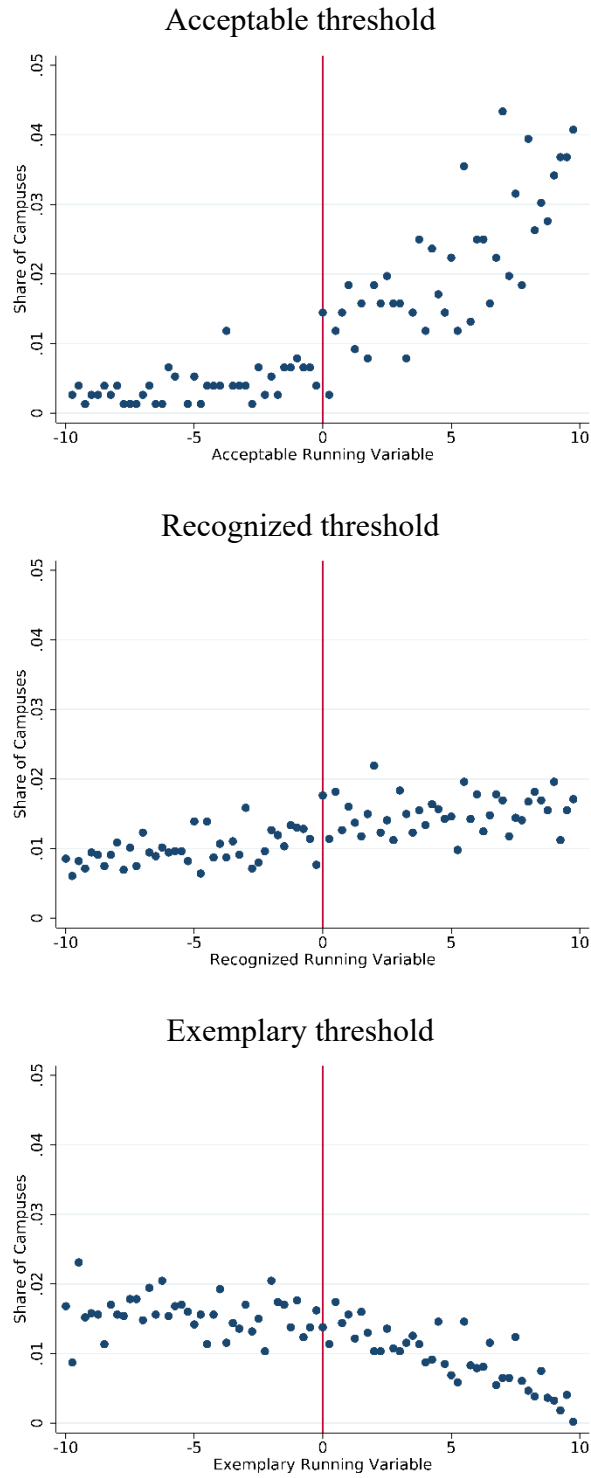# Performance Information and Personnel Decisions in the Public Sector: The Case of School Principals

Julie Berry Cullen, Eric A. Hanushek, Gregory Phelan, and Steven G. Rivkin

Online Appendix A

Figure A1. Running variable density, by accountability rating threshold

Acceptable threshold

Recognized threshold

Exemplary threshold

Notes: The bin width is 0.25 percentage points. In each case, the running variable is the difference between the required pass rate and the pass rate of the binding subgroup.

Figure A2. Probability of exiting Texas public schools, by accountability rating threshold

Acceptable threshold

Recognized threshold

Exemplary threshold
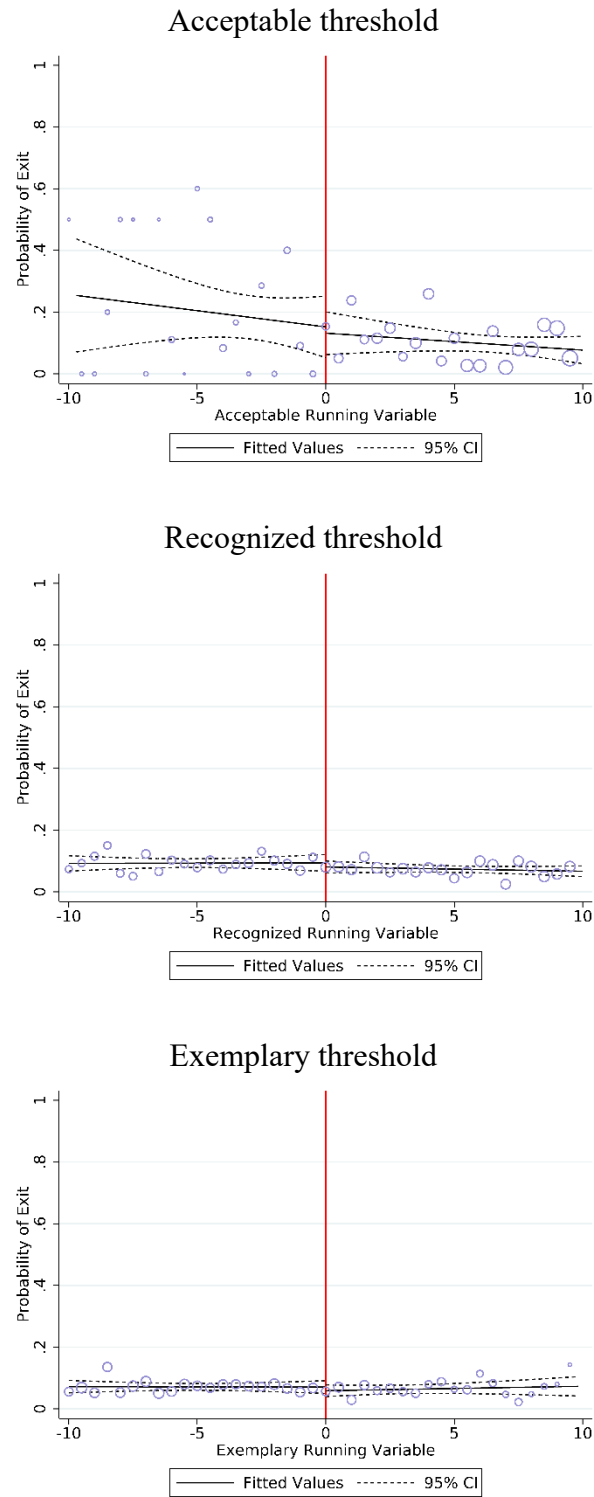
Notes: Exiting is defined as not holding any position within the Texas public school system in academic year $t+2$, while the rating is realized at the end of academic year t. For other details, see the notes to Figure 2.

Table A1. Regression predicting achievement based on student characteristics

Variable	Dependent variable: Campus average math and reading pass rate
School student characteristics (fractions)	
Male	-0.073***
	(0.019)
Black	-0.141***
	(0.013)
Hispanic	-0.127***
	(0.011)
White	0.068***
	(0.009)
Economically disadvantaged	-0.042***
	(0.012)
Title 1 participant	0.038***
	(0.004)
Limited English proficient	0.063***
	(0.012)
Special education	-0.177***
	(0.028)
Gifted and talented	0.210***
	(0.025)
Mid-year school mover	-0.426***
	(0.015)
Observations	77,168

Notes: The results shown are from a regression of average student pass rates across math and reading on the set of student characteristics from Table 1, as well as district and year fixed effects. Standard errors clustered by district are shown in parentheses. The sample is all schools with tested grades (3-11) over the years 2001-2008. *** p<0.01, ** p<0.05, * p<0.10

Table A2. Marginal student subgroup shares, by accountability rating

	Any subgroup	Marginal student subgroup				
		All students	White	Black	Hispanic	Disadv.
Acceptable						
Math	0.049	0.000	0.000	0.039	0.005	0.005
Reading	0.302	0.034	0.001	0.104	0.093	0.070
Science	0.439	0.079	0.001	0.092	0.118	0.149
Writing	0.187	0.053	0.005	0.013	0.046	0.070
Recognized						
Math	0.248	0.008	0.004	0.074	0.059	0.103
Reading	0.195	0.005	0.001	0.034	0.064	0.091
Science	0.416	0.091	0.010	0.022	0.122	0.171
Writing	0.122	0.029	0.009	0.008	0.026	0.050
Exemplary						
Math	0.275	0.021	0.020	0.045	0.070	0.119
Reading	0.296	0.017	0.014	0.031	0.091	0.143
Science	0.249	0.126	0.038	0.004	0.042	0.039
Writing	0.163	0.053	0.043	0.004	0.022	0.041

Notes: Each cell shows the share of marginal subgroups falling in a specific category for the 10 percentage point bandwidth sample around the accountability threshold indicated in the row heading. The marginal subgroup is the one that determines the running variable for the regression discontinuity analysis. It is the one with the most negative (or least positive) gap between the required pass rate and the subgroup pass rate. Not shown are the cases (about 2% for each category) where the marginal subgroup is special education students taking alternate non-grade level assessments (SDAA and SDAA II) offered between 2004 and 2007.

Table A3. Marginal subgroup lowest performing shares, by accountability rating and time period

	Share of marginal subgroups that are also the lowest performing subgroup in the marginal subject	
	Pre-2004	Post-2004
Acceptable	0.672	0.584
Recognized	0.688	0.601
Exemplary	0.622	0.574

Notes: Each cell shows the share of marginal subgroups that are also the lowest performing in the marginal subject for the 10 percentage point bandwidth sample around the accountability threshold indicated in the row heading.

Table A4. Balance tests for principal and school student characteristics for optimal bandwidths, by rating threshold

Variable	Acceptable (1)	Recognized (2)	Exemplary (3)
Principal characteristics and salary			
Male	-0.028	-0.049	-0.009
	(0.132)	(0.048)	(0.042)
Black	-0.011	0.039	0.026
	(0.138)	(0.032)	(0.023)
Hispanic	0.053	-0.027	0.036
	(0.131)	(0.045)	(0.035)
Master's degree	0.059	0.034	0.014
	(0.094)	(0.031)	(0.027)
Doctorate degree	-0.049	-0.036[**]	-0.017
	(0.073)	(0.017)	(0.016)
Years of tenure	0.245	0.266	-0.013
	(0.556)	(0.240)	(0.208)
Total years of experience	-2.545	1.046[*]	0.57
	(1.670)	(0.555)	(0.480)
Log total pay (2003 dollars)	-0.012	0.010	-0.006
	(0.034)	(0.013)	(0.012)
School student performance and characteristics			
Average math/reading pass rate	2.899	0.704	-0.037
	(2.456)	(0.548)	(0.201)
Male	-0.005	-0.002	-0.001
	(0.007)	(0.003)	(0.002)
Black	-0.014	0.025	-0.004
	(0.079)	(0.019)	(0.013)
Hispanic	0.018	-0.020	-0.016
	(0.088)	(0.033)	(0.029)
White	0.007	-0.013	0.022
	(0.055)	(0.030)	(0.028)
Economically disadvantaged	0.006	0.014	-0.009
	(0.047)	(0.025)	(0.026)
Title 1 participant	-0.01	0.054	-0.009
	(0.062)	(0.042)	(0.045)
Limited English proficient	0.016	-0.005	-0.009
	(0.070)	(0.023)	(0.017)
Special education	0.01	0.003	0.009[**]
	(0.009)	(0.004)	(0.004)
Gifted and talented	0.002	-0.008	0.005
	(0.012)	(0.005)	(0.006)
Mid-year school mover	-0.019	-0.006	-0.007[*]
	(0.012)	(0.004)	(0.004)
Chi-square statistic	17.277	33.906	24.872
p-value	0.571	0.019	0.165
N	221	1,458	1,768

Notes: Each cell reports the coefficient and standard error (in parentheses) from separate seemingly unrelated regression discontinuity regressions for the principal and student characteristics shown. The regressions are local linear regressions with triangular weights, and the bandwidths are set equal to the optimal bandwidths determined by the first stages for each threshold. The optimal bandwidths for the Acceptable, Recognized, and Exemplary

thresholds are 3.82, 2.49, and 3.18, respectively. Chi-square statistics and their associated p-values are reported for the test of the null hypothesis that all coefficients in the column are jointly equal to zero. *** p<0.01, ** p<0.05, * p<0.10

Table A5. Balance tests for principal and school student characteristics for bandwidths of 5 percentage points, by rating threshold

Variable	Acceptable	Recognized	Exemplary
	(1)	(2)	(3)
Principal characteristics and salary			
Male	0.016	-0.070**	-0.024
	(0.118)	(0.034)	(0.034)
Black	0.027	0.024	0.021
	(0.120)	(0.022)	(0.018)
Hispanic	-0.031	-0.038	0.024
	(0.117)	(0.031)	(0.028)
Master's degree	0.076	0.031	0.000
	(0.085)	(0.023)	(0.022)
Doctorate degree	-0.087	-0.008	-0.003
	(0.060)	(0.013)	(0.013)
Years of tenure	0.304	0.193	0.067
	(0.503)	(0.166)	(0.170)
Total years of experience	-2.051	0.778**	0.431
	(1.494)	(0.385)	(0.385)
Log total pay (2003 dollars)	-0.031	0.008	-0.011
	(0.030)	(0.009)	(0.009)
School student performance and characteristics			
Average math/reading pass rate	1.162	0.299	-0.027
	(2.165)	(0.375)	(0.165)
Male	-0.005	0.000	-0.001
	(0.006)	(0.002)	(0.002)
Black	0.010	0.017	0.000
	(0.067)	(0.013)	(0.011)
Hispanic	0.003	-0.018	0.018
	(0.077)	(0.023)	(0.023)
White	-0.003	-0.003	-0.013
	(0.052)	(0.021)	(0.023)
Economically disadvantaged	0.019	-0.002	0.029
	(0.043)	(0.018)	(0.021)
Title 1 participant	0.017	-0.019	0.057
	(0.062)	(0.029)	(0.036)
Limited English proficient	-0.011	-0.010	0.011
	(0.063)	(0.016)	(0.014)
Special education	0.009	0.000	0.008***
	(0.008)	(0.003)	(0.003)
Gifted and talented	0.001	-0.006	0.001
	(0.010)	(0.004)	(0.005)
Mid-year school mover	-0.008	-0.001	-0.004
	(0.011)	(0.002)	(0.003)
Chi-square statistic	12.823	17.691	24.444
p-value	0.848	0.543	0.180
N	299	2,879	2,690

Notes: The notes to Table A4 apply, except that the bandwidths for the local linear regressions are set equal to 5 percentage points. *** $p<0.01$, ** $p<0.05$, * $p<0.10$

Table A6. Balance tests for principal and school student characteristics for bandwidths of 10 percentage points, by rating threshold

Variable	Acceptable	Recognized	Exemplary
	(1)	(2)	(3)
Principal characteristics and salary			
Male	0.086	-0.037	-0.013
	(0.087)	(0.024)	(0.025)
Black	0.006	0.003	0.015
	(0.082)	(0.016)	(0.013)
Hispanic	-0.184**	-0.007	0.017
	(0.087)	(0.023)	(0.020)
Master's degree	0.031	0.010	0.002
	(0.062)	(0.017)	(0.016)
Doctorate degree	-0.073*	-0.005	-0.009
	(0.038)	(0.009)	(0.010)
Years of tenure	0.174	0.010	0.270**
	(0.367)	(0.120)	(0.127)
Total years of experience	-1.474	0.314	0.498*
	(1.049)	(0.275)	(0.288)
Log total pay (2003 dollars)	-0.020	0.000	-0.010
	(0.023)	(0.007)	(0.007)
School student performance and characteristics			
Average math/reading pass rate	2.095	-0.027	0.127
	(1.539)	(0.265)	(0.144)
Male	-0.001	0.000	0.000
	(0.005)	(0.001)	(0.001)
Black	0.039	-0.001	0.003
	(0.047)	(0.009)	(0.008)
Hispanic	-0.085	0.012	0.024
	(0.056)	(0.017)	(0.017)
White	0.047	-0.014	-0.027
	(0.041)	(0.015)	(0.016)
Economically disadvantaged	-0.023	0.008	0.030**
	(0.033)	(0.013)	(0.015)
Title 1 participant	-0.043	0.004	0.059**
	(0.044)	(0.021)	(0.025)
Limited English proficient	-0.075*	0.008	0.018*
	(0.045)	(0.011)	(0.010)
Special education	0.012	-0.001	0.005**
	(0.006)	(0.002)	(0.002)
Gifted and talented	-0.006	-0.005*	0.002
	(0.008)	(0.003)	(0.003)
Mid-year school mover	0.004	-0.001	0.000
	(0.007)	(0.002)	(0.002)
Chi-square statistic	19.657	13.654	40.567
p-value	0.415	0.803	0.003
N	760	5,613	4,935

Notes: The notes to Table A4 apply, except that the bandwidths for the local linear regressions are set equal to 10 percentage points. *** $p<0.01$, ** $p<0.05$, * $p<0.10$

Table A7. Regression discontinuity estimates of the "impact" of attaining the higher rating on concurrent spell value-added, by rating threshold

	Bandwidth				
	10	7.5	5	2.5	Optimal
	Panel A: No additional controls				
Acceptable	-0.032	-0.032	-0.025	-0.024	-0.018
	(0.038)	(0.043)	(0.052)	(0.062)	(0.059)
Mean	0.073	0.069	0.091	0.096	0.098
N	705	461	273	129	203
Recognized	-0.003	-0.004	-0.007	-0.011	-0.011
	(0.007)	(0.008)	(0.010)	(0.013)	(0.013)
Mean	0.161	0.161	0.162	0.165	0.165
N	5,304	4,011	2,703	1,375	1,374
Exemplary	-0.025	-0.021	-0.005	-0.013	0.005
	(0.031)	(0.032)	(0.037)	(0.039)	(0.040)
Mean	0.181	0.185	0.185	0.186	0.184
N	4,733	3,765	2,589	1,367	1,705
	Panel B: With controls				
Acceptable	-0.025	-0.021	-0.005	-0.013	0.005
	(0.031)	(0.032)	(0.037)	(0.039)	(0.040)
Mean	0.073	0.069	0.091	0.096	0.098
N	705	461	273	129	203
Recognized	-0.005	-0.006	-0.008	-0.012	-0.012
	(0.007)	(0.007)	(0.009)	(0.013)	(0.013)
Mean	0.161	0.161	0.162	0.165	0.165
N	5,304	4,011	2,703	1,375	1,374
Exemplary	0.009	0.01	0.012	0.014	0.014
	(0.007)	(0.008)	(0.010)	(0.013)	(0.012)
Mean	0.181	0.185	0.185	0.186	0.184
N	4,733	3,765	2,589	1,367	1,705

Notes: Each cell shows the estimated discontinuity at the threshold from a separate local linear regression with a triangular kernel, with the associated standard error clustered by district shown in parentheses. The bandwidth varies across columns, with the optimal bandwidth determined from the first stage. The optimal bandwidth for the Acceptable, Recognized, and Exemplary threshold is 3.82, 2.49, and 3.18, respectively. The results reported in Panel A are from specifications that do not include any additional variables in the control set, while those in Panel B add the year-t principal and school student characteristics listed in Table 1. The mean of the dependent variable is shown for the subset of principals within the bandwidth sample receiving the lower rating. In this table, the dependent variable is spell value-added. Spell value-added is calculated by averaging the school-by-year fixed effects estimated from the student-level achievement growth model (equation (1) in the text) across all years of a principal spell excluding the first and last year. Thus, the sample is restricted to principals with less than 25 years of total experience and at least 3 years tenure in their current school. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

Table A8. Regression discontinuity estimates of the impact of attaining the higher rating on the probability of principal job retention, by rating threshold

	Bandwidth				
	10	7.5	5	2.5	Optimal
	Panel A: No additional controls				
Acceptable	0.240***	0.259***	0.350***	0.471***	0.419***
	(0.084)	(0.094)	(0.117)	(0.175)	(0.138)
Mean	0.354	0.383	0.387	0.357	0.419
N	760	495	299	140	221
Recognized	0.011	0.018	0.024	0.020	0.020
	(0.029)	(0.034)	(0.042)	(0.060)	(0.060)
Mean	0.625	0.628	0.63	0.627	0.631
N	5,613	4,250	2,879	1,459	1,458
Exemplary	0.005	0.014	0.020	0.039	0.025
	(0.030)	(0.034)	(0.040)	(0.054)	(0.048)
Mean	0.685	0.689	0.694	0.688	0.693
N	4,935	3,927	2,690	1,420	1,768
	Panel B: With controls				
Acceptable	0.237***	0.244***	0.314***	0.399***	0.380***
	(0.077)	(0.084)	(0.102)	(0.146)	(0.115)
Mean	0.354	0.383	0.387	0.357	0.419
N	760	495	299	140	221
Recognized	-0.002	0.001	0.006	0.008	0.008
	(0.029)	(0.033)	(0.041)	(0.057)	(0.057)
Mean	0.625	0.628	0.630	0.627	0.631
N	5,613	4,250	2,879	1,459	1,458
Exemplary	0.006	0.013	0.019	0.035	0.022
	(0.029)	(0.033)	(0.038)	(0.052)	(0.046)
Mean	0.685	0.689	0.694	0.688	0.693
N	4,935	3,927	2,690	1,420	1,768

Notes: In this table, the dependent variable is an indicator for whether the principal continues in the same principal position in academic year $t+2$, with the school rating realized at the end of academic year t. For other details, see the notes to Table A7. *** $p<0.01$, ** $p<0.05$, * $p<0.10$

Table A9. Regression discontinuity estimates of the impact of attaining the acceptable rating on the probability of principal job retention, schools not rated unacceptable in the prior year

	Bandwidth				
	10	7.5	5	2.5	Optimal
	Panel A: No additional controls				
Acceptable	0.297***	0.332***	0.413***	0.554***	0.483***
	(0.095)	(0.110)	(0.130)	(0.191)	(0.147)
Mean	0.333	0.366	0.373	0.314	0.400
N	712	460	275	127	202
	Panel B: With controls				
Acceptable	0.292***	0.308***	0.360***	0.448***	0.417***
	(0.086)	(0.096)	(0.111)	(0.157)	(0.120)
Mean	0.333	0.366	0.373	0.314	0.400
N	712	460	275	127	202

Notes: In this table, the dependent variable is an indicator for whether the principal continues in the same principal position in academic year $t+2$, with the school rating realized at the end of academic year t. The sample includes schools near the acceptable boundary that were not rated unacceptable in the prior year. For other details, see the notes to Table A7. *** $p<0.01$, ** $p<0.05$, * $p<0.10$

Table A10. Regression discontinuity estimates of the impact of attaining the higher rating on salary growth, by rating threshold

	Bandwidth				
	10	7.5	5	2.5	Optimal
Panel A: No additional controls					
Acceptable	0.034*	0.036*	0.052**	0.067**	0.059**
	(0.019)	(0.019)	(0.024)	(0.031)	(0.025)
Mean	-0.010	-0.020	-0.017	-0.020	-0.017
N	628	411	238	111	181
Recognized	0.005	0.002	0.001	-0.002	-0.002
	(0.004)	(0.005)	(0.006)	(0.008)	(0.008)
Mean	0.004	0.003	0.004	0.003	0.001
N	4,970	3,760	2,546	1,285	1,284
Exemplary	0.010*	0.011*	0.010	0.008	0.006
	(0.006)	(0.006)	(0.007)	(0.009)	(0.008)
Mean	0.009	0.009	0.008	0.009	0.006
N	4,479	3,574	2,443	1,291	1,605
Panel B: With controls					
Acceptable	0.032*	0.032*	0.052**	0.059**	0.060***
	(0.019)	(0.019)	(0.021)	(0.025)	(0.022)
Mean	-0.010	-0.020	-0.017	-0.020	-0.017
N	628	411	238	111	181
Recognized	0.006	0.004	0.003	0.000	0.000
	(0.004)	(0.005)	(0.006)	(0.008)	(0.008)
Mean	0.004	0.003	0.004	0.003	0.001
N	4,970	3,760	2,546	1,285	1,284
Exemplary	0.010*	0.011*	0.009	0.007	0.006
	(0.006)	(0.006)	(0.007)	(0.009)	(0.008)
Mean	0.009	0.009	0.008	0.009	0.006
N	4,479	3,574	2,443	1,291	1,605

Notes: The dependent variable in this table is salary growth. Salary growth is measured by the change in the log (real $2003) total pay between academic years $t+2$ and t, with the school rating realized at the end of academic year t. For other details, see the notes to Table A7.

Table A11. Regression discontinuity estimates of the impact of attaining the higher rating on the change in student composition, by rating threshold

	Bandwidth				
	10	7.5	5	2.5	Optimal
	Panel A: No additional controls				
Acceptable	-0.268	-0.310	-0.357	-0.168	-0.319
	(0.207)	(0.237)	(0.275)	(0.304)	(0.286)
Mean	0.136	0.155	0.192	0.312	0.208
N	628	411	238	111	181
Recognized	0.017	0.009	-0.026	-0.076	-0.076
	(0.023)	(0.026)	(0.033)	(0.048)	(0.048)
Mean	0.005	0.000	-0.009	-0.012	-0.013
N	4,970	3,760	2,546	1,285	1,284
Exemplary	-0.005	-0.004	0.000	0.005	0.000
	(0.021)	(0.024)	(0.030)	(0.046)	(0.040)
Mean	-0.015	-0.016	-0.022	-0.027	-0.023
N	4,479	3,574	2,443	1,291	1,605
	Panel B: With controls				
Acceptable	-0.295	-0.327	-0.365	-0.274	-0.367
	(0.181)	(0.204)	(0.231)	(0.242)	(0.237)
Mean	0.136	0.155	0.192	0.312	0.208
N	628	411	238	111	181
Recognized	0.011	0.003	-0.025	-0.072*	-0.072*
	(0.021)	(0.023)	(0.029)	(0.043)	(0.043)
Mean	0.005	0.000	-0.009	-0.012	-0.013
N	4,970	3,760	2,546	1,285	1,284
Exemplary	-0.005	-0.004	0.000	0.005	0.018
	(0.021)	(0.024)	(0.030)	(0.046)	(0.034)
Mean	-0.015	-0.016	-0.022	-0.027	-0.023
N	4,479	3,574	2,443	1,291	1,605

Notes: The dependent variable in this table is the change in student composition between academic years $t+2$ and t, with the school rating realized at the end of academic year t. Student composition is proxied by an index of predicted achievement based on student characteristics, as described in the text. For other details, see the notes to Table A7.

Table A12. Regression discontinuity estimates of the impact of attaining the higher rating on the probability of exiting Texas public schools, by rating threshold

	Bandwidth				
	10	7.5	5	2.5	Optimal
	Panel A: No additional controls				
Acceptable	0.026	0.055	0.055	0.170**	0.092
	(0.063)	(0.068)	(0.068)	(0.074)	(0.069)
Mean	0.195	0.191	0.200	0.167	0.145
N	760	495	299	140	221
Recognized	-0.013	-0.012	-0.009	-0.013	-0.013
	(0.018)	(0.021)	(0.024)	(0.035)	(0.035)
Mean	0.093	0.091	0.093	0.098	0.096
N	5,613	4,250	2,879	1,459	1,458
Exemplary	-0.011	-0.013	-0.006	0.001	-0.002
	(0.015)	(0.016)	(0.019)	(0.026)	(0.024)
Mean	0.071	0.071	0.072	0.068	0.069
N	4,935	3,927	2,690	1,420	1,768
	Panel B: With controls				
Acceptable	0.014	0.054	0.075	0.195**	0.104
	(0.061)	(0.065)	(0.072)	(0.079)	(0.069)
Mean	0.195	0.191	0.200	0.167	0.145
N	760	495	299	140	221
Recognized	-0.011	-0.010	-0.006	-0.006	-0.006
	(0.018)	(0.020)	(0.024)	(0.035)	(0.035)
Mean	0.093	0.091	0.093	0.098	0.096
N	5,613	4,250	2,879	1,459	1,458
Exemplary	-0.013	-0.015	-0.008	0.005	-0.001
	(0.014)	(0.016)	(0.018)	(0.025)	(0.023)
Mean	0.071	0.071	0.072	0.068	0.069
N	4,935	3,927	2,690	1,420	1,768

Notes: The dependent variable in this table is an indicator for whether the principal exits. Exiting is defined as not holding any position within the Texas public school system in academic year $t+2$, while the rating is realized at the end of academic year t. For other details, see the notes to Table A7.

Table A13. Regression discontinuity estimates of the impact of attaining the higher rating on school-by-year value-added two years later, by rating threshold

	Bandwidth				
	10	7.5	5	2.5	Optimal
	Panel A: No additional controls				
Acceptable	-0.046	-0.032	0.008	0.028	0.042
	(0.041)	(0.043)	(0.048)	(0.057)	(0.050)
Mean	0.138	0.132	0.133	0.120	0.147
N	668	434	266	125	194
Recognized	0.008	0.013	0.020	0.033	0.033
	(0.010)	(0.011)	(0.014)	(0.021)	(0.021)
Mean	0.141	0.145	0.148	0.149	0.149
N	4,453	3,351	2,254	1,127	1,127
Exemplary	-0.003	-0.001	-0.007	-0.006	-0.012
	(0.009)	(0.010)	(0.011)	(0.014)	(0.013)
Mean	0.191	0.198	0.203	0.208	0.206
N	3,771	3,008	2,052	1,068	1,346
	Panel B: With controls				
Acceptable	-0.044	-0.026	0.030	0.062	0.063
	(0.037)	(0.038)	(0.042)	(0.052)	(0.044)
Mean	0.138	0.132	0.133	0.120	0.147
N	668	434	266	125	194
Recognized	0.005	0.010	0.019	0.035*	0.035*
	(0.009)	(0.011)	(0.013)	(0.020)	(0.020)
Mean	0.141	0.145	0.148	0.149	0.149
N	4,453	3,351	2,254	1,127	1,127
Exemplary	-0.001	0.001	-0.004	-0.005	-0.010
	(0.008)	(0.009)	(0.010)	(0.013)	(0.012)
Mean	0.191	0.198	0.203	0.208	0.206
N	3,771	3,008	2,052	1,068	1,346

Notes: The dependent variable in this table is school-by-year value-added for the campus in year $t+2$, where the campus rating is realized at the end of academic year t. School-by-year value-added is defined to be the school-by-year fixed effect estimated from the student-level achievement growth model (equation (1) in the text). For other details, see the notes to Table A7.

Table A14. Regression discontinuity estimates of the impact of attaining the higher rating on school-by-year value-added three years later, by rating threshold

	Bandwidth				
	10	7.5	5	2.5	Optimal
Panel A: No additional controls					
Acceptable	-0.055	-0.061	-0.063	-0.019	-0.041
	(0.050)	(0.058)	(0.072)	(0.077)	(0.075)
Mean	0.111	0.114	0.123	0.144	0.120
N	690	441	267	126	193
Recognized	-0.001	0.003	0.007	0.008	0.008
	(0.010)	(0.011)	(0.014)	(0.020)	(0.020)
Mean	0.143	0.144	0.148	0.146	0.147
N	5,231	3,964	2,684	1,364	1,363
Exemplary	-0.010	-0.006	0.003	0.020	0.015
	(0.009)	(0.010)	(0.012)	(0.015)	(0.014)
Mean	0.183	0.188	0.196	0.200	0.200
N	4,584	3,660	2,493	1,307	1,629
Panel B: With controls					
Acceptable	-0.051	-0.046	-0.031	-0.004	-0.008
	(0.045)	(0.051)	(0.060)	(0.061)	(0.061)
Mean	0.111	0.114	0.123	0.144	0.120
N	690	441	267	126	193
Recognized	-0.002	0.002	0.007	0.009	0.009
	(0.009)	(0.010)	(0.013)	(0.019)	(0.019)
Mean	0.143	0.144	0.148	0.146	0.147
N	5,231	3,964	2,684	1,364	1,363
Exemplary	-0.007	-0.003	0.006	0.020	0.015
	(0.008)	(0.009)	(0.010)	(0.013)	(0.012)
Mean	0.183	0.188	0.196	0.200	0.200
N	4,584	3,660	2,493	1,307	1,629

Notes: The dependent variable in this table is school-by-year value-added for the campus in year $t+3$, where the campus rating is realized at the end of academic year t. School-by-year value-added is defined to be the school-by-year fixed effect estimated from the student-level achievement growth model (equation (1) in the text). For other details, see the notes to Table A7.

Table A15. Regression discontinuity estimates of the impact of attaining the higher rating on school pass rates two years later, by rating threshold

	Bandwidth				
	10	7.5	5	2.5	Optimal
Panel A: No additional controls					
Acceptable	1.259	1.587	2.389	1.946	3.775*
	(1.763)	(1.891)	(2.057)	(2.051)	(2.181)
Mean	78.05	77.67	77.47	77.48	78.29
N	668	434	266	125	194
Recognized	-0.045	0.108	0.633	0.732	0.731
	(0.605)	(0.654)	(0.770)	(1.067)	(1.069)
Mean	85.49	85.66	86.00	86.17	86.23
N	4,453	3,351	2,254	1,127	1,127
Exemplary	0.246	0.392	0.497	0.703	0.680
	(0.464)	(0.495)	(0.560)	(0.723)	(0.653)
Mean	90.78	91.30	91.68	92.07	91.99
N	3,771	3,008	2,052	1,068	1,346
Panel B: With controls					
Acceptable	0.991	1.414	2.495	2.708	3.777*
	(1.876)	(2.011)	(2.096)	(1.654)	(2.112)
Mean	78.05	77.67	77.47	77.48	78.29
N	668	434	266	125	194
Recognized	-0.060	0.091	0.624	0.812	0.811
	(0.430)	(0.476)	(0.575)	(0.794)	(0.795)
Mean	85.49	85.66	86.00	86.17	86.23
N	4,453	3,351	2,254	1,127	1,127
Exemplary	0.557*	0.662**	0.556	0.625	0.535
	(0.313)	(0.329)	(0.377)	(0.518)	(0.465)
Mean	90.78	91.30	91.68	92.07	91.99
N	3,771	3,008	2,052	1,068	1,346

Notes: The dependent variable in this table is the average of the math and reading pass rate for the campus in year $t+2$, where the campus rating is realized at the end of academic year t. For other details, see the notes to Table A7.

Table A16. Regression discontinuity estimates of the impact of attaining the higher rating on school pass rates three years later, by rating threshold

	Bandwidth				
	10	7.5	5	2.5	Optimal
Panel A: No additional controls					
Acceptable	1.127	1.340	1.613	1.135	2.128
	(2.068)	(2.284)	(2.533)	(2.344)	(2.680)
Mean	79.18	79.21	79.30	79.40	79.37
N	690	441	267	126	193
Recognized	-0.216	-0.006	0.424	-0.314	-0.318
	(0.567)	(0.601)	(0.699)	(0.910)	(0.911)
Mean	85.26	85.31	85.74	85.63	85.67
N	5,231	3,964	2,684	1,364	1,363
Exemplary	0.126	0.260	0.460	0.695	0.634
	(0.532)	(0.561)	(0.620)	(0.798)	(0.723)
Mean	89.55	90.06	90.46	90.81	90.71
N	4,584	3,660	2,493	1,307	1,629
Panel B: With controls					
Acceptable	1.092	1.569	2.107	1.901	2.650
	(2.121)	(2.277)	(2.416)	(2.240)	(2.593)
Mean	79.18	79.21	79.30	79.40	79.37
N	690	441	267	126	193
Recognized	-0.176	0.033	0.485	-0.230	-0.235
	(0.423)	(0.450)	(0.534)	(0.686)	(0.687)
Mean	85.26	85.31	85.74	85.63	85.67
N	5,231	3,964	2,684	1,364	1,363
Exemplary	0.511	0.617	0.601	0.793	0.660
	(0.366)	(0.388)	(0.442)	(0.578)	(0.532)
Mean	89.55	90.06	90.46	90.81	90.71
N	4,584	3,660	2,493	1,307	1,629

Notes: The dependent variable in this table is the average of the math and reading pass rate for the campus in year $t+3$, where the campus rating is realized at the end of academic year t. For other details, see the notes to Table A7.

Table A17. Regression discontinuity estimates of the impact of attaining the higher rating on composite labor market success, by rating threshold and employment location without controls

	Bandwidth				
	10	7.5	5	2.5	Optimal
Any success					
Acceptable	0.113	0.106	0.163	0.161	0.189*
	(0.084)	(0.094)	(0.105)	(0.143)	(0.115)
Mean	0.584	0.585	0.600	0.643	0.661
N	760	495	299	140	221
Recognized	0.038*	0.041	0.035	0.016	0.016
	(0.023)	(0.026)	(0.030)	(0.042)	(0.042)
Mean	0.824	0.826	0.820	0.807	0.809
N	5,613	4,250	2,879	1,459	1,458
Exemplary	0.010	0.008	-0.004	-0.019	-0.023
	(0.021)	(0.023)	(0.027)	(0.036)	(0.033)
Mean	0.877	0.878	0.873	0.880	0.874
N	4,935	3,927	2,690	1,420	1,768
Within district success					
Acceptable	0.213**	0.217**	0.276**	0.221	0.288**
	(0.088)	(0.095)	(0.110)	(0.162)	(0.129)
Mean	0.487	0.489	0.493	0.500	0.532
N	760	495	299	140	221
Recognized	0.044*	0.046	0.048	0.035	0.035
	(0.026)	(0.028)	(0.034)	(0.048)	(0.048)
Mean	0.770	0.770	0.768	0.757	0.760
N	5,613	4,250	2,879	1,459	1,458
Exemplary	-0.004	-0.010	-0.026	-0.031	-0.041
	(0.025)	(0.027)	(0.032)	(0.044)	(0.040)
Mean	0.834	0.836	0.832	0.839	0.834
N	4,935	3,927	2,690	1,420	1,768
New district success					
Acceptable	-0.101	-0.112	-0.113	-0.060	-0.098
	(0.068)	(0.075)	(0.083)	(0.103)	(0.090)
Mean	0.097	0.096	0.107	0.143	0.129
N	760	495	299	140	221
Recognized	-0.005	-0.005	-0.013	-0.020	-0.020
	(0.012)	(0.014)	(0.016)	(0.025)	(0.025)
Mean	0.054	0.050	0.052	0.050	0.049
N	5,613	4,250	2,879	1,459	1,458
Exemplary	0.015	0.018	0.022	0.012	0.018
	(0.014)	(0.016)	(0.019)	(0.025)	(0.023)
Mean	0.043	0.041	0.041	0.041	0.040
N	4,935	3,927	2,690	1,420	1,768

Notes: Composite principal labor market success is defined to include being retained at the same school or realizing above median gains in log salary or student composition between academic years $t+2$ and t, with the school rating realized at the end of academic year t. For other details, see the notes to Table A7 Panel A.

Table A18. Regression discontinuity estimates of the impact of attaining the higher rating on composite labor market success, by rating threshold and employment location with controls

	Bandwidth				
	10	7.5	5	2.5	Optimal
Any success					
Acceptable	0.118	0.106	0.141	0.119	0.165
	(0.084)	(0.096)	(0.110)	(0.138)	(0.115)
Mean	0.584	0.585	0.600	0.643	0.661
N	760	495	299	140	221
Recognized	0.035	0.037	0.030	0.011	0.011
	(0.022)	(0.025)	(0.030)	(0.043)	(0.043)
Mean	0.824	0.826	0.820	0.807	0.809
N	5,613	4,250	2,879	1,459	1,458
Exemplary	0.012	0.010	-0.002	-0.022	-0.023
	(0.020)	(0.023)	(0.026)	(0.035)	(0.032)
Mean	0.877	0.878	0.873	0.880	0.874
N	4,935	3,927	2,690	1,420	1,768
Within district success					
Acceptable	0.231***	0.230***	0.267**	0.213	0.284**
	(0.078)	(0.086)	(0.105)	(0.146)	(0.118)
Mean	0.487	0.489	0.493	0.500	0.532
N	760	495	299	140	221
Recognized	0.035	0.036	0.036	0.026	0.026
	(0.025)	(0.027)	(0.033)	(0.048)	(0.048)
Mean	0.770	0.770	0.768	0.757	0.760
N	5,613	4,250	2,879	1,459	1,458
Exemplary	-0.004	-0.009	-0.024	-0.035	-0.042
	(0.024)	(0.027)	(0.032)	(0.043)	(0.039)
Mean	0.834	0.836	0.832	0.839	0.834
N	4,935	3,927	2,690	1,420	1,768
New district success					
Acceptable	-0.112*	-0.123*	-0.126*	-0.094	-0.119
	(0.062)	(0.066)	(0.073)	(0.090)	(0.080)
Mean	0.097	0.096	0.107	0.143	0.129
N	760	495	299	140	221
Recognized	-0.001	0.001	-0.006	-0.015	-0.015
	(0.012)	(0.013)	(0.016)	(0.024)	(0.024)
Mean	0.054	0.050	0.052	0.050	0.049
N	5,613	4,250	2,879	1,459	1,458
Exemplary	0.017	0.019	0.023	0.014	0.019
	(0.014)	(0.016)	(0.019)	(0.024)	(0.023)
Mean	0.043	0.041	0.041	0.041	0.040
N	4,935	3,927	2,690	1,420	1,768

Notes: The results shown in this table match the specifications from Table A17, except that the control set also includes the year-t principal, school, and student characteristics listed in Table 1.