143*** (0.022) [0.287]	-0.145*** (0.021) [0.373]	-0.081* (0.046) [0.299]	-0.086 (0.055) [0.383]
Top	-0.233*** (0.021) [0.268]	-0.119*** (0.020) [0.329]	-0.073** (0.030) [0.301]	-0.047** (0.020) [0.388]	-0.051 (0.044) [0.327]	-0.063* (0.033) [0.409]
Failed prior year math test						
	Advanced: Math	Advanced: Other Subjects	Advanced: Math	Advanced: Other Subjects	Advanced: Math	Advanced: Other Subjects
Overall	-0.785*** (0.033) [0.286]	-0.309*** (0.061) [0.331]	-0.232*** (0.055) [0.255]	-0.103* (0.053) [0.380]	-0.070* (0.039) [0.124]	-0.129** (0.056) [0.428]
Race/Ethnicity						
Black	-0.999*** (0.084) [0.354]	-0.372*** (0.113) [0.376]	-0.219*** (0.080) [0.266]	-0.056 (0.076) [0.397]	-0.141* (0.078) [0.126]	-0.118 (0.121) [0.453]
White or Hispanic	-0.671*** (0.035) [0.254]	-0.273*** (0.060) [0.310]	-0.232*** (0.067) [0.245]	-0.148*** (0.057) [0.368]	-0.039 (0.049) [0.123]	-0.127** (0.064) [0.412]
SES Quartile						
Bottom	-0.853***	-0.299*	-0.242***	-0.063	-0.227***	-0.078

	(0.116)	(0.157)	(0.085)	(0.106)	(0.073)	(0.147)
	[0.340]	[0.363]	[0.265]	[0.381]	[0.119]	[0.425]
Top	-0.761***	-0.242***	-0.171*	-0.169**	0.047	-0.169
	(0.095)	(0.062)	(0.092)	(0.081)	(0.071)	(0.112)
	[0.296]	[0.365]	[0.262]	[0.430]	[0.141]	[0.467]

Notes: All regressions control for the baseline student characteristics listed in the upper panel of Table 1 along with school-by-year fixed effects, and robust standard errors, clustered at the prior year reading score level, are given in parentheses. The estimates represent the treatment effect (β) on the corresponding outcome obtained using linear polynomial specification and a bandwidth of 10 points. The numbers in brackets represent the predicted control mean at the cutoff. *, **, and *** represent statistical significance at 10, 5, and 1 percent, respectively. Sample sizes are provided in Online Appendix Table 2.

Online Appendix Table 11. Estimated Effects on Average Classroom-Peer 5th Grade Achievement in Middle School, by Course Subject, Race/Ethnicity, and SES Quartile

Failed prior year reading test						
	6 th grade		7 th grade		8 th grade	
	ELA	Other subjects	ELA	Other subjects	ELA	Other subjects
Overall	-0.249*** (0.005)	-0.090*** (0.004)	-0.031*** (0.006)	-0.018*** (0.005)	0.001 (0.007)	0.002 (0.006)
Race/Ethnicity						
White	-0.248*** (0.009)	-0.064*** (0.008)	-0.031*** (0.011)	-0.016* (0.009)	0.011 (0.013)	-0.002 (0.011)
Black	-0.268*** (0.009)	-0.133*** (0.008)	-0.053*** (0.012)	-0.034*** (0.010)	-0.015 (0.013)	-0.009 (0.012)
Hispanic	-0.216*** (0.009)	-0.061*** (0.008)	-0.003 (0.011)	-0.001 (0.010)	-0.000 (0.013)	0.013 (0.011)
SES Quartile						
Bottom	-0.303*** (0.011)	-0.130*** (0.010)	-0.039** (0.016)	-0.033** (0.014)	-0.023 (0.019)	-0.019 (0.017)
Second	-0.273*** (0.011)	-0.103*** (0.010)	-0.037*** (0.014)	-0.012 (0.012)	-0.018 (0.017)	0.011 (0.015)
Third	-0.276*** (0.011)	-0.085*** (0.009)	-0.037*** (0.014)	-0.024** (0.011)	0.030* (0.016)	0.004 (0.015)
Top	-0.258*** (0.010)	-0.075*** (0.009)	-0.042*** (0.014)	-0.023** (0.011)	0.018 (0.015)	0.005 (0.013)
Failed prior year math test						
	6 th grade		7 th grade		8 th grade	
	Math	Other subjects	Math	Other subjects	Math	Other subjects
Overall	-0.122*** (0.005)	-0.046*** (0.004)	-0.018*** (0.005)	-0.008 (0.005)	-0.007 (0.006)	-0.012** (0.006)
Race/Ethnicity						
White	-0.090*** (0.007)	-0.025*** (0.006)	-0.018** (0.009)	0.002 (0.008)	-0.020** (0.010)	-0.017** (0.008)
Black	-0.176*** (0.009)	-0.088*** (0.008)	-0.027** (0.011)	-0.016* (0.010)	0.001 (0.014)	-0.018 (0.012)
Hispanic	-0.115*** (0.009)	-0.037*** (0.007)	-0.007 (0.010)	-0.011 (0.009)	-0.005 (0.012)	0.006 (0.010)
SES Quartile						

Bottom	-0.171 ^{***} (0.012)	-0.060 ^{***} (0.009)	-0.018 (0.014)	-0.025 ^{**} (0.012)	0.002 (0.017)	-0.008 (0.015)
Second	-0.142 ^{***} (0.010)	-0.059 ^{***} (0.008)	-0.012 (0.012)	-0.014 (0.011)	-0.007 (0.015)	-0.029 ^{**} (0.013)
Third	-0.104 ^{***} (0.009)	-0.041 ^{***} (0.008)	-0.018 (0.011)	0.009 (0.011)	-0.003 (0.014)	-0.006 (0.012)
Top	-0.117 ^{***} (0.009)	-0.027 ^{***} (0.008)	-0.028 ^{**} (0.011)	-0.014 (0.010)	0.001 (0.014)	-0.007 (0.011)

Notes: All regressions control for the baseline student characteristics listed in the upper panel of Table 1 along with school-by-year fixed effects, and robust standard errors, clustered at the prior year reading score level, are given in parentheses. The estimates represent the treatment effect (β) on the corresponding outcome obtained using linear polynomial specification and a bandwidth of 10 points. The numbers in brackets represent the predicted control mean at the cutoff. *, **, and *** represent statistical significance at 10, 5, and 1 percent, respectively. Sample sizes are provided in Online Appendix Table 2.

Online Appendix Table 12. Estimated Effects on Average Classroom-Peer SES in Middle School, by Course Subject and SES Quartile

Failed prior year reading test						
	6 th grade		7 th grade		8 th grade	
	ELA	Other subjects	ELA	Other subjects	ELA	Other subjects
Overall	-0.073*** (0.003)	-0.028*** (0.003)	-0.012*** (0.005)	-0.008* (0.004)	-0.005 (0.006)	-0.001 (0.006)
SES Quartile						
Bottom	-0.059*** (0.006)	-0.031*** (0.005)	0.004 (0.009)	0.004 (0.008)	0.012 (0.013)	0.012 (0.012)
Second	-0.067*** (0.006)	-0.030*** (0.005)	-0.004 (0.010)	0.002 (0.009)	0.002 (0.012)	0.010 (0.012)
Third	-0.071*** (0.006)	-0.024*** (0.006)	-0.018* (0.010)	-0.015* (0.009)	-0.010 (0.013)	-0.009 (0.012)
Top	-0.092*** (0.007)	-0.026*** (0.006)	-0.031*** (0.009)	-0.021** (0.008)	-0.011 (0.011)	-0.008 (0.010)
Failed prior year math test						
	6 th grade		7 th grade		8 th grade	
	Math	Other subjects	Math	Other subjects	Math	Other subjects
Overall	-0.038*** (0.003)	-0.013*** (0.002)	-0.015*** (0.004)	-0.010*** (0.004)	-0.007 (0.006)	-0.006 (0.005)
SES Quartile						
Bottom	-0.033*** (0.006)	-0.011** (0.005)	-0.012 (0.009)	-0.011 (0.008)	0.000 (0.013)	-0.001 (0.011)
Second	-0.039*** (0.006)	-0.020*** (0.005)	-0.014 (0.009)	-0.011 (0.008)	-0.006 (0.012)	-0.011 (0.010)
Third	-0.034*** (0.006)	-0.012** (0.005)	-0.019** (0.009)	-0.012 (0.008)	-0.013 (0.012)	-0.011 (0.010)
Top	-0.041*** (0.006)	-0.007 (0.005)	-0.010 (0.008)	-0.002 (0.007)	0.002 (0.011)	0.006 (0.008)

Notes: All regressions control for the baseline student characteristics listed in the upper panel of Table 1 along with school-by-year fixed effects, and robust standard errors, clustered at the prior year reading score level, are given in parentheses. The estimates represent the treatment effect (β) on the corresponding outcome obtained using linear polynomial specification and a bandwidth of 10 points. The numbers in brackets represent the predicted control mean at the cutoff. *, **, and *** represent statistical significance at 10, 5, and 1 percent, respectively. Sample sizes are provided in Online Appendix Table 2.

Online Appendix Table 13. Estimated Effects on Average Classroom-Peer Race/Ethnicity in Middle School, by Course Subject, Race/Ethnicity, and SES Quartile

		Failed prior year reading test					
		6 th grade		7 th grade		8 th grade	
		ELA	Other subjects	ELA	Other subjects	ELA	Other subjects
% same race							
White		-0.032***	-0.009***	-0.001	-0.005	-0.000	-0.004
		(0.003)	(0.002)	(0.003)	(0.003)	(0.004)	(0.004)
		[0.551]	[0.540]	[0.531]	[0.536]	[0.536]	[0.537]
Black		0.037***	0.017***	0.012**	0.012***	0.009	0.005
		(0.003)	(0.002)	(0.005)	(0.004)	(0.005)	(0.005)
		[0.520]	[0.530]	[0.541]	[0.533]	[0.533]	[0.528]
Hispanic		-0.003	-0.002	-0.003	-0.000	-0.001	0.004
		(0.003)	(0.002)	(0.003)	(0.003)	(0.004)	(0.004)
		[0.528]	[0.533]	[0.532]	[0.538]	[0.537]	[0.542]
		Failed prior year math test					
		6 th grade		7 th grade		8 th grade	
		Math	Other subjects	Math	Other subjects	Math	Other subjects
% same race							
White		-0.012***	-0.004**	-0.005	-0.000	-0.009**	-0.001
		(0.002)	(0.002)	(0.003)	(0.002)	(0.004)	(0.003)
		[0.548]	[0.555]	[0.542]	[0.550]	[0.547]	[0.555]
Black		0.029***	0.012***	0.009**	0.009**	0.005	0.005
		(0.003)	(0.002)	(0.004)	(0.004)	(0.006)	(0.005)
		[0.509]	[0.513]	[0.521]	[0.517]	[0.540]	[0.511]
Hispanic		0.003	0.002	0.003	-0.000	0.002	-0.000
		(0.002)	(0.002)	(0.003)	(0.002)	(0.004)	(0.003)
		[0.539]	[0.537]	[0.545]	[0.542]	[0.582]	[0.545]

Notes: All regressions control for the baseline student characteristics listed in the upper panel of Table 1 along with school-by-year fixed effects, and robust standard errors, clustered at the prior year reading score level, are given in parentheses. The estimates represent the treatment effect (β) on the corresponding outcome obtained using linear polynomial specification and a bandwidth of 10 points. The numbers in brackets represent the predicted control mean at the cutoff. *, **, and *** represent statistical significance at 10, 5, and 1 percent, respectively. Sample sizes are provided in Online Appendix Table 2.

Online Appendix Table 14. Estimated Effects on Middle and High School Outcomes, Overall and by Race/Ethnicity

		Failed prior year reading test			
		Overall	White	Black	Hispanic
Middle school: Reading scores					
6 th grade	0.031***	0.026	0.021	0.059**	
	(0.012)	(0.021)	(0.023)	(0.023)	
7 th grade	0.002	0.009	0.030	0.001	
	(0.012)	(0.023)	(0.023)	(0.023)	
8 th grade	0.004	0.006	0.012	0.013	
	(0.013)	(0.024)	(0.025)	(0.025)	
9 th grade	0.003	0.017	-0.008	0.004	
	(0.014)	(0.026)	(0.024)	(0.028)	
10 th grade	0.002	0.017	-0.026	0.016	
	(0.015)	(0.028)	(0.029)	(0.030)	
Changed schools by 7 th grade	0.001	-0.011	0.029	-0.028*	
	(0.009)	(0.015)	(0.019)	(0.017)	
	[0.225]	[0.211]	[0.254]	[0.221]	
Grades 6-12: ever suspended	0.006	0.007	0.022	-0.019	
	(0.011)	(0.020)	(0.017)	(0.021)	
	[0.618]	[0.553]	[0.743]	[0.574]	
Grades 6-12: % absent days	0.001	0.002	-0.001	-0.000	
	(0.001)	(0.002)	(0.003)	(0.003)	
	[0.075]	[0.080]	[0.074]	[0.070]	
High school: number of college credit-bearing courses in...					
All subjects	0.073**	0.065	-0.014	0.145*	
	(0.037)	(0.056)	(0.064)	(0.077)	
	[0.672]	[0.528]	[0.672]	[0.723]	
ELA	0.015	-0.003	0.003	0.046**	
	(0.011)	(0.017)	(0.021)	(0.022)	
	[0.152]	[0.119]	[0.166]	[0.154]	
Math	0.001	0.011	-0.012	-0.007	
	(0.007)	(0.010)	(0.010)	(0.015)	
	[0.064]	[0.043]	[0.056]	[0.080]	
Science	0.020**	0.014	0.004	0.035**	
	(0.008)	(0.011)	(0.013)	(0.017)	
	[0.078]	[0.057]	[0.071]	[0.092]	
Social studies	0.037*	0.043	-0.009	0.072	
	(0.021)	(0.035)	(0.038)	(0.044)	
	[0.379]	[0.310]	[0.379]	[0.397]	
Received high school diploma	-0.003	-0.006	0.000	-0.007	
	(0.011)	(0.019)	(0.020)	(0.021)	
	[0.597]	[0.548]	[0.598]	[0.648]	
N	28,066	9,547	9,023	8,010	
Failed prior year math test					
Middle school: Math scores					
6 th grade	0.031***	0.045***	0.035**	0.009	

		(0.009)	(0.014)	(0.017)	(0.017)
	7 th grade	0.001	-0.012	0.035*	-0.009
		(0.010)	(0.015)	(0.019)	(0.019)
	8 th grade	0.007	0.009	0.016	-0.001
		(0.010)	(0.015)	(0.019)	(0.020)
	9 th grade	-0.008	-0.005	-0.013	0.013
		(0.011)	(0.017)	(0.021)	(0.022)
	10 th grade	0.005	0.011	-0.008	0.018
		(0.010)	(0.018)	(0.020)	(0.020)
Changed schools by 7 th grade		-0.010	-0.019	-0.026	0.010
		(0.008)	(0.012)	(0.016)	(0.015)
		[0.221]	[0.203]	[0.267]	[0.202]
Grades 6-12: ever suspended		0.004	-0.002	-0.009	0.017
		(0.010)	(0.016)	(0.017)	(0.019)
		[0.598]	[0.558]	[0.721]	[0.548]
Grades 6-12: % absent days		-0.001	-0.002	-0.003	0.000
		(0.001)	(0.002)	(0.002)	(0.002)
		[0.074]	[0.081]	[0.071]	[0.070]
High school: number of college credit-bearing courses in...					
	All subjects	0.036	0.050	0.011	0.154**
		(0.037)	(0.054)	(0.075)	(0.070)
		[0.828]	[0.709]	[0.905]	[0.745]
	ELA	0.017	0.024	0.009	0.045**
		(0.011)	(0.017)	(0.023)	(0.021)
		[0.200]	[0.166]	[0.232]	[0.173]
	Math	0.003	0.010	0.005	0.013
		(0.006)	(0.007)	(0.012)	(0.011)
		[0.054]	[0.036]	[0.063]	[0.049]
	Science	-0.007	-0.011	-0.005	0.003
		(0.008)	(0.011)	(0.015)	(0.015)
		[0.103]	[0.081]	[0.106]	[0.117]
	Social studies	0.023	0.027	0.001	0.094**
		(0.021)	(0.033)	(0.043)	(0.041)
		[0.470]	[0.426]	[0.504]	[0.406]
Received high school diploma		0.013	0.030*	0.018	0.007
		(0.009)	(0.016)	(0.017)	(0.020)
		[0.622]	[0.576]	[0.641]	[0.643]
	N	34,524	13,539	9,660	9,491

Notes: All regressions control for the baseline student characteristics listed in the upper panel of Table 1 along with school-by-year fixed effects, and robust standard errors, clustered at the prior year reading score level, are given in parentheses. The estimates represent the treatment effect (β) on the corresponding outcome obtained using linear polynomial specification and a bandwidth of 10 points. The numbers in brackets represent the predicted control mean at the cutoff. *, **, and *** represent statistical significance at 10, 5, and 1 percent, respectively.

Online Appendix Table 15. Estimated Effects of Failing the 5th Grade Reading Test on 6th Grade Educational Inputs, Tracking, Classroom-Peer Composition, and Student Outcomes, Non-Parametric Estimates, by Student Race/Ethnicity

Failed prior year reading test				
6 th grade teacher characteristics and class size in ELA				
	Average Teacher VA Score	Teacher with 10+ years of experience	Class size	Same race/ethnicity teacher
White	0.003*** (0.001)	0.007 (0.009)	-1.412*** (0.096)	0.010* (0.006)
N	90,863	82,012	52,452	92,762
Bandwidth	40.83	30.35	19.69	34.51
Control mean at cutoff		0.536	21.21	0.877
Black	0.002* (0.001)	0.039*** (0.009)	-1.103*** (0.092)	0.061*** (0.008)
N	67,842	80,113	57,771	91,153
Bandwidth	31.22	29.40	20.86	34.24
Control mean at cutoff		0.419	20.46	0.419
Hispanic	0.003*** (0.001)	0.049*** (0.009)	-1.172*** (0.094)	0.043*** (0.009)
N	62,517	89,627	55,339	69,736
Bandwidth	31.64	36.79	21.84	27.30
Control mean at cutoff		0.472	21.54	0.325
Took an advanced course in...				
	ELA: 6 th grade	Other subjects: 6 th grade	ELA: 7 th or 8 th grade	Other subjects: 7 th or 8 th grade
White	-0.069*** (0.008)	-0.018** (0.009)	-0.002 (0.008)	-0.018** (0.009)
N	61,789	61,789	70,101	72,798
Bandwidth	22.34	22.84	25.96	26.53
Control mean at cutoff	0.207	0.261	0.227	0.325
Black	-0.165*** (0.008)	-0.095*** (0.009)	-0.038*** (0.009)	-0.024*** (0.009)
N	61,915	61,915	56,569	74,938
Bandwidth	21.34	21.35	19.91	26.46
Control mean at cutoff	0.318	0.352	0.296	0.366
Hispanic	-0.096*** (0.008)	-0.040*** (0.008)	-0.014 (0.008)	-0.003 (0.009)
N	57,060	67,059	69,484	74,251
Bandwidth	21.65	25.39	26.01	28.08
Control mean at cutoff	0.245	0.306	0.249	0.350
Classroom-Peer 5 th Grade Achievement:				
	ELA: 6 th grade	Other subjects: 6 th grade	ELA: 7 th or 8 th grade	Other subjects: 7 th or 8 th grade
White	-0.256***	-0.069***	-0.015*	-0.017**

		(0.010)	(0.008)	(0.008)	(0.007)
	N	38,899	53,029	64,570	62,685
	Bandwidth	14.40	19.33	29.14	28.50
Black		-0.273*** (0.010)	-0.134*** (0.008)	-0.038*** (0.009)	-0.023*** (0.008)
	N	41,591	47,961	53,249	59,752
	Bandwidth	14.43	16.80	23.40	26.77
Hispanic		-0.219*** (0.009)	-0.061*** (0.007)	-0.013 (0.008)	-0.003 (0.008)
	N	47,792	59,142	54,850	55,379
	Bandwidth	18.81	22.69	26.79	26.32
		ELA scores: 6 th grade	ELA scores: Grades 7-10	Number of college- credit bearing courses	High school graduation
White		0.028* (0.015)	0.007 (0.014)	0.041 (0.046)	0.000 (0.014)
	N	33,930	29,935	23,931	31,207
	Bandwidth	36.04	33.83	25.76	33.47
	Control mean at cutoff			0.361	0.543
Black		0.008 (0.015)	-0.003 (0.013)	-0.039 (0.048)	0.012 (0.014)
	N	30,896	28,633	24,499	25,244
	Bandwidth	37.43	35.80	28.30	29.89
	Control mean at cutoff			0.646	0.580
Hispanic		0.042*** (0.015)	0.000 (0.014)	0.060 (0.054)	-0.001 (0.012)
	N	27,207	25,310	24,064	31,165
	Bandwidth	37.15	35.39	32.04	44.22
	Control mean at cutoff			0.680	0.682

Notes: Robust standard errors are given in parentheses. The estimates represent the treatment effect (β) on the corresponding outcome, obtained non-parametrically using the optimal bandwidth calculated using the procedure described in Calonico et al. (2017) by race/ethnicity in ELA. All regressions control for the baseline student characteristics listed in the upper panel of Table 1. *, **, and *** represent statistical significance at 10, 5, and 1 percent, respectively.

Online Appendix Table 16. Estimated Effects of Failing the 5th Grade Math Test on 6th Grade Educational Inputs, Tracking, Classroom-Peer Composition, and Student Outcomes, Non-Parametric Estimates, by Student Race/Ethnicity

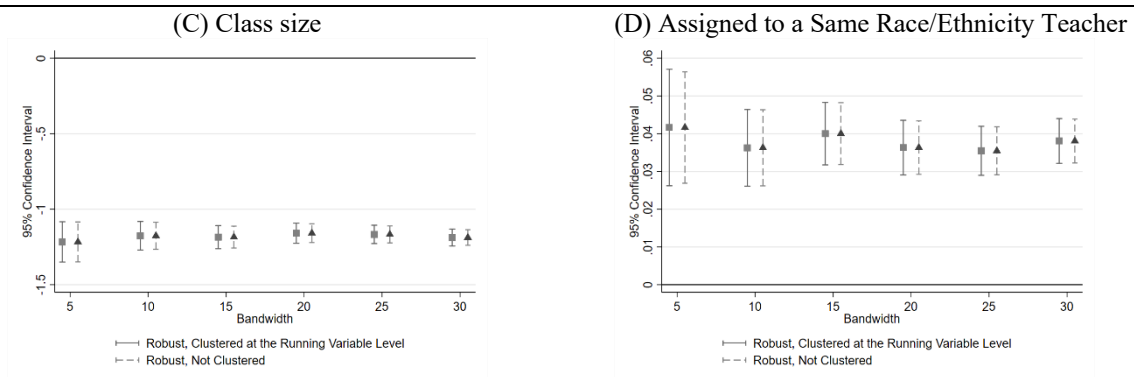
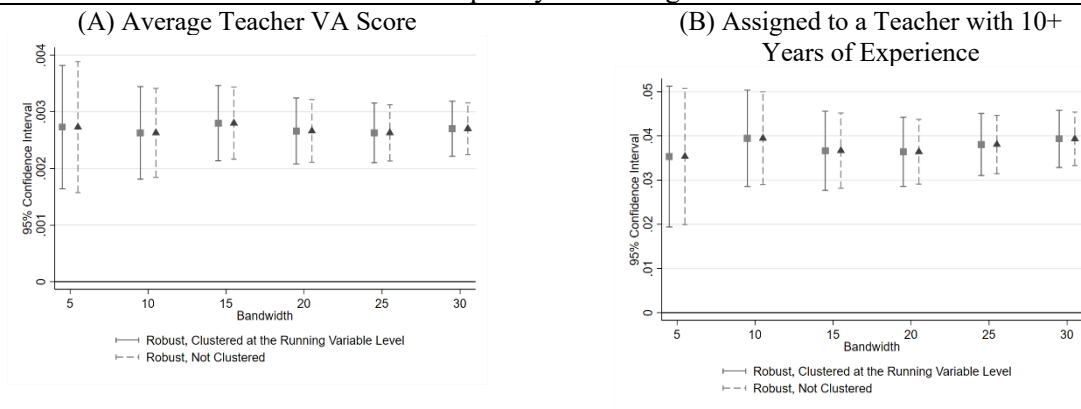
Failed prior year math test				
6 th grade teacher characteristics and class size in math				
	Average Teacher VA Score	Teacher with 10+ years of experience	Class size	Same race/ethnicity teacher
White	-0.001 (0.001)	-0.002 (0.007)	-0.353*** (0.073)	-0.005 (0.005)
N	89,378	123,508	106,567	130,116
Bandwidth	29.19	33.05	28.34	35.50
Control mean at cutoff		0.434	21.61	0.798
Black	-0.003 (0.002)	-0.014* (0.008)	-0.551*** (0.080)	0.009 (0.008)
N	63,740	75,133	72,431	97,288
Bandwidth	27.83	24.32	23.98	33.70
Control mean at cutoff		0.340	21.01	0.363
Hispanic	-0.000 (0.002)	-0.002 (0.007)	-0.324*** (0.085)	0.005 (0.007)
N	74,417	111,028	71,671	111,028
Bandwidth	31.74	37.73	22.77	37.50
Control mean at cutoff		0.365	21.84	0.291
Took an advanced course in...				
	Math: 6 th grade	Other subjects: 6 th grade	Math: 7 th or 8 th grade	Other subjects: 7 th or 8 th grade
White	-0.065*** (0.010)	-0.028*** (0.009)	-0.012 (0.009)	-0.011 (0.008)
N	49,957	69,420	65,608	84,674
Bandwidth	12.75	17.93	16.45	21.20
Control mean at cutoff	0.246	0.304	0.251	0.345
Black	-0.120*** (0.011)	-0.039*** (0.009)	-0.021** (0.009)	-0.017* (0.009)
N	47,989	63,302	63,302	63,302
Bandwidth	14.53	19.45	19.03	19.99
Control mean at cutoff	0.370	0.399	0.250	0.415
Hispanic	-0.059*** (0.010)	-0.020** (0.009)	-0.010 (0.009)	-0.000 (0.008)
N	48,756	64,692	58,449	82,899
Bandwidth	14.31	19.98	17.58	25.54
Control mean at cutoff	0.263	0.335	0.247	0.380
Classroom-Peer 5 th Grade Achievement:				
	Math: 6 th grade	Other subjects: 6 th grade	Math: 7 th or 8 th grade	Other subjects: 7 th or 8 th grade
White	-0.092***	-0.028***	-0.023***	-0.011

	(0.008)	(0.006)	(0.008)	(0.007)
N	55,793	80,514	53,148	62,197
Bandwidth	14.33	20.11	17.22	19.39
Black	-0.183*** (0.011)	-0.087*** (0.008)	-0.031*** (0.009)	-0.025*** (0.009)
N	37,142	50,886	54,048	48,127
Bandwidth	11.02	15.67	22.04	18.32
Hispanic	-0.114*** (0.009)	-0.036*** (0.007)	-0.017** (0.009)	-0.007 (0.007)
N	53,503	64,420	57,641	59,244
Bandwidth	16.45	19.64	22.48	22.64
	Math scores: 6 th grade	Math scores: Grades 7-10	Number of college- credit bearing courses	High school graduation
White	0.040*** (0.011)	0.007 (0.010)	0.027 (0.044)	0.032** (0.013)
N	31,901	34,102	30,773	30,773
Bandwidth	24.86	27.49	23.94	23.61
Control mean at cutoff			0.825	0.559
Black	0.040*** (0.014)	0.025** (0.012)	0.060 (0.059)	0.011 (0.014)
N	22,523	25,864	26,587	27,301
Bandwidth	24.93	29.74	29.77	30.51
Control mean at cutoff			0.976	0.659
Hispanic	0.011 (0.014)	-0.009 (0.013)	0.074 (0.052)	-0.006 (0.013)
N	26,323	24,196	26,368	30,076
Bandwidth	29.63	27.74	30	34
Control mean at cutoff			0.819	0.671

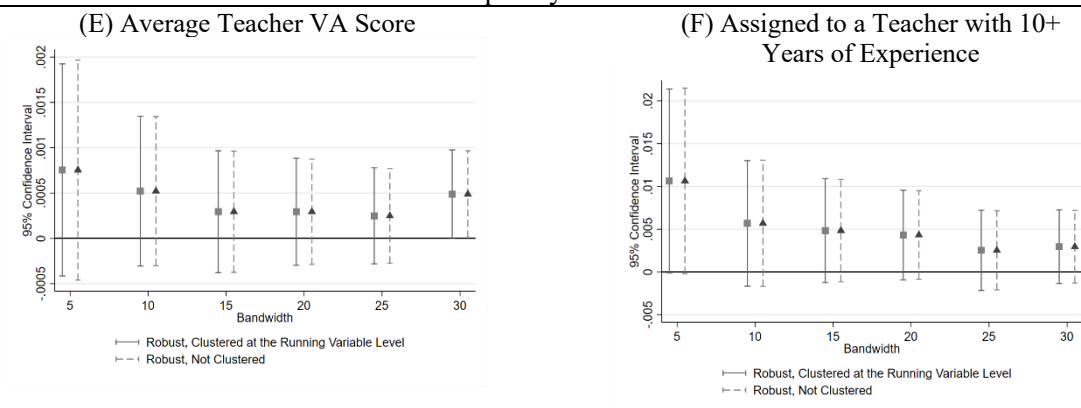
Notes: Robust standard errors are given in parentheses. The estimates represent the treatment effect (β) on the corresponding outcome, obtained non-parametrically using the optimal bandwidth calculated using the procedure described in Calonico et al. (2017) by race/ethnicity in math. All regressions control for the baseline student characteristics listed in the upper panel of Table 1. *, **, and *** represent statistical significance at 10, 5, and 1 percent, respectively.

Online Appendix Figure 1. Robustness to Bandwidth Selection and Standard Error Clustering, Effects on Educational Inputs in the Subject of Remediation in 6th Grade

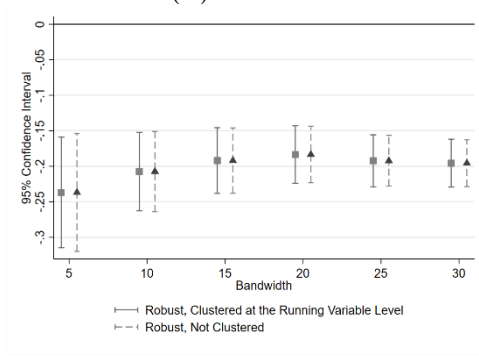
Failed prior year reading test



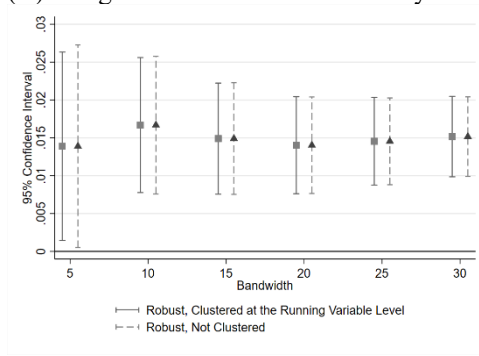
Failed prior year math test



(G) Class size



(H) Assigned to a Same Race/Ethnicity Teacher

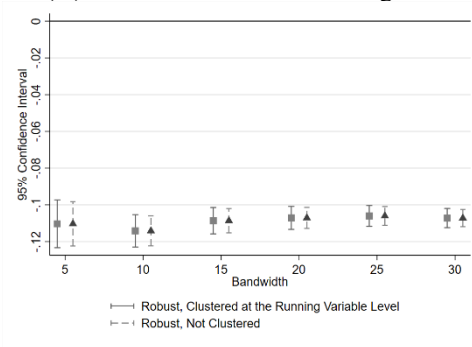


Notes: The figures present the treatment effect (β) and the 95% confidence interval estimated using the bandwidth shown, with robust standard errors clustered at the prior year reading or math score level (solid line) and not clustered (dashed line). All regressions control for the baseline student characteristics listed in the upper panel of Table 1 and school-by-year fixed-effects.

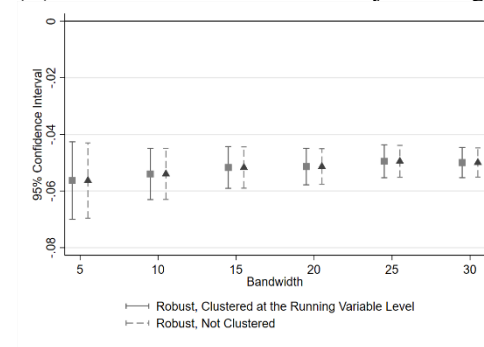
Online Appendix Figure 2. Robustness to Bandwidth Selection and Standard Error Clustering, Effects on Tracking

Failed prior year reading test

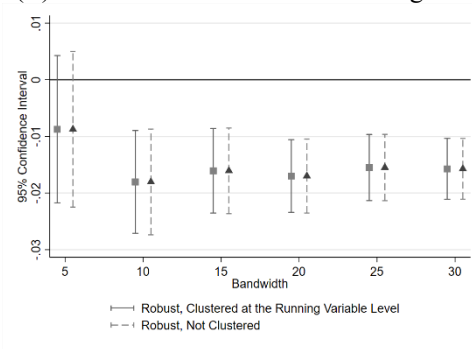
(A) Advanced ELA course: 6th grade



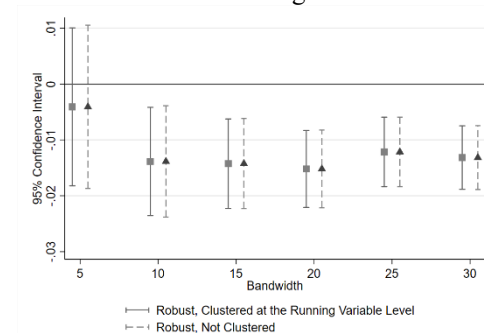
(B) Advanced course in other subjects: 6th grade



(C) Advanced ELA course: 7th or 8th grade

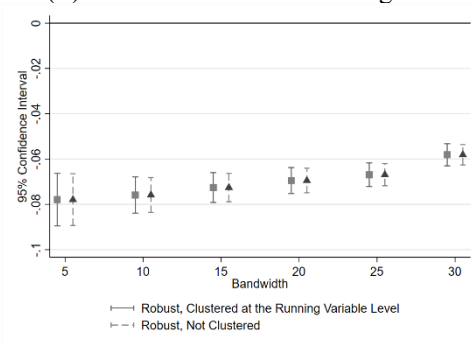


(D) Advanced course in other subjects: 7th or 8th grade

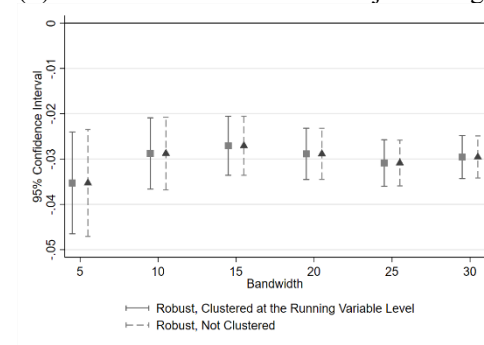


Failed prior year math test

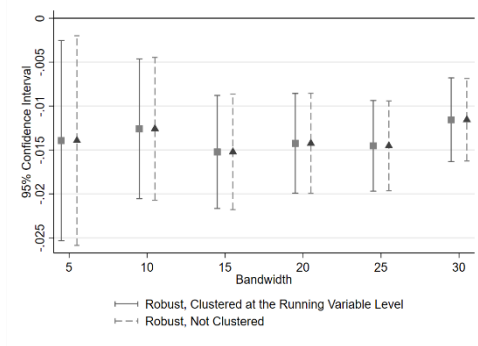
(E) Advanced math course: 6th grade



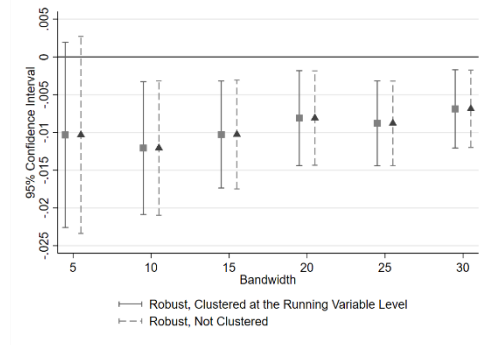
(F) Advanced course in other subjects: 6th grade



(G) Advanced math course: 7th or 8th grade



(H) Advanced course in other subjects: 7th or 8th grade

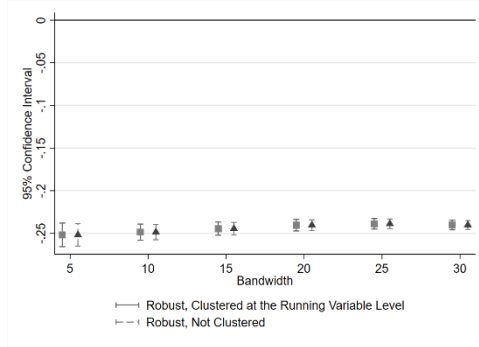


Notes: The figures present the treatment effect (β) and the 95% confidence interval estimated using the bandwidth shown, with robust standard errors clustered at the prior year reading or math score level (solid line) and not clustered (dashed line). All regressions control for the baseline student characteristics listed in the upper panel of Table 1 and school-by-year fixed-effects.

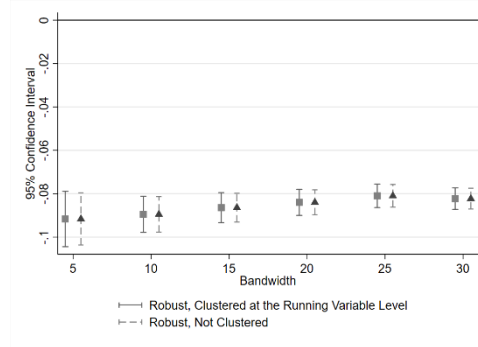
Online Appendix Figure 3. Robustness to Bandwidth Selection and Standard Error Clustering, Effects on Classroom Peers

Failed prior year reading test

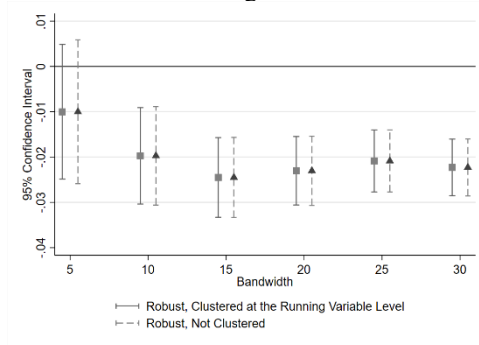
(A) Classroom-Peer 5th Grade Achievement:
6th grade ELA



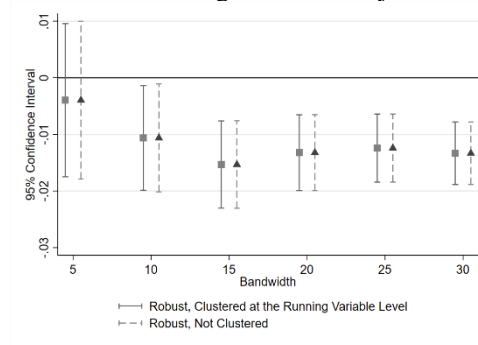
(B) Classroom-Peer 5th Grade Achievement:
6th grade other subjects



(C) Classroom-Peer 5th Grade Achievement:
7th and 8th grade ELA

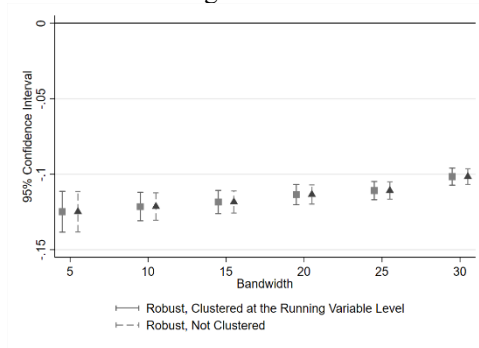


(D) Classroom-Peer 5th Grade Achievement:
7th and 8th grade other subjects

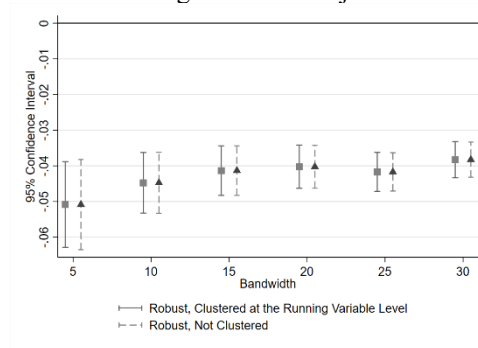


Failed prior year math test

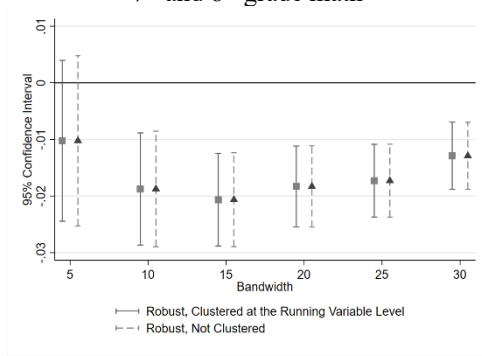
(E) Classroom-Peer 5th Grade Achievement:
6th grade math



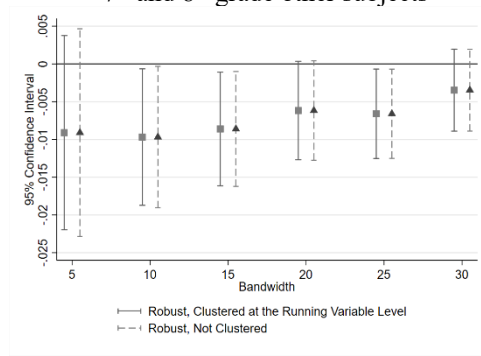
(F) Classroom-Peer 5th Grade Achievement:
6th grade other subjects



(G) Classroom-Peer 5th Grade Achievement:
7th and 8th grade math



(H) Classroom-Peer 5th Grade Achievement:
7th and 8th grade other subjects

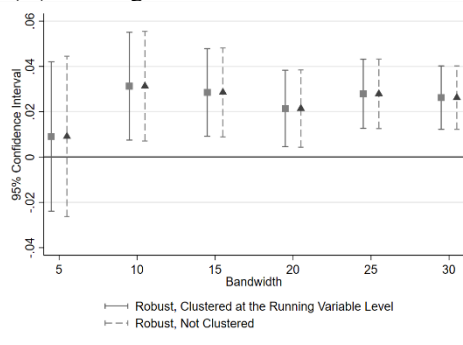


Notes: The figures present the treatment effect (β) and the 95% confidence interval estimated using the bandwidth shown, with robust standard errors clustered at the prior year reading or math score level (solid line) and not clustered (dashed line). All regressions control for the baseline student characteristics listed in the upper panel of Table 1 and school-by-year fixed-effects.

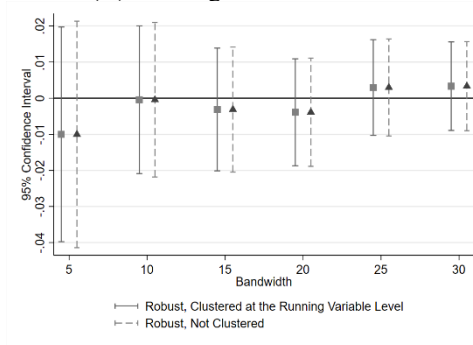
Online Appendix Figure 4. Robustness to Bandwidth Selection and Standard Error Clustering, Effects on Student Outcomes

Failed prior year reading test

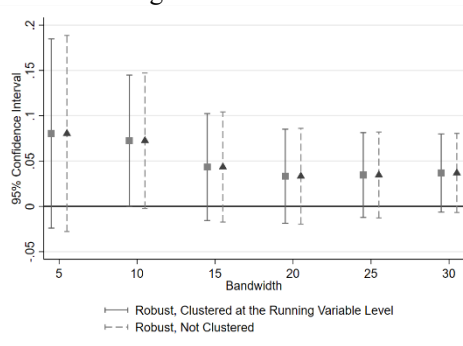
(A) Reading Score – Year of Remediation



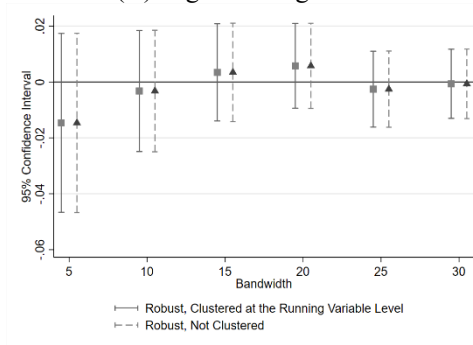
(B) Reading Score: Grades 7-10



(C) Number of College-Credit Bearing High School Courses

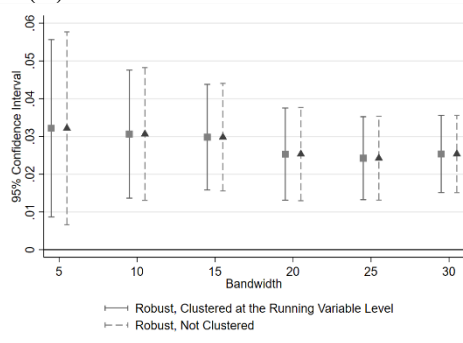


(D) High school graduation

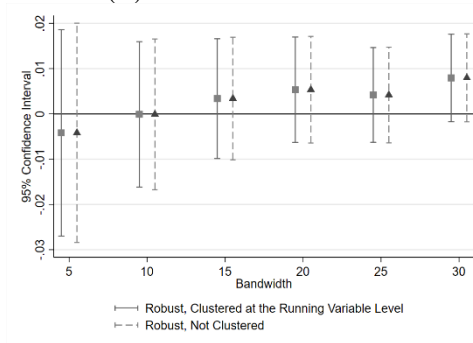


Failed prior year math test

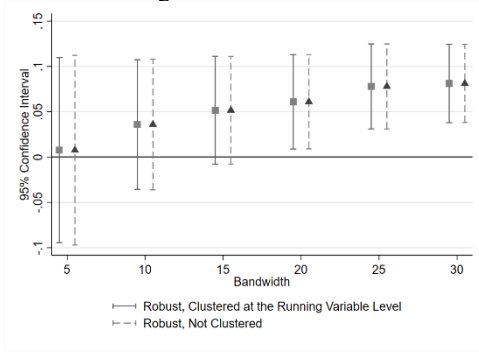
(A) Math Score – Year of Remediation



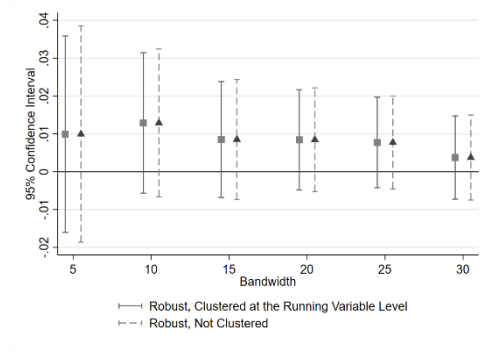
(B) Math Score: Grades 7-10



(C) Number of College-Credit Bearing
High School Courses



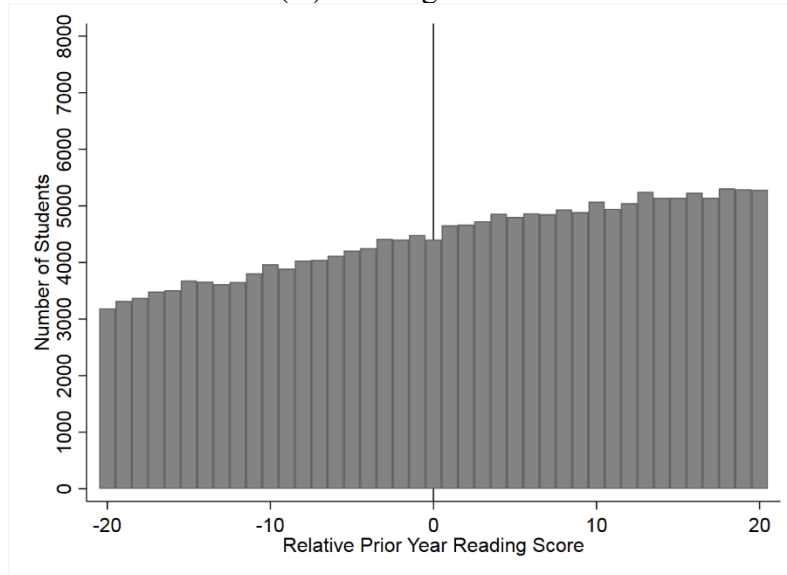
(D) High school graduation



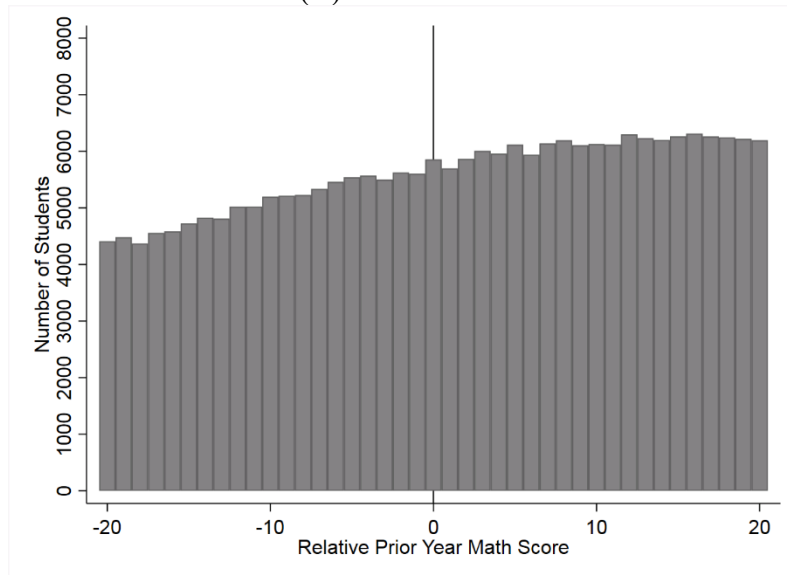
Notes: The figures present the treatment effect (β) and the 95% confidence interval estimated using the bandwidth shown, with robust standard errors clustered at the prior year reading or math score level (solid line) and not clustered (dashed line). All regressions control for the baseline student characteristics listed in the upper panel of Table 1 and school-by-year fixed-effects.

Online Appendix Figure 5. Distribution of Prior Year Test Scores

(A) Reading Cutoff

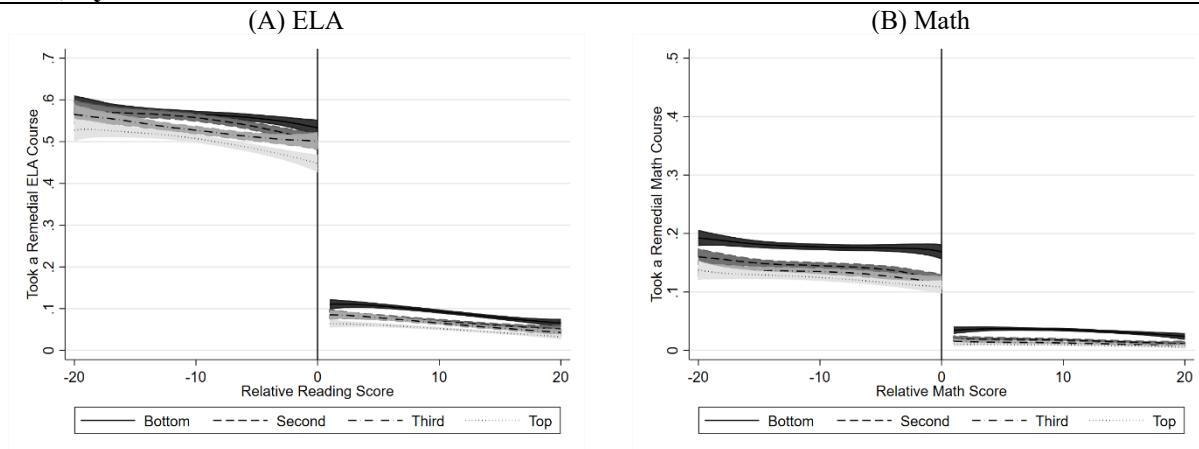


(B) Math Cutoff



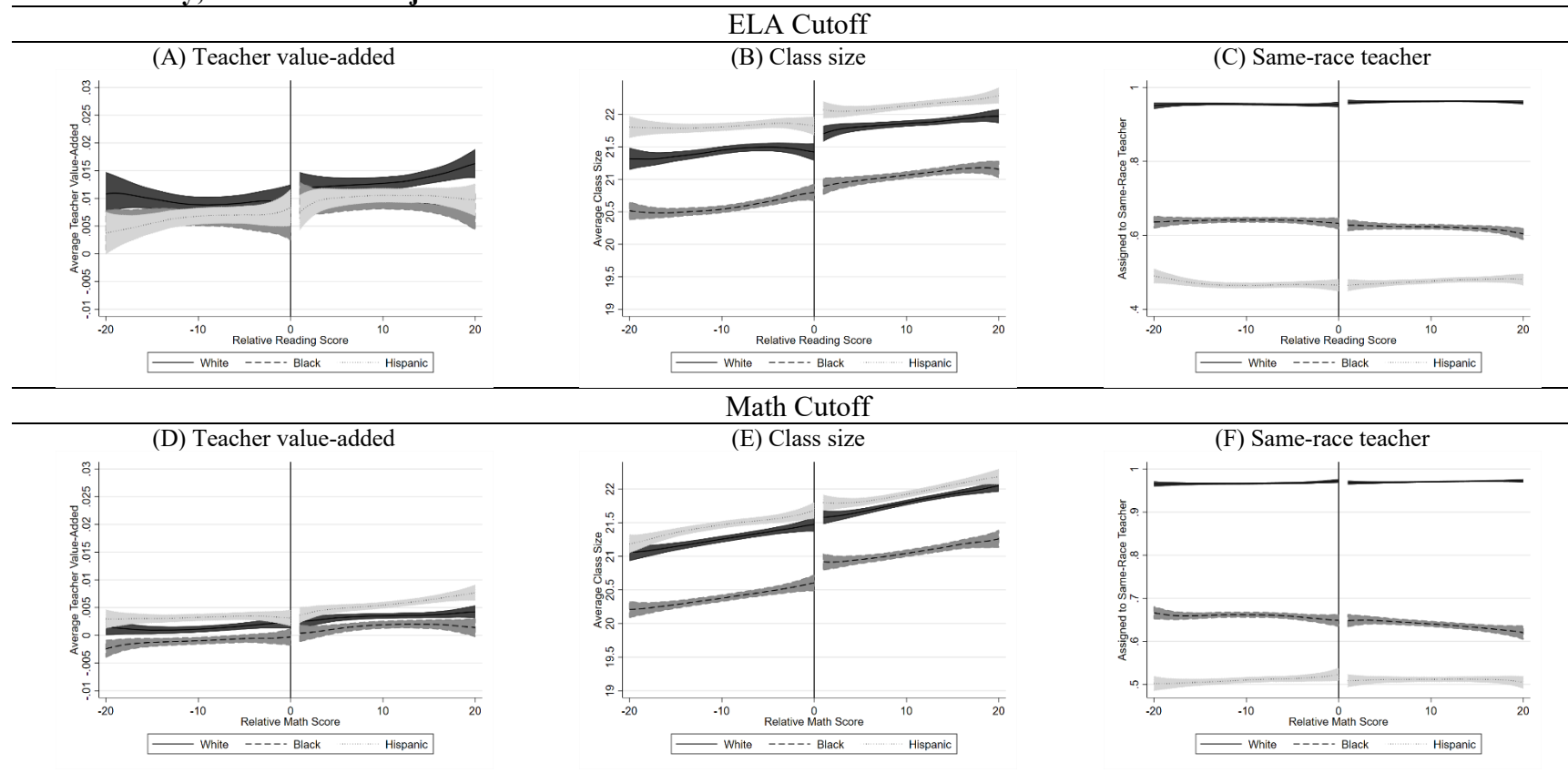
Notes: The figure presents the number of students in each test score bin between 20 points below and above the remediation cutoff in reading and math, which is shown by the vertical line.

Online Appendix Figure 6 - Remedial Course-Taking Around the Cutoff in ELA and Math, by SES Quartile



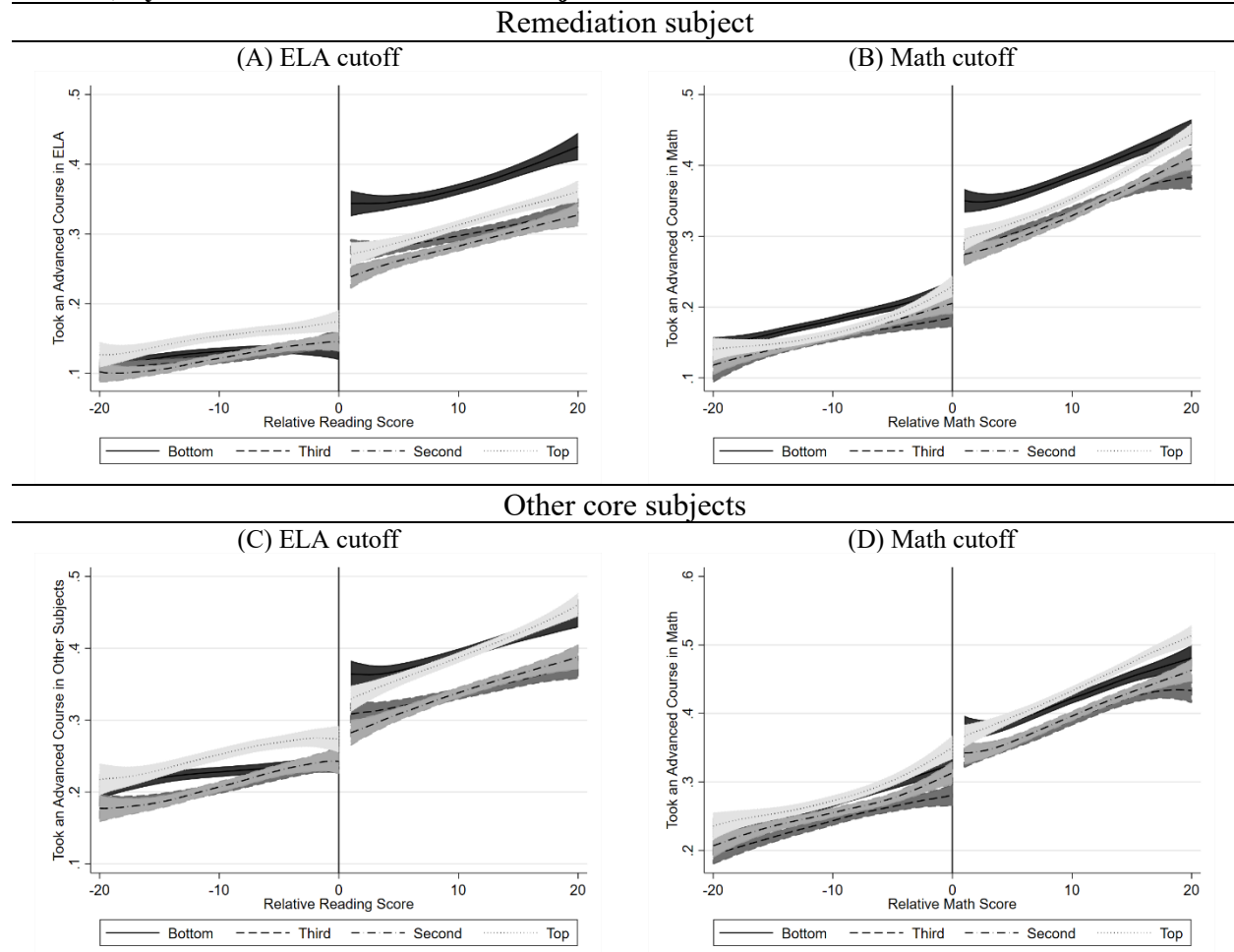
Notes: The figures present the local linear smoothing of remedial course-taking indicators in the corresponding subject in 6th grade on relative prior year test score of the student separately for the left of the corresponding cutoff and the right, broken down by student SES quartile. The triangle kernel and a bandwidth of 10 points are used in the estimation. The shaded areas represent 95 percent confidence intervals.

Online Appendix Figure 7. Teacher Value-Added, Class Size, and Teacher Race/Ethnicity by Course Subject and Student Race/Ethnicity, Other Core Subjects



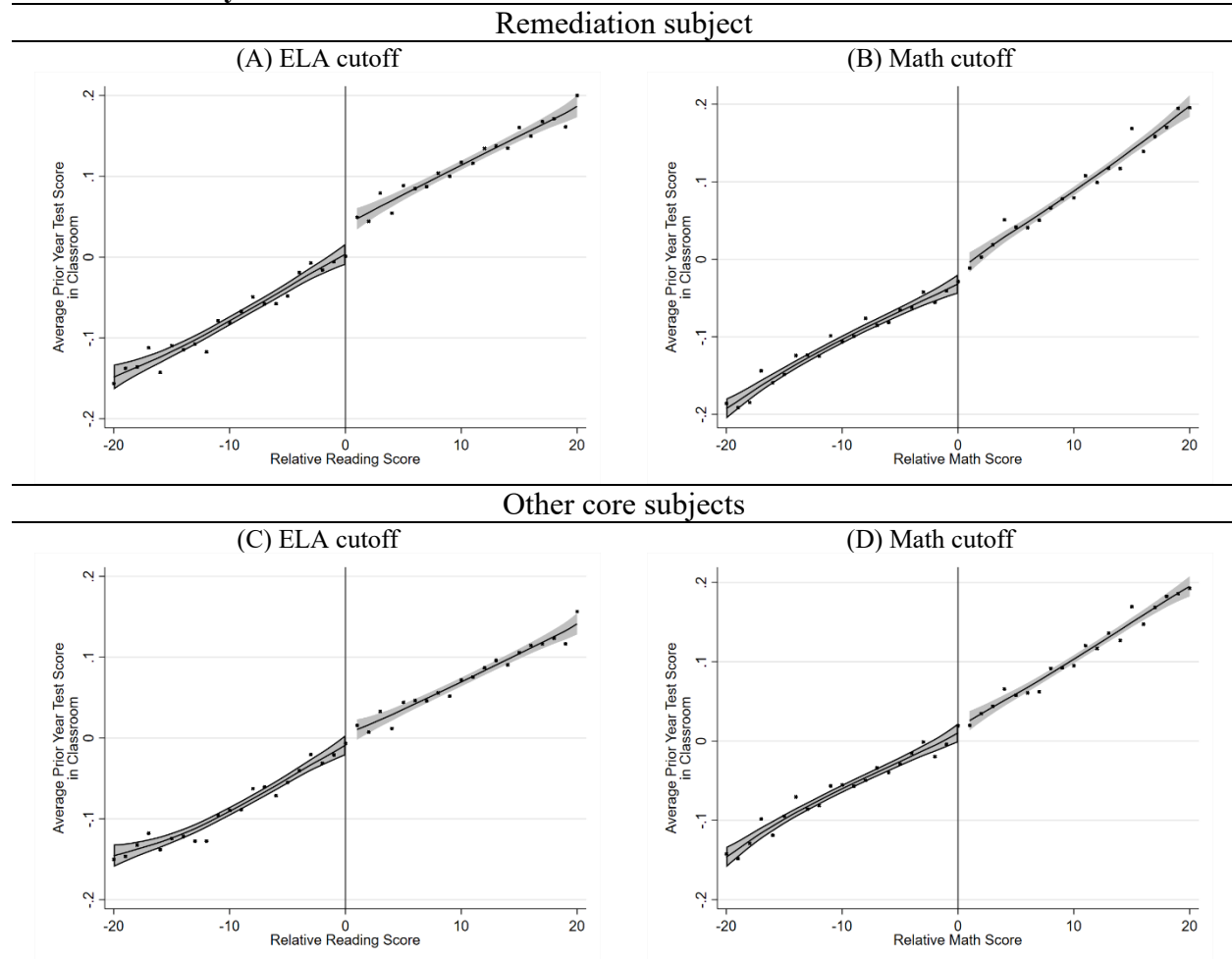
Notes: The figures present the local linear smoothing of average teacher value-added scores, average class size, and the likelihood of being assigned to at least one same-race/ethnicity teacher on relative prior year test score of the student separately for the left of the corresponding cutoff and the right, broken down by student race/ethnicity in other core subjects. The triangle kernel and a bandwidth of 10 points are used in the estimation. The shaded areas represent 95 percent confidence intervals.

Online Appendix Figure 8. Advanced Course-Taking in 6th Grade Around the Remediation Cutoffs, by Student SES and Course Subject



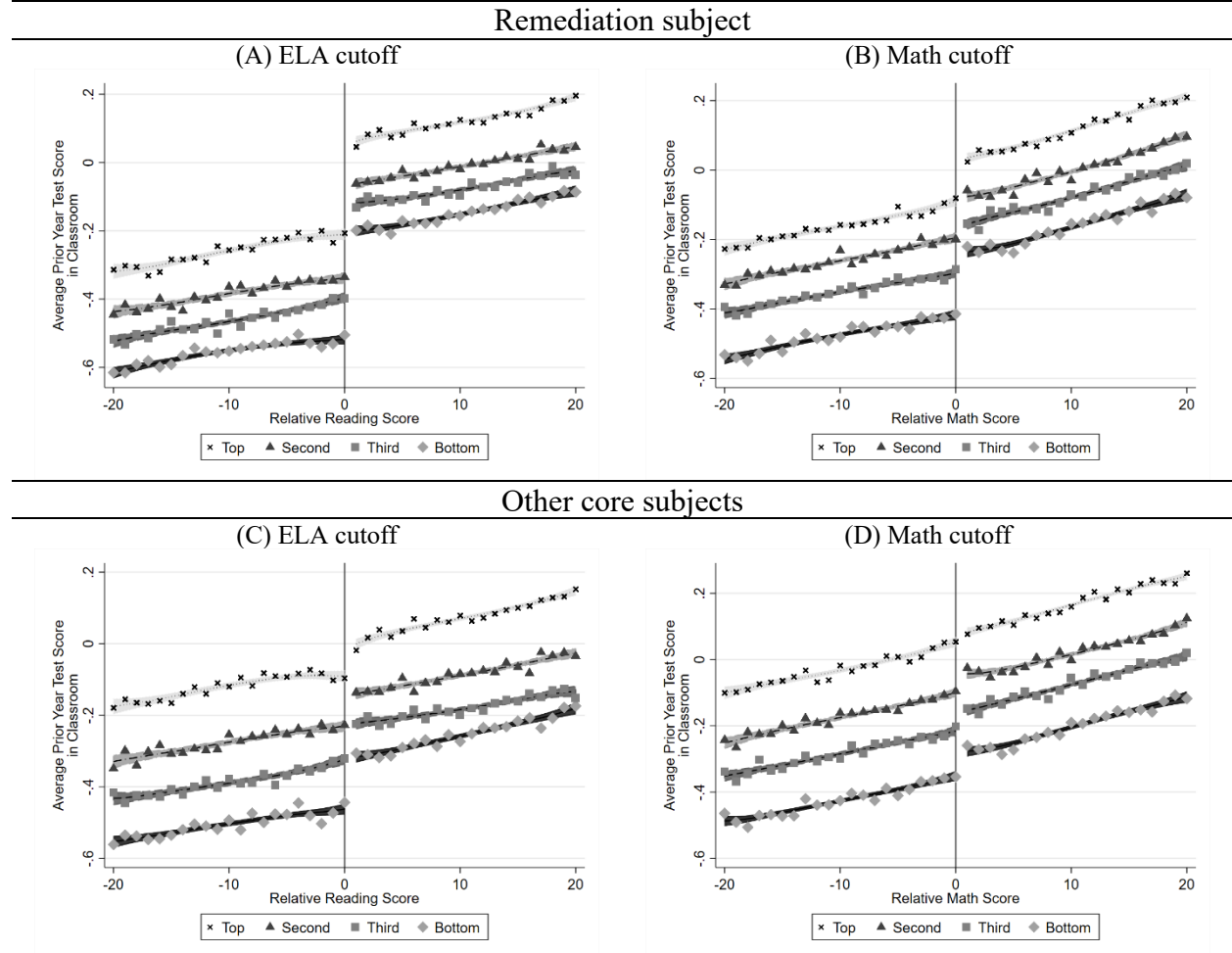
Notes: The figures present the local linear smoothing of advanced course-taking indicator in the remediation subject and other core subjects in 6th grade on relative prior year reading (first column) and math score (second column) broken down by student SES quartile. The triangle kernel and a bandwidth of 10 points are used in the estimation. The solid circles represent raw cell means and the shaded areas represent 95 percent confidence intervals.

Online Appendix Figure 9. Average 6th Grade Classroom-Peer Prior Achievement Around the Remediation Cutoffs in ELA and Math in Remediation and Other Core Subjects, Before the Policy



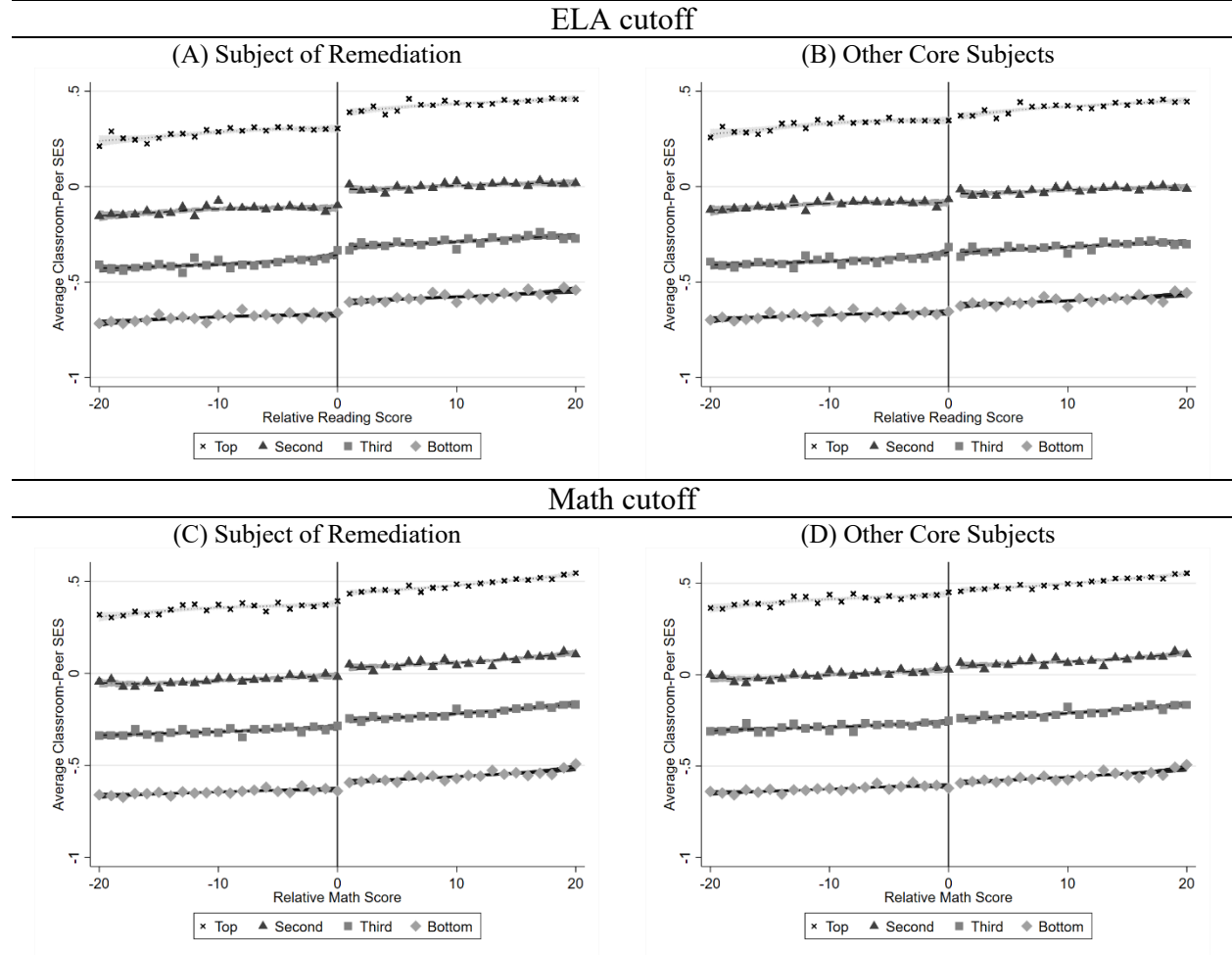
Notes: The figures present the local linear smoothing of average classroom-peer prior achievement in the remediation subject and other core subjects in 6th grade on relative prior year reading (first column) and math score (second column) of the student before the policy separately for the left of the corresponding cutoff and the right. The triangle kernel and a bandwidth of 10 points are used in the estimation. The solid circles represent raw cell means and the shaded areas represent 95 percent confidence intervals.

Online Appendix Figure 10. Average 6th Grade Classroom-Peer Prior Achievement Around the Remediation Cutoffs in ELA and Math, by Student SES and Course Subject



Notes: The figures present the local linear smoothing of average classroom-peer prior achievement in the remediation subject and other core subjects in 6th grade on relative prior year reading (first column) and math score (second column) of the student, by student SES quartile. The triangle kernel and a bandwidth of 10 points are used in the estimation. The solid circles represent raw cell means and the shaded areas represent 95 percent confidence intervals.

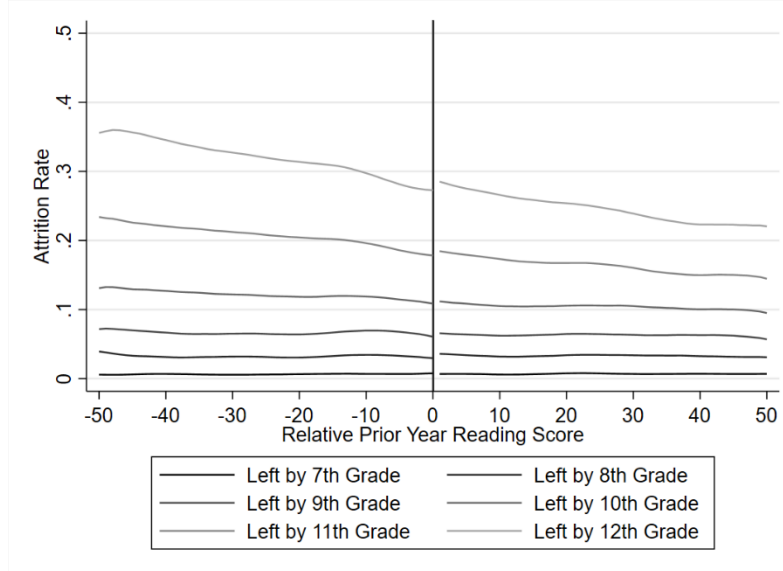
Online Appendix Figure 11. Average 6th Grade Classroom-Peer SES in Subject of Remediation and Other Core Subjects Around the Remediation Cutoffs in ELA and Math, by Own SES Quartile



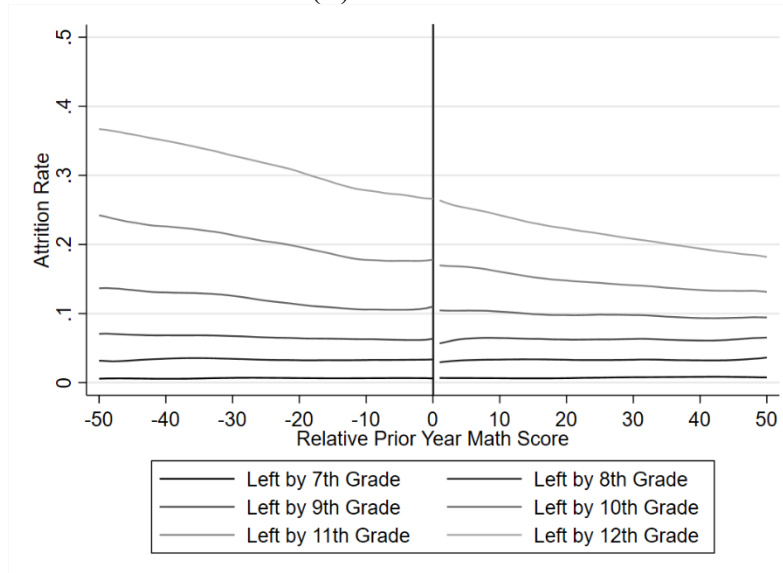
Notes: The figures present the local linear smoothing of average classroom-peer SES in the subject of remediation in panels (A) and (C) and other core subjects in panels (B) and (D) in 6th grade on relative prior year reading (first column) and math score (second column) broken down by own SES quartile. The triangle kernel and a bandwidth of 10 points are used in the estimation. The solid circles represent raw cell means and the shaded areas represent 95 percent confidence intervals.

Online Appendix Figure 12. Sample Attrition Around the Remediation Cutoffs

(A) Reading cutoff



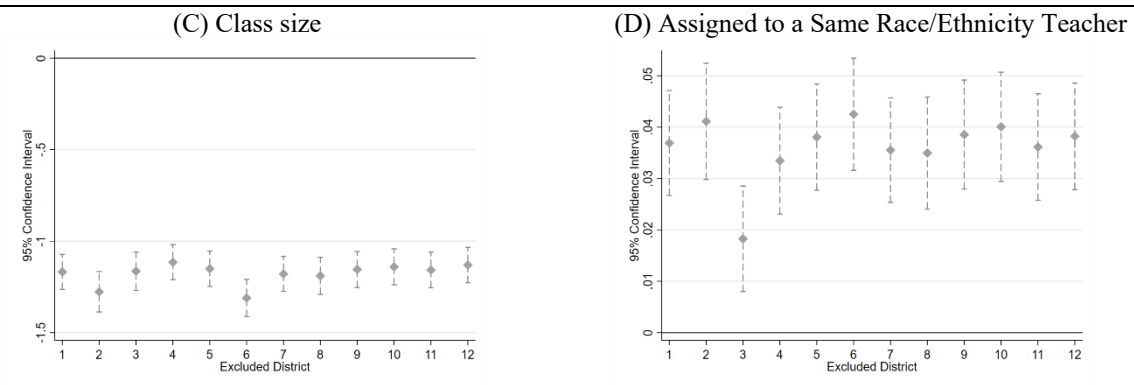
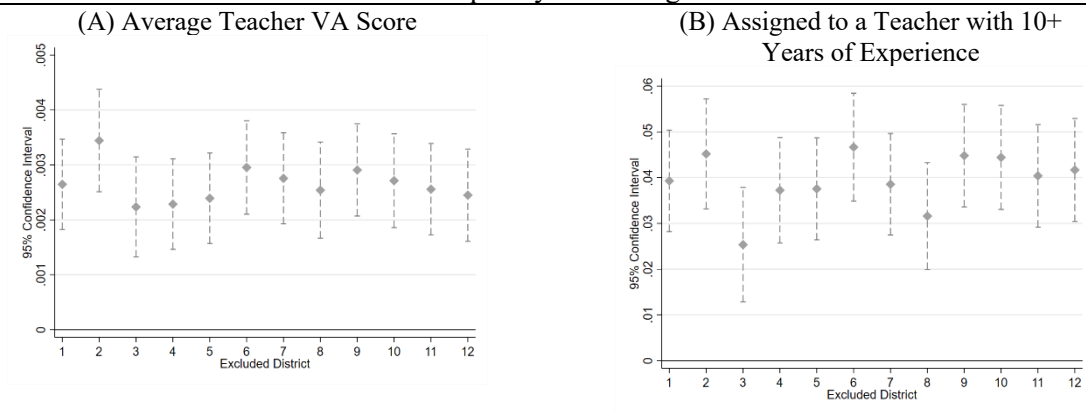
(B) Math cutoff



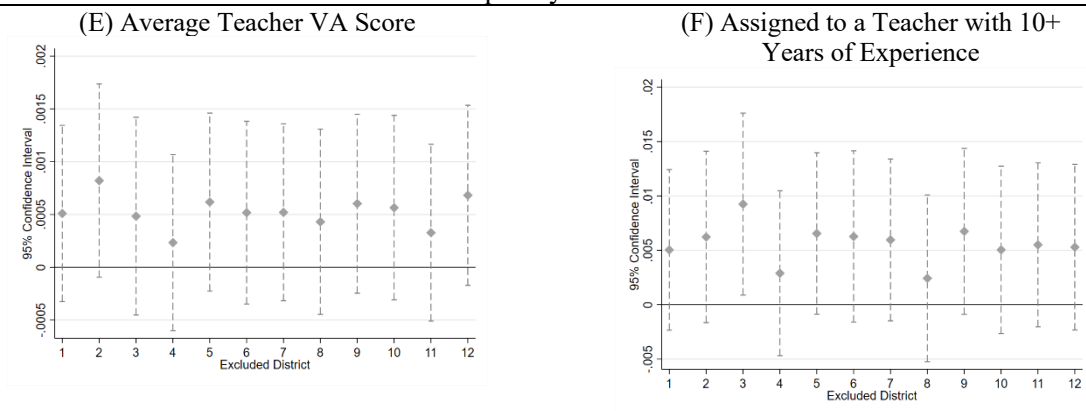
Notes: The figures present the local linear smoothing of the attrition rate in the following years separately for the left of the cutoff date and the right using a bandwidth of 10 points for reading (panel A) and math (panel B) cutoffs.

Online Appendix Figure 13. Robustness to Excluding Individual Districts, Effects on Educational Inputs in the Subject of Remediation in 6th Grade

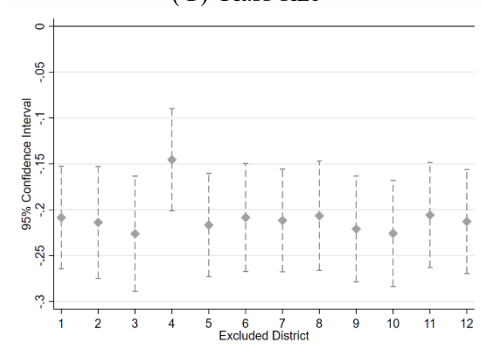
Failed prior year reading test



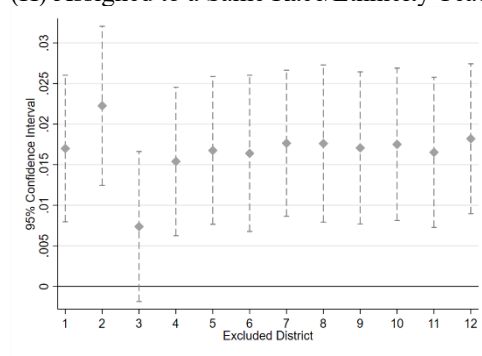
Failed prior year math test



(G) Class size



(H) Assigned to a Same Race/Ethnicity Teacher

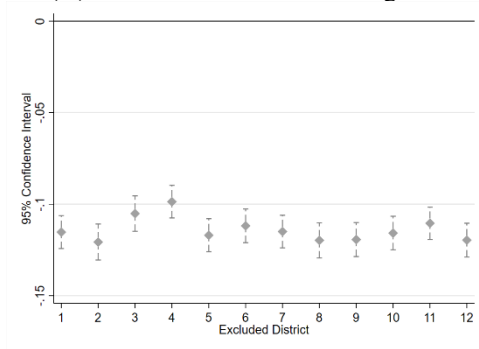


Notes: The figures present the treatment effect (β) and the 95% confidence interval estimated excluding the district given in the x-axis, with robust standard errors clustered at the prior year reading or math score level (solid line). All regressions control for the baseline student characteristics listed in the upper panel of Table 1 and school-by-year fixed-effects.

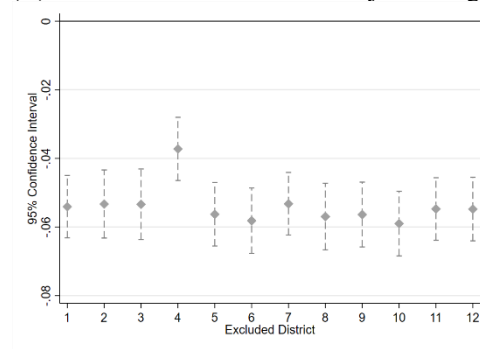
Online Appendix Figure 14. Robustness to Excluding Individual Districts, Effects on Tracking

Failed prior year reading test

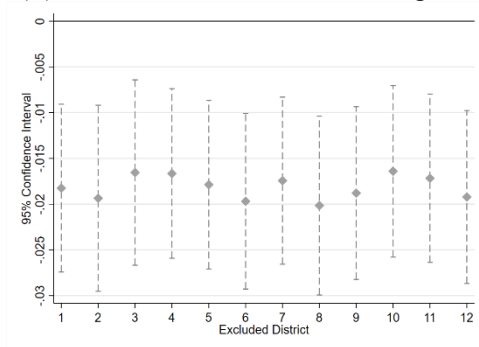
(A) Advanced ELA course: 6th grade



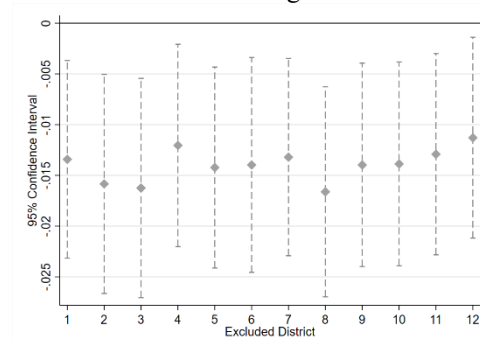
(B) Advanced course in other subjects: 6th grade



(C) Advanced ELA course: 7th or 8th grade

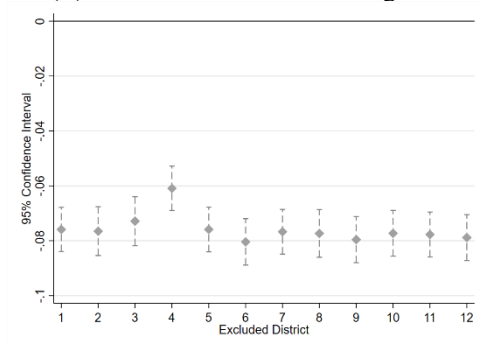


(D) Advanced course in other subjects: 7th or 8th grade

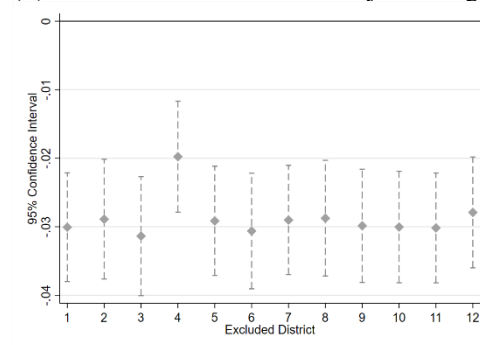


Failed prior year math test

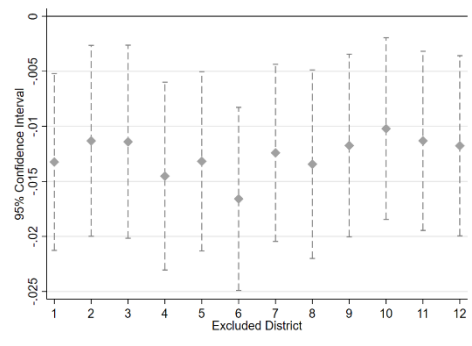
(E) Advanced math course: 6th grade



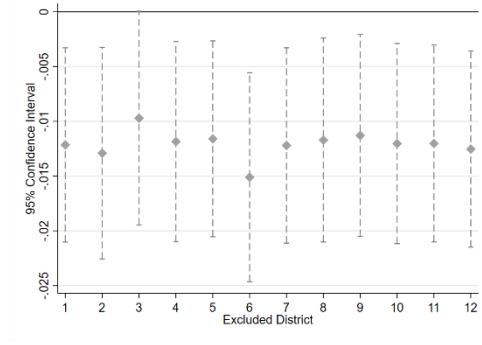
(F) Advanced course in other subjects: 6th grade



(G) Advanced math course: 7th or 8th grade



(H) Advanced course in other subjects:
7th or 8th grade

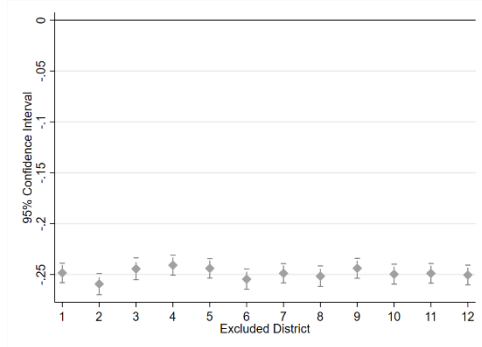


Notes: The figures present the treatment effect (β) and the 95% confidence interval estimated excluding the district given in the x-axis, with robust standard errors clustered at the prior year reading or math score level (solid line). All regressions control for the baseline student characteristics listed in the upper panel of Table 1 and school-by-year fixed-effects.

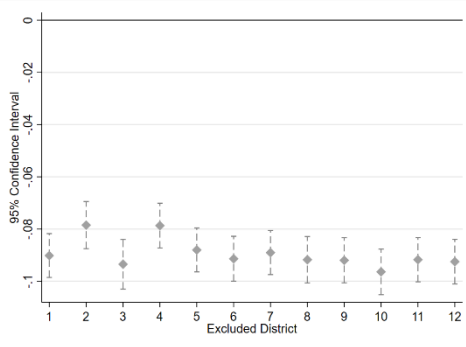
Online Appendix Figure 15. Robustness to Excluding Individual Districts, Effects on Classroom Peers

Failed prior year reading test

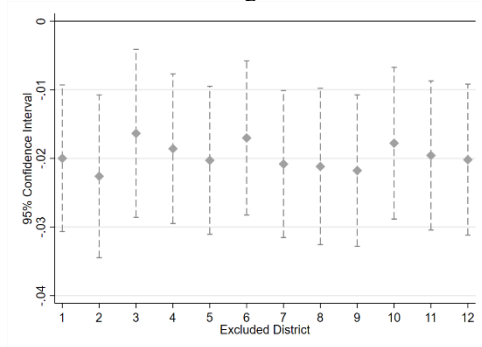
(A) Classroom-Peer 5th Grade Achievement:
6th grade ELA



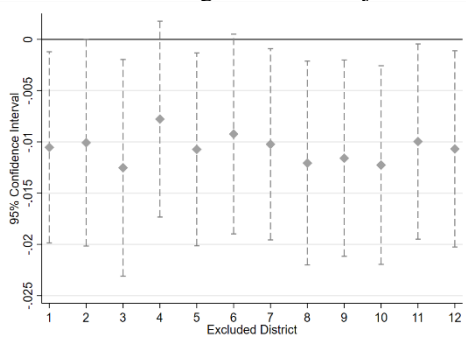
(B) Classroom-Peer 5th Grade Achievement:
6th grade other subjects



(C) Classroom-Peer 5th Grade Achievement:
7th and 8th grade ELA

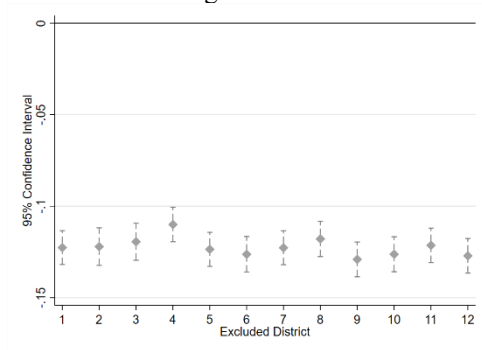


(D) Classroom-Peer 5th Grade Achievement:
7th and 8th grade other subjects

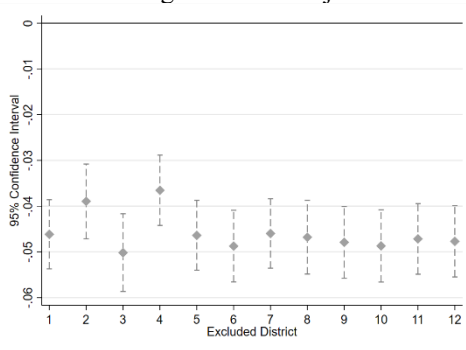


Failed prior year math test

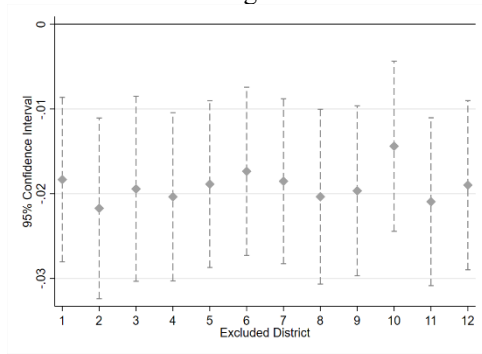
(E) Classroom-Peer 5th Grade Achievement:
6th grade math



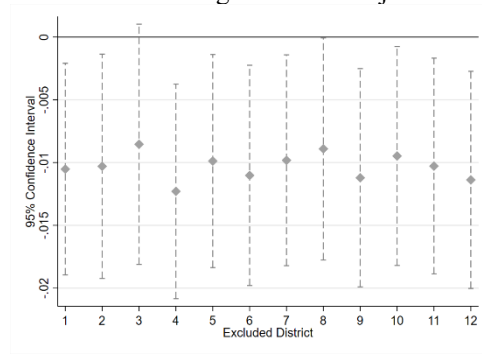
(F) Classroom-Peer 5th Grade Achievement:
6th grade other subjects



(G) Classroom-Peer 5th Grade Achievement:
7th and 8th grade math



(H) Classroom-Peer 5th Grade Achievement:
7th and 8th grade other subjects

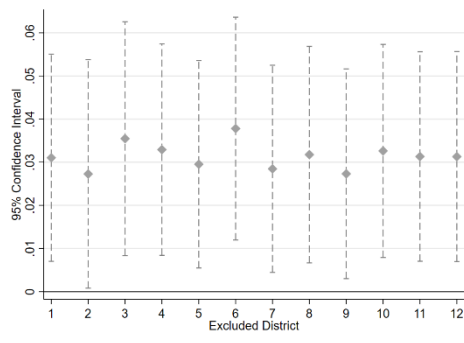


Notes: The figures present the treatment effect (β) and the 95% confidence interval estimated excluding the district given in the x-axis, with robust standard errors clustered at the prior year reading or math score level (solid line). All regressions control for the baseline student characteristics listed in the upper panel of Table 1 and school-by-year fixed-effects.

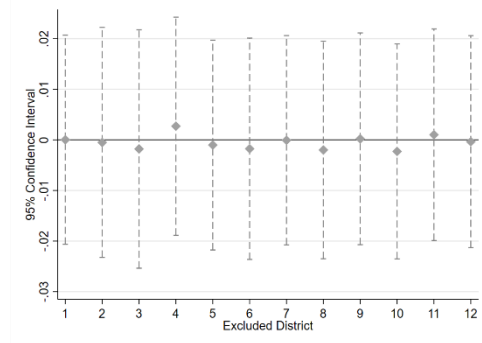
Online Appendix Figure 16. Robustness to Excluding Individual Districts, Effects on Student Outcomes

Failed prior year reading test

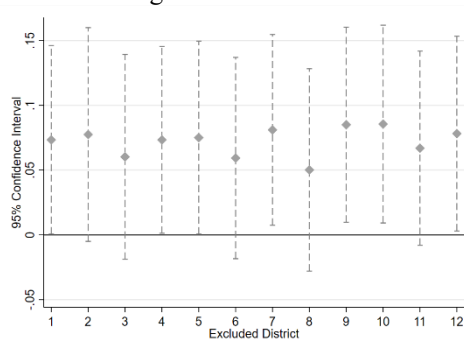
(A) Reading Score – Year of Remediation



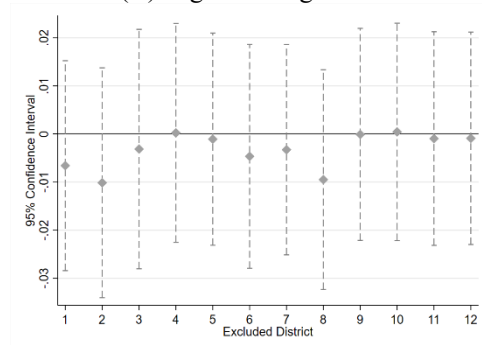
(B) Reading Score: Grades 7-10



(C) Number of College-Credit Bearing High School Courses

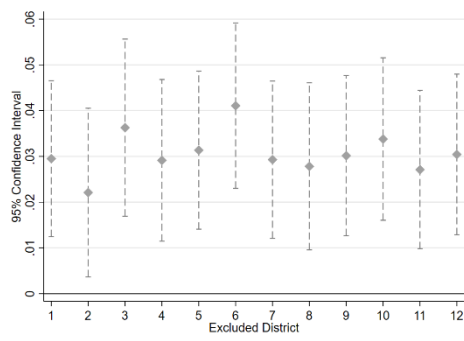


(D) High school graduation

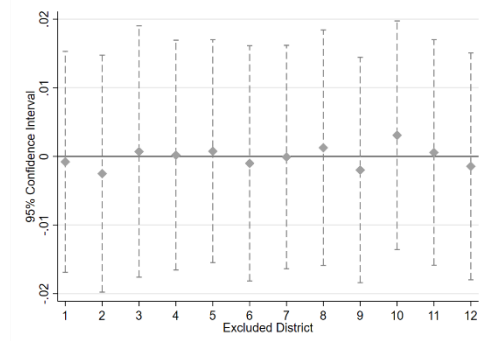


Failed prior year math test

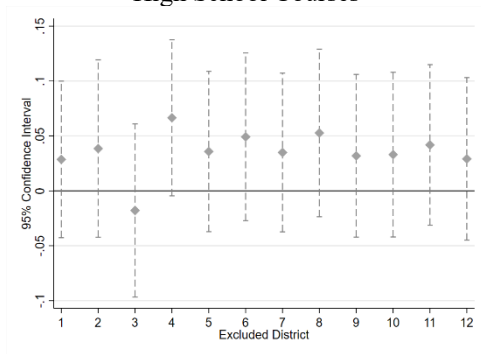
(A) Math Score – Year of Remediation



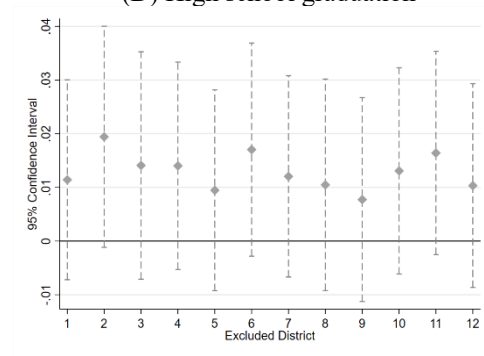
(B) Math Score: Grades 7-10



(C) Number of College-Credit Bearing
High School Courses



(D) High school graduation



Notes: The figures present the treatment effect (β) and the 95% confidence interval estimated excluding the district given in the x-axis, with robust standard errors clustered at the prior year reading or math score level (solid line). All regressions control for the baseline student characteristics listed in the upper panel of Table 1 and school-by-year fixed-effects.