

ONLINE APPENDIX – AHN AND VIGDOR

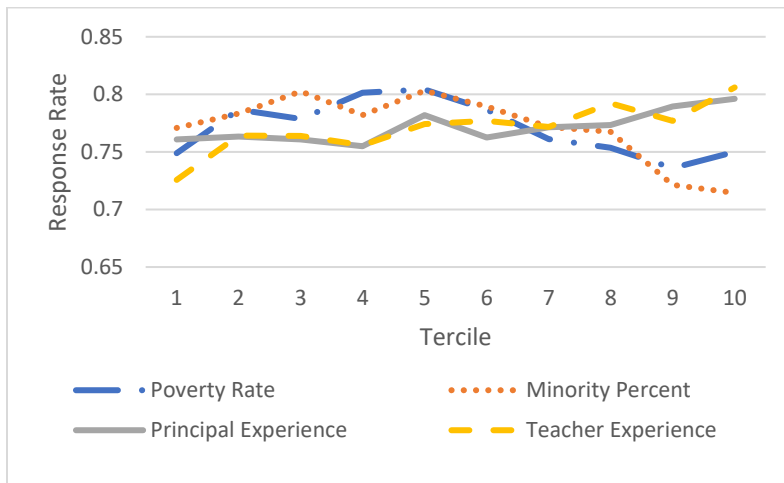
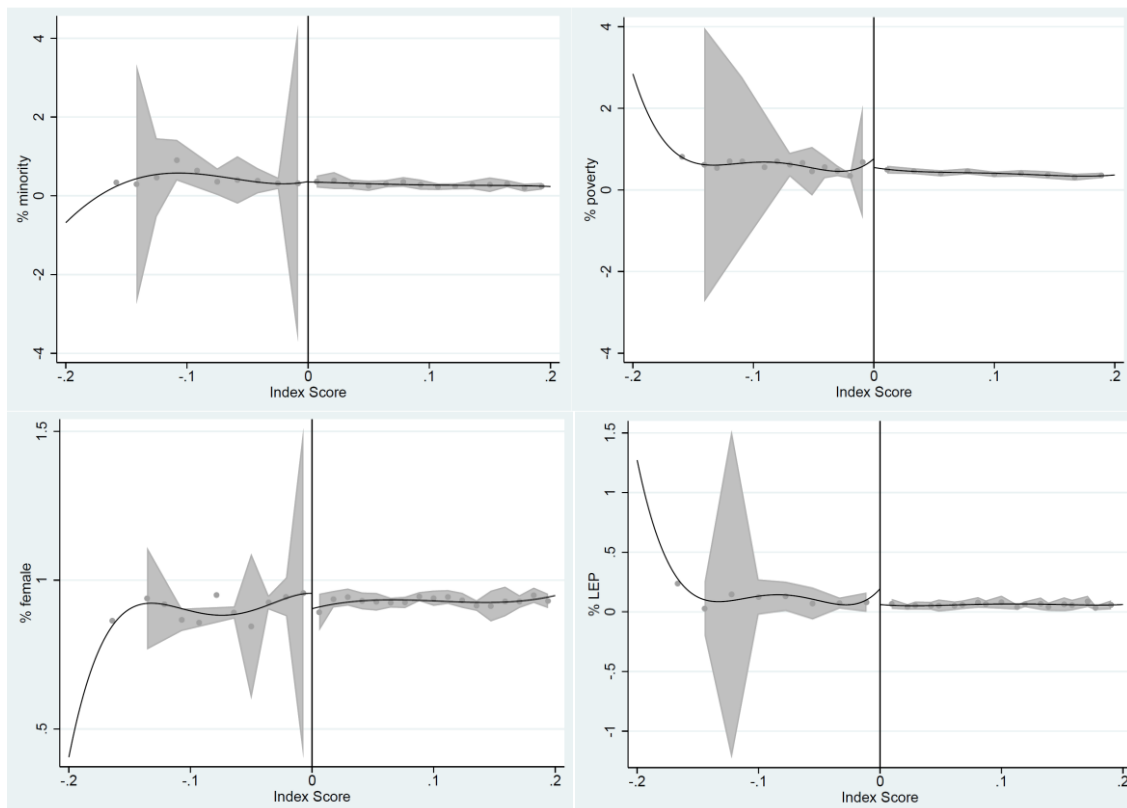
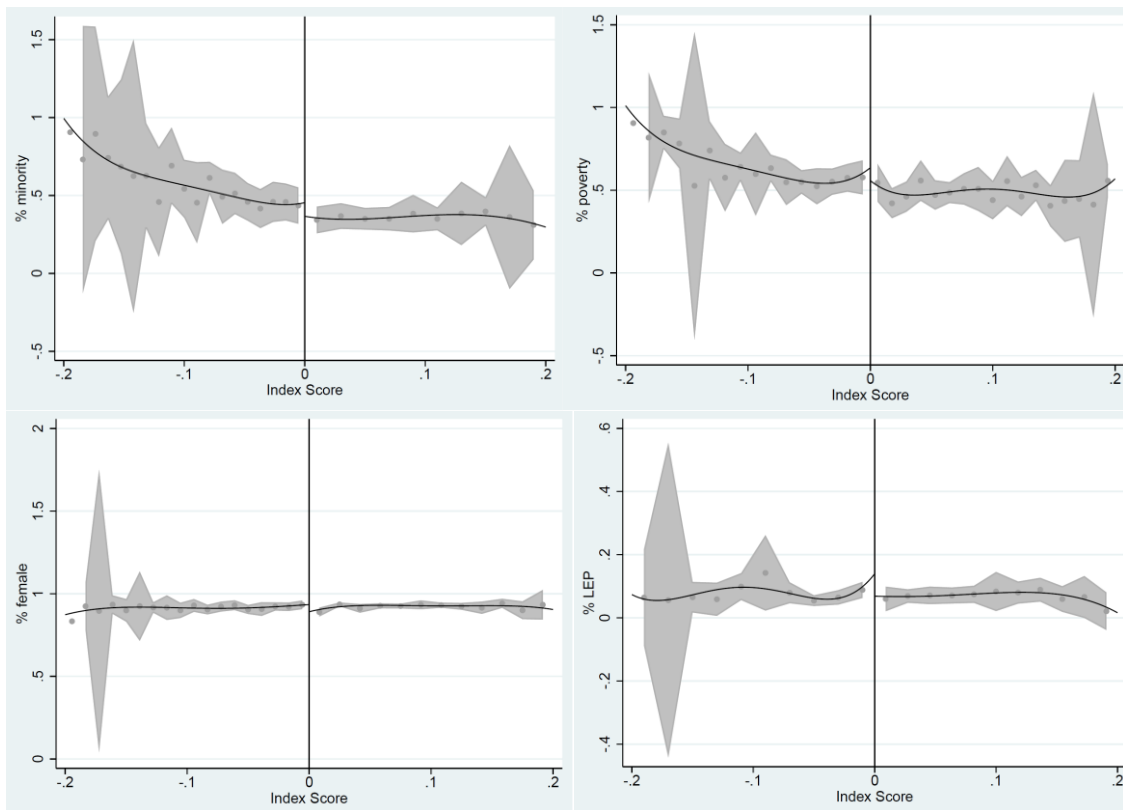


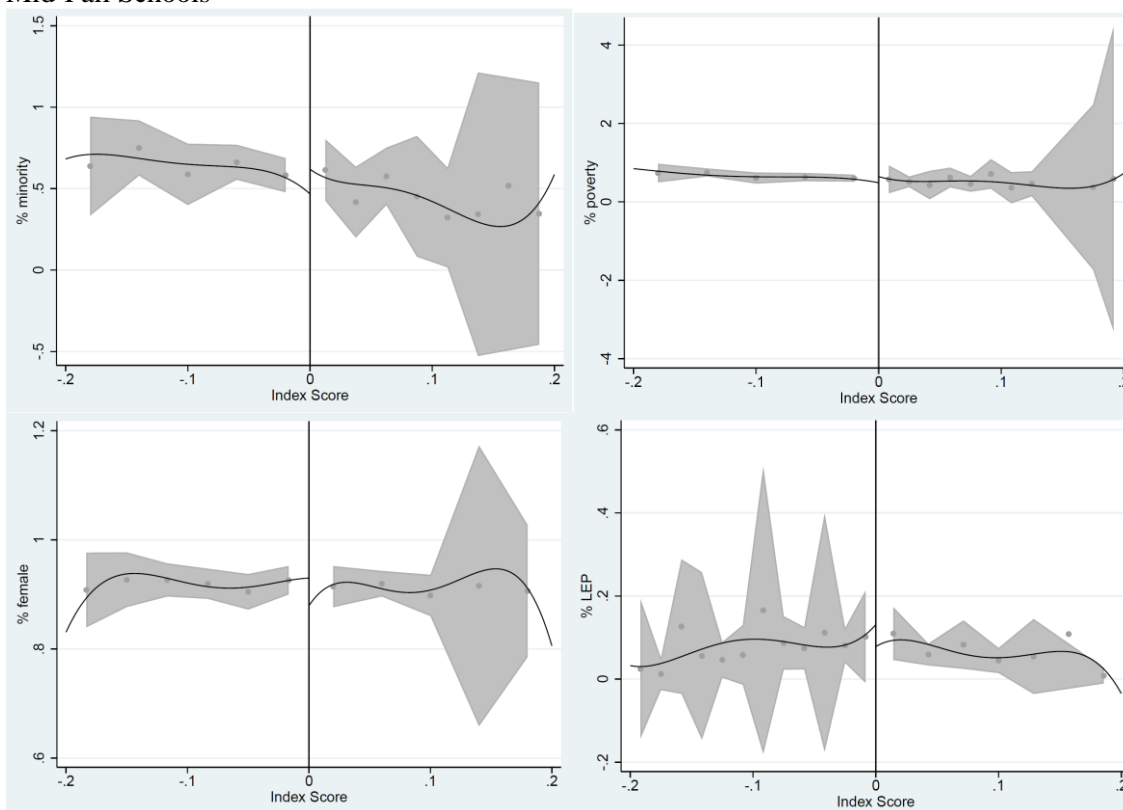
Figure A.1: Response Rate of WCS by Tercile of Various Data Elements



No-Fail Schools



Mid-Fail Schools



High-Fail Schools

Figure A.2: Placebo RD at No, Mid, and High-fail Schools

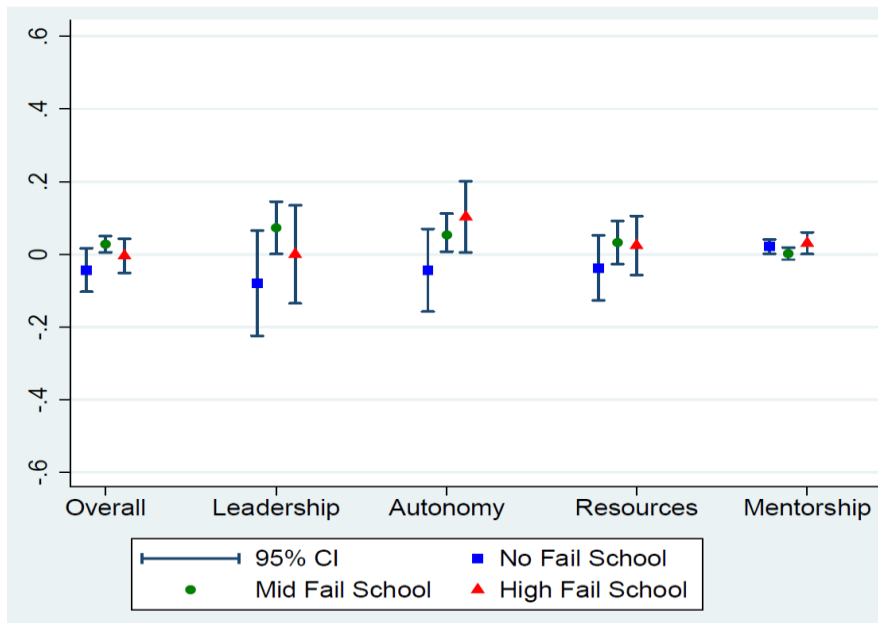


Figure A.3: Effect size and 95% Confidence Interval for overall, leadership, resources, autonomy, and mentorship constructs for No, Mid, High-Fail schools.

Table A.1: Summary Statistics from Student-level and Teacher-level Administrative Data by Accountability History

	No Fail				Mid Fail				High Fail			
Variable	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max
Student Statistics												
Std. Read. Score	0.193	0.989	-3.089	2.66	-0.080	0.992	-3.298	2.66	-0.172	1.004	-3.085	2.66
Std. Math Score	0.405	0.983	-2.907	2.75	0.103	0.986	-3.161	2.75	-0.010	1.004	-2.907	2.75
Female	0.930	0.047	0.722	1	0.923	0.051	0.708	1	0.919	0.054	0.682	1
Minority	0.101	0.115	0	1	0.166	0.165	0	1	0.202	0.169	0	0.786
FRL	0.408	0.492	0	1	0.531	0.499	0	1	0.557	0.497	0	1
LEP	0.068	0.251	0	1	0.077	0.267	0	1	0.083	0.276	0	1
Disabled	0.134	0.064	0	1	0.137	0.054	0	0.667	0.133	0.047	0	0.273
School made AYP	0.607	0.488	0	1	0.436	0.496	0	1	0.378	0.485	0	1
Teacher Statistics												
Female	0.926	0.262	0	1	0.918	0.275	0	1	0.909	0.288	0	1
Minority	0.091	0.288	0	1	0.153	0.360	0	1	0.191	0.393	0	1
New Teacher	0.056	0.231	0	1	0.069	0.254	0	1	0.082	0.274	0	1
Transfer	0.052	0.222	0	1	0.056	0.231	0	1	0.067	0.250	0	1

Table A.2.1: School-level Summary Demographic Statistics from WCS Data by Accountability History

Variable	No Fail (N=372)		Mid-Fail (N=541)		High-Fail (N=150)	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Demographic Statistics						
Proportion female respondents	0.929	0.049	0.921	0.055	0.917	0.057
Proportion nonwhite respondents	0.092	0.123	0.159	0.173	0.209	0.186
Proportion of respondents with no prior experience	0.055	0.058	0.070	0.069	0.084	0.075
Average years of experience (capped at 25 years)	13.328	2.664	12.965	2.651	11.967	2.927
Proportion of respondents national board certified	0.116	0.090	0.101	0.081	0.099	0.079
Proportion with MA degree or higher	0.326	0.127	0.304	0.129	0.292	0.123
Non-instructional hours / week (capped at 12 hours)	2.969	0.631	2.885	0.647	2.869	0.761
Lesson planning hours / week (capped at 12 hours)	2.086	0.468	2.027	0.462	1.994	0.513
Collaborative planning hours / week (capped at 12 hours)	1.481	0.398	1.492	0.382	1.511	0.400
Planning outside regular school hrs (capped at 12 hours)	6.041	1.060	5.997	1.031	6.126	0.993
Assigned a mentor in the first 3 years of teaching	0.897	0.196	0.906	0.177	0.908	0.182
Served as mentor within the past five years	0.738	0.117	0.722	0.113	0.721	0.128
Response rate to WCS*	0.780	0.137	0.766	0.148	0.760	0.164

*We fail to reject the null hypothesis that the response rates of the sub-samples by accountability history and the overall response rate of the entire WCS sample are equal at the 0.05 significance level.

Table A.2.2: School-level Survey Summary Statistics from WCS by Accountability History: Opinion Questions for Teachers: proportion responding somewhat/strongly agree

Variable	No Fail (N=372)		Mid-Fail (N=541)		High-Fail (N=150)	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
<i>Overall Opinions about the School</i>						
My school is a good place to teach and learn	0.813	0.133	0.761	0.153	0.717	0.172
My school is a safe environment	0.891	0.119	0.859	0.138	0.834	0.145
I plan to leave this school within the next two years	0.140	0.072	0.153	0.084	0.158	0.078
<i>Opinions about School Leadership</i>						
The school leadership in my school is effective	0.662	0.164	0.627	0.170	0.600	0.173
There is an atmosphere of trust and mutual respect	0.712	0.195	0.663	0.201	0.619	0.200
The school leadership consistently supports teachers	0.757	0.178	0.719	0.183	0.664	0.197
Performance evals. are handled in an appropriate manner	0.832	0.145	0.816	0.150	0.775	0.155
Procedures for teacher performance evals. are consistent	0.805	0.155	0.787	0.152	0.748	0.158
Teachers receive feedback that can help improve teaching	0.801	0.157	0.788	0.146	0.763	0.159
<i>Opinions about Teacher Autonomy and Involvement in School Level Decision Making</i>						
Teachers are involved in decision making about ed. issues	0.665	0.176	0.628	0.177	0.589	0.177
Teachers trusted to make decisions about instruction	0.765	0.163	0.734	0.169	0.702	0.176
Teachers have a role in selecting instructional materials	0.545	0.178	0.484	0.183	0.445	0.185
Teachers have a role in devising teaching techniques	0.640	0.177	0.606	0.173	0.569	0.168
Teachers have a role in setting assessment practices	0.480	0.144	0.469	0.150	0.454	0.134
Teachers have a role in hiring new teachers	0.122	0.137	0.097	0.107	0.088	0.109
Teachers have a role in implementing discipline policies	0.392	0.152	0.347	0.143	0.327	0.150
Teachers have a role in deciding how budget will be spent	0.137	0.117	0.116	0.111	0.104	0.112
<i>Opinions about Provision of Resources</i>						
Teachers have appropriate instruct. materials & resources	0.817	0.121	0.773	0.142	0.764	0.150
Funds/resources available for prof. development activities	0.609	0.182	0.590	0.188	0.586	0.178
<i>Opinions about Mentoring</i>						
Mentor provided support on instructional strategies	0.970	0.035	0.961	0.041	0.950	0.051

Mentor provided support on curriculum	0.961	0.041	0.950	0.049	0.936	0.061
Mentor provided support on classroom management	0.969	0.038	0.960	0.042	0.950	0.048
Mentor provided support on school/district policies	0.969	0.037	0.959	0.045	0.946	0.051
Mentor provided support with encouragement	0.980	0.029	0.974	0.034	0.965	0.038
Met often with mentor to plan during the school day	0.915	0.070	0.904	0.068	0.883	0.084
Met often with mentor to be observed teaching	0.878	0.077	0.860	0.086	0.843	0.102
Met often with mentor to observe teaching	0.866	0.081	0.846	0.088	0.827	0.101
Mentor has been important in my career	0.919	0.061	0.905	0.069	0.886	0.084
<i>Opinions about Allocation of Time</i>						
Hours per week available for non-instructional time	2.969	0.631	2.882	0.647	2.869	0.761
Hours per week available for individual planning	2.086	0.468	2.026	0.462	1.994	0.513
Hours per week available for collaborative planning	1.481	0.398	1.492	0.382	1.511	0.400
Hours per week spent on work outside of regular hours	6.041	1.060	5.997	1.029	6.126	0.993

Table A.3: Falsification Test using Pre-Determined Demographic Characteristics as Dependent Variables (Alternative Bandwidths)

	All Schools		No Fail		Mid Fail		High Fail	
Placebo Dependent Variable	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
% Minority								
x 0.5 optimal bandwidth	-0.032	(0.057)	0.124	(0.224)	-0.081	(0.085)	0.073	(0.177)
x 2 optimal bandwidth	-0.036	(0.032)	0.049	(0.086)	-0.053	(0.044)	0.028	(0.086)
CCT bandwidth	0.111	(0.080)	0.057	(0.038)	0.130	(0.103)	0.019	(0.216)
% Poverty								
x 0.5 optimal bandwidth	-0.051	(0.061)	0.027	(0.140)	-0.078	(0.088)	0.058	(0.161)
x 2 optimal bandwidth	-0.015	(0.028)	0.038	(0.061)	-0.043	(0.039)	0.002	(0.076)
CCT bandwidth	0.066	(0.066)	0.056	(0.060)	0.095	(0.072)	0.056	(0.190)
% Limited English Proficient								
x 0.5 optimal bandwidth	-0.034	(0.022)	-0.029	(0.080)	-0.034	(0.026)	-0.017	(0.054)
x 2 optimal bandwidth	-0.011	(0.011)	-0.009	(0.025)	-0.008	(0.013)	0.006	(0.025)
CCT bandwidth	0.047	(0.033)	0.140	(0.123)	0.043	(0.042)	0.040	(0.065)
% Female								
x 0.5 optimal bandwidth	-0.006	(0.042)	-0.018	(0.031)	-0.028	(0.048)	0.066	(0.058)
x 2 optimal bandwidth	-0.006	(0.013)	-0.002	(0.016)	-0.008	(0.016)	0.008	(0.022)
CCT bandwidth	-0.016	(0.010)	-0.006	(0.051)	-0.043	** (0.017)	-0.020	(0.034)
% Disabled								
x 0.5 optimal bandwidth	-0.011	(0.020)	-0.016	(0.040)	-0.001	(0.024)	-0.052	(0.033)
x 2 optimal bandwidth	-0.006	(0.008)	-0.005	(0.015)	-0.003	(0.010)	-0.028*	(0.015)
CCT bandwidth	0.022	(0.014)	0.005	(0.036)	0.024	(0.017)	0.049	(0.035)
Math Score Improvement in Subsequent Year								
x 0.5 optimal bandwidth	0.026	(0.020)	-0.061	(0.065)	0.039	(0.027)	0.020	(0.060)
x 2 optimal bandwidth	0.002	(0.013)	-0.025	(0.039)	0.018	(0.016)	0.005	(0.032)
CCT bandwidth	0.008	(0.030)	0.018	(0.037)	-0.480	(0.365)	0.004	(0.091)
Average Salary at School								
x 0.5 optimal bandwidth	4.39	(52.15)	-84.60	(81.06)	13.48	(54.93)	-22.44	(134.90)

x 2 optimal bandwidth	7.82	(32.15)	-80.34	(70.25)	14.64	(43.97)	48.03	(76.63)
CCT bandwidth	29.68	(59.57)	74.31	(195.93)	-1.13	(101.77)	195.41	(225.03)

*Note: Standard errors in parentheses. Bandwidth determination is by the Imbens-Kalyanarama algorithm. The bottom row is the estimator with robust bias-corrected CI from Calonico, Cattaneo, and Titiunik (2014). *** denotes significant at the 1% level; ** the 5% level; * the 10% level*

Table A.4: WCS RD Results – Schools by Accountability History (Alternative Bandwidths)

	All Schl (N=1,063)		No Fail (N=372)		Mid-Fail (N=541)		High-Fail (N=150)	
			Coef.	Std. Err	Coef.	Std. Err.	Coef.	Std. Err.
Math Score Improvement								
x 0.5 optimal bandwidth	0.032	(0.027)	-0.083	(0.066)	0.043*	(0.026)	0.131**	(0.066)
x 2 optimal bandwidth	0.022	(0.015)	-0.031	(0.044)	0.044**	(0.018)	0.012	(0.043)
CCT bandwidth	0.042	(0.039)	0.005	(0.032)	0.108**	(0.052)	0.053*	(0.028)
Reading Score Improvement								
x 0.5 optimal bandwidth	-0.016	(0.029)	0.032	(0.051)	-0.035	(0.044)	-0.088*	(0.035)
x 2 optimal bandwidth	0.011	(0.016)	0.052	(0.033)	0.011	(0.024)	-0.039	(0.029)
CCT bandwidth	-0.052	(0.053)	-0.348	(0.331)	-0.084	(0.091)	-0.187	(0.112)
Overall Opinions about the School								
My school is a safe environment								
x 0.5 optimal bandwidth	0.029	(0.022)	-0.142	(0.099)	0.090***	(0.024)	-0.018	(0.046)
x 2 optimal bandwidth	0.004	(0.014)	-0.078	(0.056)	0.030*	(0.017)	-0.026	(0.034)
CCT bandwidth	0.046*	(0.027)	-0.121	(0.185)	0.081	(0.051)	-0.008	(0.061)
I plan to leave this school within the next two years								
x 0.5 optimal bandwidth	0.017	(0.016)	0.030	(0.035)	-0.005	(0.019)	0.009	(0.026)
x 2 optimal bandwidth	0.002	(0.009)	-0.006	(0.080)	0.003	(0.011)	0.023	(0.022)
CCT bandwidth	-0.014	(0.025)	-0.023	(0.100)	-0.010	(0.028)	0.021	(0.038)
Opinions about School Leadership								
There is an atmosphere of trust and mutual respect								
x 0.5 optimal bandwidth	0.078**	(0.037)	0.041	(0.097)	0.086	(0.055)	-0.067	(0.110)
x 2 optimal bandwidth	0.009	(0.023)	-0.098	(0.067)	0.054*	(0.031)	-0.028	(0.057)
CCT bandwidth	0.062	(0.055)	0.056	(0.345)	0.089	(0.054)	0.212	(0.153)
The school leadership consistently supports teachers								
x 0.5 optimal bandwidth	0.078**	(0.032)	0.005	(0.102)	0.119***	(0.046)	0.022	(0.072)
x 2 optimal bandwidth	0.012	(0.021)	-0.091	(0.068)	0.045*	(0.027)	-0.019	(0.049)
CCT bandwidth	0.110**	(0.056)	0.021	(0.336)	0.104*	(0.058)	0.050	(0.095)
Opinions about Teacher Autonomy and Involvement in School Level Decision Making								
Teachers are involved in decision making about ed. issues								
x 0.5 optimal bandwidth	0.063**	(0.029)	-0.080	(0.089)	0.094**	(0.044)	0.170**	(0.078)
x 2 optimal bandwidth	0.011	(0.021)	-0.116*	(0.068)	0.038	(0.028)	0.064	(0.049)
CCT bandwidth	0.082	(0.056)	0.014	(0.330)	0.102*	(0.060)	0.137	(0.096)
Teachers trusted to make decisions about instruction								
x 0.5 optimal bandwidth	0.114***	(0.033)	0.086	(0.083)	0.115**	(0.049)	0.129	(0.081)

x 2 optimal bandwidth	0.037*	(0.020)	-0.026	(0.057)	0.060**	(0.028)	0.075	(0.047)
CCT bandwidth	0.106**	(0.054)	0.173	(0.237)	0.112**	(0.051)	0.113	(0.130)
Teachers have a role in devising teaching techniques								
x 0.5 optimal bandwidth	0.075**	(0.032)	-0.020	(0.086)	0.108**	(0.045)	0.102	(0.062)
x 2 optimal bandwidth	0.037*	(0.020)	-0.042	(0.060)	0.054**	(0.027)	0.052	(0.043)
CCT bandwidth	0.081*	(0.048)	-0.094	(0.363)	0.088*	(0.048)	0.109	(0.122)
Teachers have a role in setting student assessment practices								
x 0.5 optimal bandwidth	0.081**	0.033)	-0.043	(0.064)	0.098***	(0.038)	0.119**	(0.059)
x 2 optimal bandwidth	0.025	0.017)	-0.014	(0.046)	0.025	(0.023)	0.074**	(0.037)
CCT bandwidth	0.082*	(0.045)	-0.278	(0.170)	0.104**	(0.050)	0.146*	(0.079)
Teachers have a role in hiring new teachers								
x 0.5 optimal bandwidth	0.028	0.019)	0.009	(0.066)	0.005	(0.020)	0.113**	(0.046)
x 2 optimal bandwidth	0.005	(0.012)	0.021	(0.053)	-0.006	(0.014)	0.062**	(0.030)
CCT bandwidth	0.019	(0.027)	-0.051	(0.132)	-0.006	(0.030)	0.103**	(0.050)
Opinions about Provision of Resources								
Teachers have appropriate instructional materials and resources								
x 0.5 optimal bandwidth	0.034	(0.026)	-0.050	(0.056)	0.048*	(0.028)	-0.031	(0.057)
x 2 optimal bandwidth	-0.004	(0.016)	-0.047	(0.041)	0.013	(0.020)	-0.021	(0.038)
CCT bandwidth	0.047	(0.044)	-0.160	(0.122)	0.070	(0.045)	-0.031	(0.077)
Funds/resources available for prof. development activities								
x 0.5 optimal bandwidth	0.082**	(0.037)	0.179***	(0.069)	0.057	(0.050)	0.041	(0.083)
x 2 optimal bandwidth	0.032	(0.021)	-0.017	(0.055)	0.030	(0.029)	0.044	(0.049)
CCT bandwidth	0.069	(0.056)	-0.357	(0.305)	0.020	(0.070)	-0.024	(0.106)
Opinions about Mentoring								
Mentor provided support on instructional strategies								
x 0.5 optimal bandwidth	0.014	(0.008)	0.033**	(0.015)	0.006	(0.010)	0.041*	(0.022)
x 2 optimal bandwidth	0.011**	(0.005)	0.016	(0.010)	0.004	(0.006)	0.021	(0.014)
CCT bandwidth	0.017*	(0.009)	0.061*	(0.034)	0.008	(0.016)	0.018	(0.028)
Mentor provided support on curriculum								
x 0.5 optimal bandwidth	0.027***	(0.009)	0.068***	(0.013)	0.019	(0.012)	0.038*	(0.021)
x 2 optimal bandwidth	0.011*	(0.006)	0.025**	(0.012)	0.006	(0.008)	0.007	(0.015)
CCT bandwidth	0.026**	(0.012)	0.082**	(0.036)	0.013	(0.017)	0.047*	(0.027)
Mentor provided support on classroom management								
x 0.5 optimal bandwidth	0.018**	(0.008)	0.019	(0.017)	0.012	(0.011)	0.029**	(0.015)
x 2 optimal bandwidth	0.005	(0.005)	0.009	(0.010)	0.004	(0.006)	0.005	(0.012)
CCT bandwidth	0.015	(0.009)	0.046*	(0.024)	0.017	(0.016)	0.043*	(0.025)

Mentor provided support on school/district policies								
x 0.5 optimal bandwidth	0.016*	(0.009)	0.054***	(0.014)	0.002	(0.012)	0.034	(0.021)
x 2 optimal bandwidth	0.008	(0.005)	0.024**	(0.010)	-0.001	(0.007)	0.024*	(0.014)
CCT bandwidth	0.020**	(0.009)	0.046*	(0.024)	0.017	(0.016)	0.043*	(0.025)
Mentor has been important in my career								
x 0.5 optimal bandwidth	0.010	(0.013)	0.033	(0.023)	0.002	(0.022)	0.040	(0.031)
x 2 optimal bandwidth	0.003	(0.008)	0.007	(0.018)	-0.003	(0.012)	0.027	(0.022)
CCT bandwidth	0.011	(0.022)	0.173*	(0.108)	-0.010	(0.021)	0.039	(0.031)
Opinions about Allocation of Time								
Non-instructional hours have increased by x hours								
x 0.5 optimal bandwidth	0.214*	(0.116)	-0.485	(0.312)	0.308**	(0.130)	0.807**	(0.350)
x 2 optimal bandwidth	0.091	(0.072)	-0.031	(0.184)	0.148	(0.094)	0.190	(0.197)
CCT bandwidth	0.080	(0.152)	-0.350	(0.235)	0.305	(0.218)	0.803	(0.553)
Individual planning hours have increased by x hours								
x 0.5 optimal bandwidth	0.134**	(0.068)	-0.175	(0.182)	0.275***	(0.094)	0.803***	(0.278)
x 2 optimal bandwidth	0.062	(0.050)	-0.012	(0.132)	0.143**	(0.068)	0.165	(0.158)
CCT bandwidth	0.110	(0.136)	0.037	(0.131)	0.252*	(0.144)	1.014**	(0.432)
Collaborative preparation hours have increased by x hours								
x 0.5 optimal bandwidth	0.008	(0.070)	-0.349**	(0.136)	0.072	(0.076)	0.123	(0.192)
x 2 optimal bandwidth	-0.004	(0.041)	-0.152	(0.094)	0.041	(0.055)	-0.111	(0.112)
CCT bandwidth	0.110	(0.082)	-0.253*	(0.131)	0.108	(0.105)	0.123	(0.189)

Note: Standard errors in parentheses. Bandwidth determination is by the Imbens-Kalyanarama algorithm.

The bottom row is the estimator with robust bias-corrected CI from Calonico, Cattaneo, and Titiunik (2014).

**** denotes an estimate significant at the 1% level; ** the 5% level; * the 10% level*

Table A.5: Factor Loaded Sample RD Estimates

	All Schools		No Fail		Mid-Fail		High-Fail	
	Coef	Std. Err.	Coef	Std. Err.	Coef	Std. Err.	Coef.	Std. Err.
Overall								
At optimal bandwidth	0.003	(0.008)	-0.043	(0.030)	0.028 **	(0.011)	-0.004	(0.024)
x 0.5 optimal bandwidth	0.009	(0.011)	-0.039	(0.048)	0.034 **	(0.015)	-0.014	(0.030)
x 2 optimal bandwidth	-0.002	(0.008)	-0.036	(0.029)	0.014	(0.010)	-0.008	(0.019)
CCT bandwidth	0.019	(0.020)	-0.079	(0.189)	0.047 **	(0.022)	-0.013	(0.042)
Leadership								
At optimal bandwidth	0.009	(0.024)	-0.079	(0.074)	0.072 **	(0.036)	-0.000	(0.069)
x 0.5 optimal bandwidth	0.042	(0.030)	0.001	(0.106)	0.077 *	(0.043)	-0.030	(0.100)
x 2 optimal bandwidth	-0.004	(0.022)	-0.097	(0.071)	0.032	(0.030)	-0.013	(0.053)
CCT bandwidth	0.086	(0.065)	0.105	(0.273)	0.104 *	(0.054)	-0.040	(0.136)
Autonomy								
At optimal bandwidth	0.033	(0.021)	-0.044	(0.058)	0.053 **	(0.026)	0.103 **	(0.050)
x 0.5 optimal bandwidth	0.064	(0.028)	0.003	(0.084)	0.080 *	(0.042)	0.122 *	(0.073)
x 2 optimal bandwidth	0.016	(0.018)	-0.057	(0.056)	0.034	(0.025)	0.053	(0.039)
CCT bandwidth	0.078	(0.055)	-0.143	(0.251)	0.089 *	(0.053)	0.129	(0.121)
Resources								
At optimal bandwidth	0.016	(0.021)	-0.037	(0.046)	0.033	(0.030)	0.024	(0.041)
x 0.5 optimal bandwidth	0.053 *	(0.030)	0.023	(0.055)	0.056	(0.044)	0.030	(0.052)
x 2 optimal bandwidth	0.007	(0.018)	-0.037	(0.045)	0.016	(0.024)	0.012	(0.039)
CCT bandwidth	0.065	(0.049)	-0.070	(0.138)	0.073	(0.052)	-0.028	(0.090)
Mentorship								
At optimal bandwidth	0.010	(0.006)	0.022 **	(0.010)	0.002	(0.008)	0.031 **	(0.015)
x 0.5 optimal bandwidth	0.015 *	(0.008)	0.027 **	(0.012)	0.007	(0.011)	0.043 **	(0.019)
x 2 optimal bandwidth	0.004	(0.005)	0.020 *	(0.011)	-0.002	(0.007)	0.021 *	(0.013)
CCT bandwidth	0.019	(0.013)	0.068 **	(0.034)	0.006	(0.017)	0.044 *	(0.024)
Time Management								

At optimal bandwidth	0.053	(0.076)	-0.135	(0.202)	0.154	(0.096)	0.254	(0.179)
x 0.5 optimal bandwidth	0.072	(0.099)	-0.417	(0.269)	0.161	(0.115)	0.485 *	(0.260)
x 2 optimal bandwidth	0.045	(0.065)	-0.081	(0.193)	0.133	(0.082)	0.138	(0.165)
CCT bandwidth	0.068	(0.164)	-1.377 *	(0.710)	0.020	(0.016)	0.763	(0.479)

Note: Standard errors in parentheses. Bandwidth determination is by the Imbens-Kalyanarama algorithm.

The bottom row is the estimator with robust bias-corrected CI from Calonico, Cattaneo, and Titiunik (2014).

**** denotes an estimate significant at the 1% level; ** the 5% level; * the 10% level*

Table A.6: RD Power Calculations

	All Schools	No Fails	Mid Fails	High Fails
My school is a safe environment	0.947	0.634	0.804	0.502
I plan to leave this school in the next two years	0.849	0.373	0.997	0.914
There is an atmosphere of trust and mutual respect	0.884	0.164	0.661	0.347
The leadership consistently supports teachers	0.913	0.145	0.739	0.561
Teachers involved in decision making about ed. issues	0.917	0.309	0.604	0.411
Teachers trusted to make instruction decisions	0.952	0.192	0.651	0.724
Teachers have role in devising teaching techniques	0.985	0.771	0.669	0.372
Teachers have role in setting assessment practices	0.997	0.984	0.887	0.364
Teachers have a role in hiring new teachers	0.999	0.213	0.989	0.500
Teachers have appropriate materials and resources	0.960	0.518	0.780	0.844
Funds/resources available for prof. development	0.897	0.232	0.588	0.316
Mentor provided support on instruct. strategies	0.653	0.455	0.735	0.338
Mentor provided support on curriculum	0.628	0.238	0.689	0.399
Mentor provided support on class management	0.606	0.457	0.740	0.344
Mentor provided support on schl/district policies	0.466	0.198	0.723	0.397
Mentor has been important in my career	0.755	0.361	0.585	0.410
Non-instructional hrs increased by x hrs.	0.970	0.922	0.827	0.589
Individual planning hours increased by x hrs.	0.969	0.560	0.861	0.612
Collaborative preparation hours increased by x hrs.	0.974	0.690	0.669	0.989

Note: Included covariates: % minority, % poverty, % disabled, % LEP, % female, school size. Triangular kernel used.

Table A.7: Testing for Differential Effects between Mid-Fail and High-Fail Schools using Parametric RD Regression of Impact of Failure with Linear, Quadratic, and Cubic Functions of the Assignment Variable

	Treatment		Treatment X High Fail	
	Coef	Std. Err.	Coef	Std. Err.
Math Score Improvement				
Linear	0.031 *	(0.016)	0.000	(0.027)
Quadratic	0.041 *	(0.022)	0.049	(0.041)
Cubic	0.051 *	(0.029)	0.096 *	(0.055)
My school is a safe environment				
Linear	0.005	(0.016)	-0.003	(0.026)
Quadratic	0.043 **	(0.021)	-0.011	(0.039)
Cubic	0.088 ***	(0.028)	-0.059	(0.053)

I plan to leave this school in the next two years				
Linear	0.002	(0.010)	0.008	(0.017)
Quadratic	-0.001	(0.013)	0.025	(0.025)
Cubic	0.011	(0.018)	0.033	(0.033)
There is an atmosphere of trust and mutual respect				
Linear	0.002	(0.025)	-0.004	(0.042)
Quadratic	0.048	(0.034)	-0.012	(0.062)
Cubic	0.100 **	(0.044)	-0.022	(0.083)
The leadership consistently supports teachers				
Linear	0.009	(0.024)	0.015	(0.039)
Quadratic	0.044	(0.032)	0.037	(0.059)
Cubic	0.090 **	(0.042)	0.041	(0.079)
Teachers involved in decision making about ed. issues				
Linear	0.022	(0.023)	0.007	(0.038)
Quadratic	0.069 **	(0.030)	0.032	(0.056)
Cubic	0.107 ***	(0.040)	0.076	(0.075)
Teachers trusted to make instruction decisions				
Linear	0.040 *	(0.022)	0.005	(0.036)
Quadratic	0.062 **	(0.029)	0.064	(0.054)
Cubic	0.098 **	(0.039)	0.108	(0.073)
Teachers have role in devising teaching techniques				
Linear	0.042 **	(0.021)	-0.004	(0.035)
Quadratic	0.059 **	(0.029)	0.026	(0.053)
Cubic	0.093 **	(0.038)	0.034	(0.071)
Teachers have role in setting assessment practices				
Linear	0.024	(0.019)	0.034	(0.031)
Quadratic	0.028	(0.025)	0.053	(0.047)
Cubic	0.071 **	(0.033)	0.089	(0.063)
Teachers have a role in hiring new teachers				
Linear	0.005	(0.014)	0.025	(0.023)
Quadratic	0.004	(0.018)	0.053	(0.034)
Cubic	0.026	(0.024)	0.047	(0.046)
Teachers have appropriate materials and resources				
Linear	0.001	(0.018)	-0.024	(0.030)
Quadratic	0.027	(0.024)	-0.022	(0.045)
Cubic	0.028	(0.032)	-0.014	(0.061)
Funds/resources available for prof. development				
Linear	0.017	(0.024)	0.002	(0.040)
Quadratic	0.070 **	(0.032)	-0.025	(0.060)
Cubic	0.073 *	(0.043)	0.010	(0.081)

Mentor provided support on instruct. strategies				
Linear	0.002	(0.006)	0.010	(0.010)
Quadratic	0.011	(0.008)	0.019	(0.014)
Cubic	0.014	(0.010)	0.034 *	(0.019)
Mentor provided support on curriculum				
Linear	0.002	(0.007)	0.008	(0.011)
Quadratic	0.013	(0.009)	0.006	(0.016)
Cubic	0.027 **	(0.012)	0.011	(0.022)
Mentor provided support on class management				
Linear	0.001	(0.006)	0.005	(0.009)
Quadratic	0.007	(0.008)	0.016	(0.014)
Cubic	0.020 **	(0.010)	0.024	(0.019)
Mentor provided support on schl/district policies				
Linear	-0.001	(0.006)	0.017 *	(0.010)
Quadratic	0.003	(0.008)	0.009	(0.015)
Cubic	0.016	(0.010)	0.005	(0.020)
Mentor has been important in my career				
Linear	-0.007	(0.009)	0.029 *	(0.016)
Quadratic	0.003	(0.013)	0.033	(0.023)
Cubic	0.005	(0.017)	0.011	(0.031)
Non-instructional hrs increased by x hrs.				
Linear	0.084	(0.086)	0.132	(0.143)
Quadratic	0.205 *	(0.116)	0.097	(0.214)
Cubic	0.302 **	(0.153)	0.338	(0.288)
Individual planning hours increased by x hrs.				
Linear	0.101 *	(0.061)	0.020	(0.101)
Quadratic	0.172 **	(0.082)	0.082	(0.150)
Cubic	0.264 **	(0.108)	0.152	(0.203)
Collaborative preparation hours increased by x hrs.				
Linear	-0.002	(0.050)	-0.046	(0.083)
Quadratic	0.056	(0.068)	-0.001	(0.125)
Cubic	-0.013	(0.089)	0.223	(0.168)

*Note: Included covariates: % minority, % poverty, % disabled, % LEP, % female, school size. *** denotes an estimate significant at the 1% level; ** the 5% level; * the 10% level*

Table A.8: RD Regressions at the Teacher-level with School-level Clustered Errors

	All Schools		No Fail		Mid-Fail		High-Fail	
	Coef	Std Err.	Coef	Std Err.	Coef	Std Err.	Coef.	Std Err.
My school is a safe environment								
At optimal bandwidth	0.017	(0.016)	-0.128 **	(0.063)	0.064 ***	(0.020)	-0.032	(0.031)
x 0.5 optimal bandwidth	0.043 *	(0.022)	-0.131	(0.099)	0.103 ***	(0.027)	-0.016	(0.040)
x 2 optimal bandwidth	0.002	(0.014)	-0.094	(0.058)	0.032 *	(0.016)	-0.038	(0.028)
I plan to leave this school in the next 2 years								
At optimal bandwidth	0.004	(0.012)	-0.006	(0.021)	-0.001	(0.016)	0.026	(0.023)
x 0.5 optimal bandwidth	0.003	(0.019)	0.024	(0.027)	-0.009	(0.024)	0.012	(0.029)
x 2 optimal bandwidth	0.001	(0.010)	-0.009	(0.019)	0.003	(0.013)	0.011	(0.019)
There is an atmosphere of trust and mutual respect								
At optimal bandwidth	0.042	(0.031)	-0.063	(0.085)	0.113 **	(0.049)	-0.065	(0.087)
x 0.5 optimal bandwidth	0.098 **	(0.043)	0.112	(0.120)	0.045	(0.069)	-0.263 **	(0.118)
x 2 optimal bandwidth	0.017	(0.025)	-0.088	(0.081)	0.062	(0.039)	-0.031	(0.063)
The leadership consistently supports teachers								
At optimal bandwidth	0.035	(0.030)	-0.050	(0.086)	0.087 **	(0.042)	-0.011	(0.083)
x 0.5 optimal bandwidth	0.101 **	(0.040)	0.073	(0.127)	0.115 *	(0.060)	-0.038	(0.123)
x 2 optimal bandwidth	0.009	(0.025)	-0.080	(0.080)	0.040	(0.033)	-0.026	(0.065)
Teachers involved in decision making about ed. issues								
At optimal bandwidth	0.040	(0.029)	-0.096	(0.076)	0.073	(0.045)	0.122 *	(0.073)
x 0.5 optimal bandwidth	0.086 **	(0.039)	0.005	(0.114)	0.109 *	(0.063)	0.100	(0.117)
x 2 optimal bandwidth	0.014	(0.024)	-0.109	(0.074)	0.037	(0.036)	0.072	(0.058)
Teachers trusted to make instruction decisions								
At optimal bandwidth	0.076 **	(0.031)	0.033	(0.067)	0.087 **	(0.041)	0.107	(0.072)
x 0.5 optimal bandwidth	0.125 ***	(0.042)	0.198 *	(0.120)	0.112 **	(0.053)	0.016	(0.104)
x 2 optimal bandwidth	0.040 *	(0.024)	-0.022	(0.062)	0.060 *	(0.033)	0.060	(0.056)
Teachers have role in devising teaching techniques								
At optimal bandwidth	0.054	(0.034)	-0.039	(0.067)	0.066	(0.041)	0.075	(0.066)

x 0.5 optimal bandwidth	0.084	*	(0.049)	0.008	(0.104)	0.101	*	(0.054)	0.078	(0.088)	
x 2 optimal bandwidth	0.029		(0.026)	-0.054	(0.062)	0.051		(0.033)	0.034	(0.056)	
Teachers have role in setting assessment practices											
At optimal bandwidth	0.046	*	(0.025)	-0.028	(0.047)	0.029		(0.029)	0.076	*	(0.043)
x 0.5 optimal bandwidth	0.087	**	(0.037)	-0.029	(0.073)	0.064	*	(0.034)	0.124	**	(0.049)
x 2 optimal bandwidth	0.018		(0.020)	-0.029	(0.045)	0.025		(0.026)	0.052		(0.039)
Teachers have a role in hiring new teachers											
At optimal bandwidth	0.015		(0.021)	0.043	(0.079)	-0.007		(0.020)	0.097	*	(0.055)
x 0.5 optimal bandwidth	0.020		(0.029)	0.035	(0.118)	0.001		(0.026)	0.117		(0.075)
x 2 optimal bandwidth	0.002		(0.017)	0.043	(0.077)	-0.015		(0.016)	0.067		(0.045)
Teachers have appropriate materials and resources											
At optimal bandwidth	-0.004		(0.023)	-0.059	(0.048)	0.026		(0.034)	-0.021		(0.039)
x 0.5 optimal bandwidth	0.036		(0.032)	-0.004	(0.068)	0.067		(0.043)	-0.045		(0.049)
x 2 optimal bandwidth	-0.006		(0.018)	-0.045	(0.046)	0.008		(0.027)	-0.022		(0.035)
Funds/resources available for prof. development											
At optimal bandwidth	0.043		(0.028)	-0.004	(0.059)	0.037		(0.042)	0.043		(0.068)
x 0.5 optimal bandwidth	0.089	**	(0.043)	0.184	**	(0.080)	0.071	(0.058)	0.020		(0.087)
x 2 optimal bandwidth	0.024		(0.021)	-0.033	(0.059)	0.016		(0.030)	0.038		(0.056)
Mentor provided support on instruct. Strategies											
At optimal bandwidth	0.014	**	(0.006)	0.017	*	(0.010)	0.005	(0.008)	0.035	***	(0.014)
x 0.5 optimal bandwidth	0.019	**	(0.008)	0.029	**	(0.014)	0.006	(0.008)	0.041	**	(0.018)
x 2 optimal bandwidth	0.009		(0.005)	0.014	*	(0.009)	0.002	(0.007)	0.020	*	(0.012)
Mentor provided support on curriculum											
At optimal bandwidth	0.012	*	(0.006)	0.030	**	(0.014)	0.004	(0.009)	0.023		(0.016)
x 0.5 optimal bandwidth	0.019	**	(0.008)	0.071	***	(0.013)	0.009	(0.010)	0.045	**	(0.021)
x 2 optimal bandwidth	0.006		(0.006)	0.021	*	(0.012)	-0.000	(0.008)	0.011		(0.013)
Mentor provided support on class management											
At optimal bandwidth	0.010	*	(0.005)	0.008	(0.010)	0.006		(0.007)	0.023	*	(0.014)
x 0.5 optimal bandwidth	0.016	**	(0.007)	0.005	(0.016)	0.008		(0.008)	0.043	**	(0.018)

x 2 optimal bandwidth	0.005	(0.005)	0.010	(0.010)	0.003	(0.007)	0.012	(0.011)
<u>Mentor provided support on schl/district policies</u>								
At optimal bandwidth	0.010	(0.006)	0.025	** (0.010)	-0.000	(0.008)	0.026	* (0.015)
x 0.5 optimal bandwidth	0.014	* (0.008)	0.041	*** (0.014)	0.005	(0.011)	0.037	* (0.021)
x 2 optimal bandwidth	0.006	(0.006)	0.022	** (0.010)	-0.003	(0.007)	0.023	* (0.012)
<u>Mentor has been important in my career</u>								
At optimal bandwidth	0.005	(0.010)	0.017	(0.016)	-0.008	(0.014)	0.026	(0.019)
x 0.5 optimal bandwidth	0.005	(0.014)	0.034	(0.021)	-0.011	(0.017)	0.023	(0.024)
x 2 optimal bandwidth	-0.000	(0.009)	0.012	(0.015)	-0.010	(0.012)	0.030	* (0.016)
<u>Non-instructional hours increased by x hrs.</u>								
At optimal bandwidth	0.141	(0.099)	-0.132	(0.231)	0.258	** (0.122)	0.402	** (0.197)
x 0.5 optimal bandwidth	0.213	(0.131)	-0.288	(0.345)	0.232	(0.142)	0.716	** (0.309)
x 2 optimal bandwidth	0.109	(0.091)	-0.061	(0.207)	0.205	* (0.109)	0.258	(0.204)
<u>Individual planning hours increased by x hrs.</u>								
At optimal bandwidth	0.070	(0.069)	-0.057	(0.167)	0.226	** (0.098)	0.296	* (0.178)
x 0.5 optimal bandwidth	0.152	* (0.082)	-0.098	(0.221)	0.255	** (0.128)	0.696	** (0.271)
x 2 optimal bandwidth	0.063	(0.065)	-0.024	(0.163)	0.173	** (0.082)	0.150	(0.144)
<u>Collaborative preparation hours increased by x hrs.</u>								
At optimal bandwidth	-0.039	(0.056)	-0.182	(0.114)	0.047	(0.071)	-0.082	(0.165)
x 0.5 optimal bandwidth	-0.023	(0.076)	-0.285	(0.186)	0.056	(0.076)	0.228	(0.214)
x 2 optimal bandwidth	-0.019	(0.047)	-0.129	(0.099)	0.041	(0.061)	-0.105	(0.138)

*Note: Included covariates: % minority, % poverty, % disabled, % LEP, % female, school size. Std. Errors clustered at the school level. *** denotes an estimate significant at the 1% level; ** the 5% level; * the 10% level*

Table A.9: Parametric RD Regression with Linear, Quadratic, and Cubic Functions of the Assignment Variable

	All Schools			No Fail		Mid-Fail		High-Fail	
	Coef		Std. Err.	Coef		Std. Err.	Coef		Std. Err.
Math Score Improvement									
Linear	0.032	**	(0.013)	0.019		(0.039)	0.041	**	(0.017)
Quadratic	0.010		(0.018)	-0.096		(0.067)	0.058	**	(0.024)
Cubic	0.052	**	(0.024)	-0.115		(0.109)	0.045		(0.032)
My school is a safe environment									
Linear	-0.002		(0.013)	-0.061	*	(0.036)	0.015		(0.017)
Quadratic	0.016		(0.017)	-0.145	**	(0.065)	0.073	***	(0.023)
Cubic	0.045	*	(0.023)	-0.117		(0.107)	0.113	***	(0.032)
I plan to leave this school in the next two years									
Linear	-0.000		(0.008)	-0.012		(0.022)	-0.000		(0.011)
Quadratic	-0.001		(0.011)	0.001		(0.040)	-0.001		(0.015)
Cubic	0.011		(0.014)	0.055		(0.065)	0.001		(0.021)
There is an atmosphere of trust and mutual respect									
Linear	-0.011		(0.020)	-0.097	*	(0.059)	0.016		(0.028)
Quadratic	0.032		(0.028)	0.006		(0.107)	0.091	**	(0.038)
Cubic	0.090	**	(0.037)	0.069		(0.177)	0.164	***	(0.051)
The leadership consistently supports teachers									
Linear	-0.002		(0.019)	-0.097	*	(0.054)	0.024		(0.025)
Quadratic	0.033		(0.026)	-0.038		(0.099)	0.076	**	(0.035)
Cubic	0.077	**	(0.035)	-0.026		(0.163)	0.139	***	(0.048)
Teachers involved in decision making about ed. issues									
Linear	-0.003		(0.018)	-0.118	**	(0.052)	0.030		(0.025)
Quadratic	0.050	**	(0.025)	-0.090		(0.096)	0.080	**	(0.034)
Cubic	0.084	**	(0.034)	-0.009		(0.158)	0.121	**	(0.047)
Teachers trusted to make instruction decisions									

Linear	0.022	(0.017)	-0.032	(0.049)	0.044 *	(0.024)	0.026	(0.044)
Quadratic	0.051 **	(0.024)	0.062	(0.088)	0.087 ***	(0.033)	0.090	(0.066)
Cubic	0.102 ***	(0.032)	0.120	(0.146)	0.123 ***	(0.045)	0.154 *	(0.091)
Teachers have role in devising teaching techniques								
Linear	0.027	(0.018)	-0.032	(0.053)	0.043 *	(0.023)	0.030	(0.040)
Quadratic	0.048 **	(0.024)	-0.025	(0.096)	0.076 **	(0.032)	0.063	(0.061)
Cubic	0.077 **	(0.032)	0.001	(0.158)	0.096 **	(0.044)	0.106	(0.084)
Teachers have role in setting assessment practices								
Linear	0.023	(0.015)	0.004	(0.044)	0.022	(0.021)	0.063 *	(0.035)
Quadratic	0.023	(0.021)	-0.096	(0.080)	0.038	(0.029)	0.072	(0.053)
Cubic	0.051 *	(0.028)	-0.038	(0.132)	0.082 **	(0.040)	0.147 **	(0.073)
Teachers have a role in hiring new teachers								
Linear	0.002	(0.012)	0.028	(0.041)	-0.004	(0.015)	0.053 *	(0.028)
Quadratic	0.009	(0.017)	0.037	(0.074)	-0.013	(0.021)	0.098 **	(0.042)
Cubic	0.022	(0.022)	-0.017	(0.123)	0.008	(0.028)	0.144 **	(0.057)
Teachers have appropriate materials and resources								
Linear	-0.010	(0.014)	-0.038	(0.036)	0.006	(0.020)	-0.028	(0.037)
Quadratic	0.009	(0.019)	-0.062	(0.066)	0.034	(0.027)	-0.009	(0.057)
Cubic	0.009	(0.026)	-0.059	(0.110)	0.064 *	(0.037)	-0.032	(0.078)
Funds/resources available for prof. development								
Linear	0.018	(0.019)	-0.013	(0.056)	0.016	(0.027)	0.026	(0.047)
Quadratic	0.053 **	(0.027)	0.101	(0.102)	0.059	(0.037)	0.077	(0.069)
Cubic	0.074 **	(0.035)	0.224	(0.168)	0.078	(0.050)	0.115	(0.096)
Mentor provided support on instruct. strategies								
Linear	0.005	(0.004)	0.014	(0.010)	0.002	(0.006)	0.012	(0.014)
Quadratic	0.015 **	(0.006)	0.028	(0.019)	0.013	(0.008)	0.029	(0.020)
Cubic	0.026 ***	(0.008)	0.074 **	(0.031)	0.011	(0.011)	0.058 **	(0.028)
Mentor provided support on curriculum								
Linear	0.005	(0.005)	0.021 *	(0.013)	0.004	(0.007)	0.002	(0.015)

Quadratic	0.017	**	(0.007)	0.056	**	(0.023)	0.017	*	(0.010)	0.012	(0.023)
Cubic	0.035	***	(0.009)	0.112	***	(0.037)	0.023	*	(0.013)	0.050	(0.031)
<hr/> Mentor provided support on class management <hr/>											
Linear	0.002		(0.004)	0.012		(0.011)	0.002		(0.006)	0.003	(0.012)
Quadratic	0.009		(0.006)	0.017		(0.020)	0.011		(0.008)	0.015	(0.019)
Cubic	0.025	***	(0.008)	0.044		(0.032)	0.016		(0.011)	0.053	** (0.025)
<hr/> Mentor provided support on schl/district policies <hr/>											
Linear	0.004		(0.005)	0.023	**	(0.011)	-0.004		(0.006)	0.020	(0.013)
Quadratic	0.011	*	(0.006)	0.049	**	(0.020)	0.006		(0.009)	0.015	(0.020)
Cubic	0.024	***	(0.008)	0.075	**	(0.032)	0.008		(0.012)	0.041	(0.027)
<hr/> Mentor has been important in my career <hr/>											
Linear	-0.002		(0.007)	0.002		(0.018)	-0.007		(0.010)	0.020	(0.021)
Quadratic	0.011		(0.010)	0.033		(0.033)	0.010		(0.014)	0.028	(0.033)
Cubic	0.029	**	(0.013)	0.079		(0.055)	-0.005		(0.019)	0.028	(0.044)
<hr/> Non-instructional hrs increased by x hrs. <hr/>											
Linear	0.068		(0.068)	0.016		(0.188)	0.104		(0.090)	0.202	(0.193)
Quadratic	0.133		(0.094)	-0.304		(0.342)	0.255	**	(0.125)	0.199	(0.293)
Cubic	0.194		(0.125)	-0.620		(0.564)	0.347	**	(0.171)	0.566	(0.402)
<hr/> Individual planning hours increased by x hrs. <hr/>											
Linear	0.059		(0.049)	0.032		(0.140)	0.117	*	(0.064)	0.113	(0.131)
Quadratic	0.076		(0.067)	-0.093		(0.254)	0.208	**	(0.089)	0.183	(0.198)
Cubic	0.145		(0.089)	-0.349		(0.418)	0.331	***	(0.121)	0.360	(0.273)
<hr/> Collaborative preparation hours increased by x hrs. <hr/>											
Linear	-0.011		(0.040)	-0.125		(0.115)	0.024		(0.054)	-0.111	(0.105)
Quadratic	0.007		(0.055)	-0.298		(0.209)	0.109		(0.075)	-0.090	(0.159)
Cubic	-0.055		(0.073)	-0.376		(0.344)	0.066		(0.102)	-0.070	(0.217)

Note: Included covariates: % minority, % poverty, % disabled, % LEP, % female, school size. *** denotes an estimate significant at the 1% level; ** the 5% level; * the 10% level

Table A.10: Parametric Logit RD Regression with Linear, Quadratic, and Cubic Functions of the Assignment Variable

	All Schools		No Fail		Mid-Fail		High-Fail	
	Coef	Std. Err.	Coef	Std. Err.	Coef	Std. Err.	Coef.	Std. Err.
My school is a safe environment								
Linear	-0.045	(0.101)	-0.530	(0.360)	0.071	(0.135)	-0.149	(0.242)
Quadratic	0.082	(0.146)	-1.080 **	(0.538)	0.609 ***	(0.182)	-0.207	(0.334)
Cubic	0.249	(0.185)	-0.999	(1.025)	0.975 ***	(0.278)	-0.530	(0.455)
I plan to leave this school in the next two years								
Linear	0.005	(0.058)	-0.091	(0.144)	0.006	(0.075)	0.064	(0.129)
Quadratic	0.012	(0.088)	0.061	(0.238)	-0.015	(0.117)	0.220	(0.189)
Cubic	0.058	(0.121)	0.435	(0.316)	-0.033	(0.181)	0.368	(0.255)
There is an atmosphere of trust and mutual respect								
Linear	-0.019	(0.083)	-0.439	(0.289)	0.073	(0.116)	-0.121	(0.198)
Quadratic	0.145	(0.124)	0.075	(0.529)	0.421 **	(0.175)	-0.101	(0.314)
Cubic	0.389 **	(0.160)	0.293	(0.791)	0.735 ***	(0.234)	-0.148	(0.407)
The leadership consistently supports teachers								
Linear	0.004	(0.088)	-0.453	(0.287)	0.105	(0.112)	-0.049	(0.214)
Quadratic	0.140	(0.127)	-0.162	(0.526)	0.372 **	(0.176)	0.116	(0.344)
Cubic	0.366 **	(0.164)	-0.065	(0.798)	0.715 ***	(0.258)	0.187	(0.440)
Teachers involved in decision making about ed. issues								
Linear	-0.002	(0.078)	-0.533 **	(0.270)	0.146	(0.106)	0.052	(0.169)
Quadratic	0.212 **	(0.105)	-0.349	(0.468)	0.380 **	(0.153)	0.406	(0.285)
Cubic	0.363 **	(0.140)	0.050	(0.807)	0.586 **	(0.213)	0.733 **	(0.363)
Teachers trusted to make instruction decisions								
Linear	0.123	(0.083)	-0.238	(0.254)	0.236 **	(0.112)	0.157	(0.185)
Quadratic	0.253 **	(0.116)	0.348	(0.460)	0.466 ***	(0.170)	0.459	(0.313)
Cubic	0.501 ***	(0.155)	0.701	(0.887)	0.675 ***	(0.218)	0.705 *	(0.411)
Teachers have role in devising teaching techniques								
Linear	0.108	(0.069)	-0.202	(0.230)	0.198 **	(0.094)	0.097	(0.159)

Quadratic	0.182	*	(0.104)	-0.162	(0.401)	0.327	**	(0.140)	0.227	(0.290)
Cubic	0.285	**	(0.136)	0.108	(0.696)	0.404	**	(0.197)	0.429	(0.372)
Teachers have role in setting assessment practices										
Linear	0.084		(0.059)	-0.015	(0.181)	0.094		(0.081)	0.205	(0.141)
Quadratic	0.081		(0.082)	-0.441	(0.285)	0.166		(0.116)	0.254	(0.249)
Cubic	0.175		(0.109)	-0.043	(0.462)	0.314	*	(0.165)	0.593	* (0.304)
Teachers have a role in hiring new teachers										
Linear	-0.010		(0.147)	0.189	(0.495)	-0.109		(0.135)	0.620	* (0.340)
Quadratic	0.100		(0.187)	0.301	(0.981)	-0.194		(0.210)	1.295	** (0.597)
Cubic	0.279		(0.237)	-0.114	(1.713)	0.052		(0.308)	1.867	** (0.760)
Teachers have appropriate materials and resources										
Linear	-0.055		(0.075)	-0.219	(0.247)	0.025		(0.096)	-0.147	(0.188)
Quadratic	0.010		(0.111)	-0.425	(0.382)	0.192		(0.168)	-0.082	(0.301)
Cubic	-0.026		(0.160)	-0.313	(0.564)	0.312		(0.244)	-0.298	(0.378)
Funds/resources available for prof. development										
Linear	0.096		(0.073)	-0.096	(0.242)	0.071		(0.098)	0.169	(0.197)
Quadratic	0.203	*	(0.104)	0.356	(0.361)	0.219		(0.166)	0.396	(0.321)
Cubic	0.279	**	(0.149)	1.044	* (0.605)	0.310		(0.235)	0.490	(0.424)
Mentor provided support on instruct. Strategies										
Linear	0.068		(0.120)	0.516	* (0.305)	0.022		(0.154)	0.202	(0.260)
Quadratic	0.351	**	(0.174)	0.718	(0.616)	0.280		(0.254)	0.598	(0.375)
Cubic	0.608	***	(0.222)	2.953	*** (1.107)	0.205		(0.315)	1.290	** (0.570)
Mentor provided support on curriculum										
Linear	0.060		(0.091)	0.486	(0.312)	0.037		(0.132)	0.013	(0.223)
Quadratic	0.303	**	(0.149)	1.142	* (0.627)	0.335	*	(0.200)	0.234	(0.340)
Cubic	0.659	***	(0.200)	3.936	*** (0.990)	0.505	*	(0.289)	0.940	* (0.487)
Mentor provided support on class management										
Linear	0.001		(0.117)	0.404	(0.337)	0.034		(0.156)	0.029	(0.247)
Quadratic	0.181		(0.167)	0.252	(0.588)	0.180		(0.201)	0.329	(0.359)

Cubic	0.533 ***	(0.189)	1.547	(1.167)	0.393	(0.282)	1.143 **	(0.537)
<u>Mentor provided support on schl/district policies</u>								
Linear	0.089	(0.113)	0.689 **	(0.348)	-0.072	(0.146)	0.352	(0.239)
Quadratic	0.227	(0.178)	1.461 *	(0.762)	0.036	(0.221)	0.330	(0.371)
Cubic	0.534 **	(0.216)	3.546 **	(1.569)	0.202	(0.303)	0.962 *	(0.570)
<u>Mentor has been important in my career</u>								
Linear	-0.016	(0.085)	0.066	(0.207)	-0.060	(0.114)	0.192	(0.197)
Quadratic	0.105	(0.109)	0.206	(0.368)	0.084	(0.150)	0.285	(0.246)
Cubic	0.242 *	(0.145)	1.090 **	(0.497)	-0.099	(0.216)	0.203	(0.348)
<u>Non-instructional hours have increased</u>								
Linear	-0.013	(0.127)	-0.065	(0.354)	-0.042	(0.200)	0.287	(0.245)
Quadratic	0.113	(0.188)	-0.419	(0.522)	0.383	(0.242)	0.178	(0.367)
Cubic	0.353	(0.242)	-0.644	(0.797)	0.248	(0.320)	0.981 *	(0.489)
<u>Individual planning hours have increased</u>								
Linear	0.003	(0.100)	-0.040	(0.276)	0.127	(0.162)	-0.058	(0.220)
Quadratic	0.157	(0.120)	-0.157	(0.377)	0.357 *	(0.200)	0.542 *	(0.300)
Cubic	0.353 *	(0.181)	-0.968	(0.714)	0.705 ***	(0.249)	0.880 **	(0.378)
<u>Collaborative preparation hours have increased</u>								
Linear	-0.005	(0.100)	-0.143	(0.193)	0.033	(0.133)	-0.170	(0.246)
Quadratic	0.103	(0.137)	-0.365	(0.322)	0.284	(0.176)	-0.231	(0.411)
Cubic	0.030	(0.180)	-0.579	(0.412)	0.278	(0.249)	-0.365	(0.537)

*Note: Included covariates: % minority, % poverty, % disabled, % LEP, % female, school size. Std. Errors clustered at the school level. *** denotes an estimate significant at the 1% level; ** the 5% level; * the 10% level*

Table A.11: Linear and Quadratic Specifications Flexible Function Parameter Estimates

Linear Function		All Schools	No-Fail Schools	Mid-Fail	High-Fail
Below Threshold	Linear Term	-0.216 (0.550)	-0.216 (0.550)	0.268* (0.143)	0.164 (0.219)
Above Threshold	Linear Term	0.269 (0.129)	0.701 (0.557)	0.119 (0.179)	0.353 (0.327)
Quadratic Function					
Below Threshold	Linear Term	0.689** (0.305)	-1.534 (2.198)	1.107*** (0.420)	0.519 (0.621)
	Square Term	1.873 (1.151)	-8.282 (14.152)	3.722** (1.755)	1.267 (2.010)
Above Threshold	Linear Term	-0.929*** (0.338)	0.744 (2.206)	-0.974** (0.487)	1.082 (1.109)
	Square Term	0.544 (1.231)	11.917 (14.162)	-2.574 (1.939)	-5.522 (3.977)

Table A.12.1: False Discovery Rate (FDR) Sharpened q-values for Main Specification

Outcome	All Schools				No-Fail Schools				Mid-Fail Schools				High-Fail Schools			
	Opt	.5x	2x	cct	Opt	.5x	2x	cct	Opt	.5x	2x	cct	Opt	.5x	2x	cct
Math Score Improvement	0.19	0.13	0.69	0.30	0.83	0.52	0.96	1.00	0.04	0.12	0.29	0.45	0.29	0.15	1.00	0.27
My school is a safe environment	0.24	0.11	0.75	0.30	0.51	0.39	0.69	1.00	0.04	0.01	0.30	0.04	0.49	0.44	1.00	0.67
I plan to leave this school within the next two years	0.37	0.20	0.75	0.43	1.00	0.59	1.00	0.98	0.61	0.55	0.90	0.68	0.29	0.44	1.00	0.49
There is an atmosphere of trust and mutual respect	0.19	0.08	0.75	0.31	0.83	0.85	0.69	1.00	0.04	0.14	0.30	0.42	0.49	0.41	1.00	0.27
The school leadership consistently supports teachers	0.19	0.07	0.75	0.30	0.83	0.99	0.69	1.00	0.04	0.05	0.30	0.42	0.57	0.44	1.00	0.54
Teachers are involved in decision making about ed. issues	0.22	0.08	0.75	0.30	0.58	0.59	0.65	1.00	0.07	0.06	0.41	0.45	0.18	0.15	1.00	0.27
Teachers trusted to make decisions about instruction	0.07	0.01	0.69	0.30	1.00	0.59	1.00	1.00	0.04	0.05	0.29	0.42	0.18	0.16	0.99	0.44
Teachers have a role in devising teaching techniques	0.09	0.07	0.69	0.30	1.00	0.99	0.96	1.00	0.04	0.05	0.29	0.42	0.29	0.16	1.00	0.44
Teachers have a role in setting student assessment practices	0.10	0.07	0.69	0.30	1.00	0.60	1.00	0.98	0.12	0.05	0.49	0.42	0.18	0.15	0.85	0.27

Teachers have a role in hiring new teachers	0.37	0.13	0.75	0.43	1.00	0.99	1.00	1.00	0.61	0.55	0.74	0.68	0.18	0.15	0.85	0.27
Teachers have appropriate instructional materials and resources	0.44	0.12	0.75	0.31	0.58	0.59	0.78	1.00	0.27	0.12	0.65	0.45	0.49	0.42	1.00	0.56
Funds/resources available for prof. development activities	0.12	0.07	0.69	0.31	1.00	0.05	1.00	1.00	0.15	0.24	0.49	0.68	0.49	0.42	1.00	0.63
Mentor provided support on instructional strategies	0.09	0.11	0.69	0.30	0.27	0.10	0.65	0.98	0.27	0.40	0.65	0.68	0.18	0.16	1.00	0.49
Mentor provided support on curriculum	0.07	0.04	0.69	0.30	0.04	0.00	0.56	0.98	0.16	0.13	0.65	0.45	0.29	0.16	1.00	0.27
Mentor provided support on classroom management	0.10	0.07	0.71	0.30	0.83	0.59	0.83	1.00	0.24	0.24	0.65	0.68	0.49	0.15	1.00	0.27
Mentor provided support on school/district policies	0.12	0.08	0.69	0.30	0.07	0.00	0.56	1.00	0.47	0.58	0.91	0.68	0.18	0.16	0.99	0.27
Mentor has been important in my career	0.37	0.21	0.75	0.43	0.83	0.39	1.00	1.00	0.62	0.58	0.90	0.68	0.31	0.21	1.00	0.28
Non-instructional hours have increased by x hours	0.19	0.08	0.69	0.43	1.00	0.39	1.00	0.98	0.08	0.05	0.31	0.68	0.29	0.15	1.00	0.27
Individual planning hours have increased by x hours	0.20	0.08	0.69	0.43	1.00	0.59	1.00	1.00	0.04	0.03	0.29	0.42	0.20	0.08	1.00	0.27
Collaborative preparation hours have increased by x hours	0.38	0.31	0.79	0.30	0.27	0.05	0.65	0.98	0.31	0.26	0.65	0.68	0.49	0.41	1.00	0.49

Table A.12.2: False Discovery Rate (FDR) Sharpened q-values for Main Specification with Clustered Errors

Outcome	All Schools				No-Fail Schools				Mid-Fail Schools				High-Fail Schools			
	Opt	.5x Opt	2x Opt	cct	Opt	.5x Opt	2x Opt	cct	Opt	.5x Opt	2x Opt	cct	Opt	.5x Opt	2x Opt	cct
Math Score Improvement	0.44	0.07	1.00	0.39	0.52	1.00	0.03	0.00	0.55	0.32	0.75	1.00	0.44	0.07	1.00	0.39
My school is a safe environment	0.51	0.30	1.00	1.00	0.76	1.00	1.00	0.64	1.00	0.30	0.75	1.00	0.51	0.30	1.00	1.00
I plan to leave this school within the next two years	0.37	0.07	1.00	1.00	0.76	1.00	0.13	0.51	0.55	0.38	0.09	1.00	0.37	0.07	1.00	1.00
There is an atmosphere of trust and mutual respect	0.38	0.07	1.00	1.00	1.00	1.00	0.13	0.24	0.70	0.61	0.81	1.00	0.38	0.07	1.00	1.00
The school leadership consistently supports teachers	0.37	0.07	1.00	0.83	1.00	1.00	0.21	0.26	0.79	0.28	0.39	1.00	0.37	0.07	1.00	0.83
Teachers are involved in decision making about ed. issues	0.29	0.07	1.00	1.00	0.37	1.00	0.13	0.24	0.55	0.30	0.86	1.00	0.29	0.07	1.00	1.00
Teachers trusted to make decisions about instruction	0.37	0.08	1.00	1.00	1.00	1.00	0.21	0.24	0.55	0.30	0.39	1.00	0.37	0.08	1.00	1.00
Teachers have a role in devising teaching techniques	0.33	0.07	1.00	1.00	1.00	1.00	0.64	0.24	0.79	0.28	0.09	1.00	0.33	0.07	1.00	1.00
Teachers have a role in setting student assessment practices	0.44	0.19	1.00	1.00	1.00	1.00	0.86	0.86	0.79	0.28	0.19	1.00	0.44	0.19	1.00	1.00
Teachers have a role in hiring new teachers	0.57	0.14	1.00	0.83	1.00	1.00	0.68	0.26	1.00	0.42	0.39	1.00	0.57	0.14	1.00	0.83
Teachers have appropriate instructional materials and resources	0.37	0.07	1.00	1.00	0.14	1.00	0.65	0.32	1.00	0.42	0.84	1.00	0.37	0.07	1.00	1.00
Funds/resources available for prof. development activities	0.29	0.07	1.00	0.46	0.22	1.00	0.68	0.50	1.00	0.23	0.09	1.00	0.29	0.07	1.00	0.46
Mentor provided support on instructional strategies	0.33	0.07	1.00	0.39	0.00	1.00	0.76	0.45	1.00	0.30	0.09	1.00	0.33	0.07	1.00	0.39
Mentor provided support on curriculum	0.33	0.07	1.00	1.00	1.00	1.00	0.65	0.36	1.00	0.28	0.09	1.00	0.33	0.07	1.00	1.00
Mentor provided support on classroom management	0.37	0.07	1.00	0.39	0.04	1.00	1.00	0.61	1.00	0.28	0.13	1.00	0.37	0.07	1.00	0.39

Mentor provided support on school/district policies	0.44	0.27	1.00	1.00	0.37	1.00	0.68	0.51	0.95	0.30	0.39	1.00	0.44	0.27	1.00	1.00
Mentor has been important in my career	0.37	0.09	1.00	1.00	0.79	1.00	0.13	0.26	0.55	0.28	0.09	1.00	0.37	0.09	1.00	1.00
Non-instructional hours have increased by x hours	0.44	0.07	1.00	1.00	1.00	1.00	0.13	0.24	0.55	0.28	0.09	1.00	0.44	0.07	1.00	1.00
Individual planning hours have increased by x hours	0.44	0.27	1.00	0.55	0.37	1.00	0.68	0.50	1.00	0.42	0.39	1.00	0.44	0.27	1.00	0.55
Collaborative preparation hours have increased by x hours	0.44	0.07	1.00	0.39	0.52	1.00	0.03	0.00	0.55	0.32	0.75	1.00	0.44	0.07	1.00	0.39

Table A.12.3: False Discovery Rate (FDR) Sharpened q-values for Parametric Linear Probability Model

Outcome	All Schools			No-Fail Schools			Mid-Fail Schools			High-Fail Schools		
	Line ar	Quadra tic	Cubi c	Line ar	Quadra tic	Cub ic	Line ar	Quadra tic	Cub ic	Line ar	Quadra tic	Cub ic
My school is a safe environment	1.00	0.42	0.05	0.44	0.18	0.99	1.00	0.04	0.01	1.00	1.00	0.42
I plan to leave this school within the next two years	1.00	0.66	0.16	1.00	1.00	1.00	1.00	0.34	0.41	1.00	1.00	0.28
There is an atmosphere of trust and mutual respect	1.00	0.35	0.03	0.44	1.00	1.00	1.00	0.06	0.02	1.00	1.00	0.46
The school leadership consistently supports teachers	1.00	0.35	0.04	0.44	1.00	1.00	1.00	0.06	0.02	1.00	1.00	0.46
Teachers are involved in decision making about ed. issues	1.00	0.18	0.03	0.44	1.00	1.00	1.00	0.06	0.03	1.00	1.00	0.28
Teachers trusted to make decisions about instruction	1.00	0.18	0.01	1.00	1.00	1.00	0.51	0.06	0.03	1.00	1.00	0.28
Teachers have a role in devising teaching techniques	1.00	0.18	0.03	1.00	1.00	1.00	0.51	0.06	0.07	1.00	1.00	0.31
Teachers have a role in setting student assessment practices	1.00	0.35	0.06	1.00	1.00	1.00	1.00	0.16	0.07	1.00	1.00	0.28
Teachers have a role in hiring new teachers	1.00	0.65	0.13	1.00	1.00	1.00	1.00	0.28	0.33	1.00	0.67	0.28

Teachers have appropriate instructional materials and resources	1.00	0.66	0.18	0.71	1.00	1.00	1.00	0.17	0.11	1.00	1.00	0.46
Funds/resources available for prof. development activities	1.00	0.18	0.04	1.00	1.00	0.99	1.00	0.12	0.13	1.00	1.00	0.33
Mentor provided support on instructional strategies	1.00	0.18	0.01	0.51	0.79	0.15	1.00	0.13	0.25	1.00	1.00	0.28
Mentor provided support on curriculum	1.00	0.18	0.00	0.44	0.17	0.06	1.00	0.10	0.10	1.00	1.00	0.28
Mentor provided support on classroom management	1.00	0.26	0.01	0.71	1.00	0.99	1.00	0.16	0.15	1.00	1.00	0.28
Mentor provided support on school/district policies	1.00	0.20	0.01	0.44	0.17	0.15	1.00	0.28	0.31	1.00	1.00	0.28
Mentor has been important in my career	1.00	0.35	0.04	1.00	1.00	0.99	1.00	0.28	0.33	1.00	1.00	0.42
Non-instructional hours have increased by x hours	1.00	0.32	0.07	1.00	1.00	0.99	1.00	0.07	0.07	1.00	1.00	0.28
Individual planning hours have increased by x hours	1.00	0.35	0.07	1.00	1.00	1.00	0.51	0.06	0.03	1.00	1.00	0.31
Collaborative preparation hours have increased by x hours	1.00	0.66	0.16	0.71	0.79	0.99	1.00	0.14	0.31	1.00	1.00	0.46

Table A.12.4: False Discovery Rate (FDR) Sharpened q-values with Parametric Logit Model

Outcome	All Schools			No-Fail Schools			Mid-Fail Schools			High-Fail Schools		
	Line ar	Quadra tic	Cubi c	Line ar	Quadra tic	Cubi c	Line ar	Quadra tic	Cubi c	Line ar	Quadra tic	Cubi c
My school is a safe environment	1.00	0.83	0.12	0.62	0.77	0.64	1.00	0.02	0.01	1.00	1.00	0.21
I plan to leave this school within the next two years	1.00	0.92	0.25	0.95	1.00	0.45	1.00	0.49	0.47	1.00	1.00	0.18
There is an atmosphere of trust and mutual respect	1.00	0.49	0.03	0.62	1.00	1.00	1.00	0.07	0.01	1.00	1.00	0.43
The school leadership consistently supports teachers	1.00	0.49	0.04	0.62	1.00	1.00	1.00	0.09	0.02	1.00	1.00	0.43
Teachers are involved in decision making about ed. issues	1.00	0.24	0.03	0.62	1.00	1.00	1.00	0.07	0.02	1.00	1.00	0.15

Teachers trusted to make decisions about instruction	1.00	0.24	0.01	0.71	1.00	0.64	0.51	0.06	0.01	1.00	1.00	0.15
Teachers have a role in devising teaching techniques	1.00	0.24	0.05	0.71	1.00	1.00	0.51	0.07	0.08	1.00	1.00	0.21
Teachers have a role in setting student assessment practices	1.00	0.50	0.09	1.00	0.96	1.00	1.00	0.22	0.10	1.00	1.00	0.15
Teachers have a role in hiring new teachers	1.00	0.83	0.14	1.00	1.00	1.00	1.00	0.28	0.47	1.00	1.00	0.15
Teachers have appropriate instructional materials and resources	1.00	0.92	0.29	0.71	1.00	0.80	1.00	0.28	0.21	1.00	1.00	0.35
Funds/resources available for prof. development activities	1.00	0.24	0.07	1.00	1.00	0.34	1.00	0.25	0.21	1.00	1.00	0.21
Mentor provided support on instructional strategies	1.00	0.24	0.03	0.62	1.00	0.07	1.00	0.28	0.45	1.00	1.00	0.15
Mentor provided support on curriculum	1.00	0.24	0.01	0.62	0.77	0.00	1.00	0.17	0.12	1.00	1.00	0.15
Mentor provided support on classroom management	1.00	0.49	0.03	0.62	1.00	0.45	1.00	0.28	0.21	1.00	1.00	0.15
Mentor provided support on school/district policies	1.00	0.49	0.03	0.62	0.77	0.14	1.00	0.49	0.45	1.00	1.00	0.15
Mentor has been important in my career	1.00	0.50	0.09	1.00	1.00	0.14	1.00	0.37	0.47	1.00	1.00	0.36
Non-instructional hours have increased by x hours	1.00	0.83	0.11	1.00	1.00	0.64	1.00	0.17	0.45	1.00	1.00	0.15
Individual planning hours have increased by x hours	1.00	0.49	0.07	1.00	1.00	0.45	1.00	0.16	0.02	1.00	1.00	0.15
Collaborative preparation hours have increased by x hours	1.00	0.72	0.29	0.84	1.00	0.45	1.00	0.17	0.26	1.00	1.00	0.35

Table A.12.5: False Discovery Rate (FDR) Sharpened q-values with Factor Loading

Outcome	All Schools				No-Fail Schools				Mid-Fail Schools				High-Fail Schools			
	Opt	.5x Opt	2x Opt	cct	Opt	.5x Opt	2x Opt	cct	Opt	.5x Opt	2x Opt	cct	Opt	.5x Opt	2x Opt	cct
Overall	0.90	0.31	1.00	0.21	0.66	1.00	0.59	0.71	0.08	0.19	1.00	0.20	1.00	0.61	1.00	0.55
Leadership	0.90	0.19	1.00	0.21	0.73	1.00	0.59	0.71	0.15	0.20	1.00	0.20	1.00	0.62	1.00	0.55
Autonomy	0.53	0.16	1.00	0.21	0.73	1.00	0.63	0.71	0.16	0.19	1.00	0.20	0.15	0.19	1.00	0.50

Resources	0.90	0.16	1.00	0.21	0.73	1.00	0.68	0.71	0.20	0.20	1.00	0.20	0.72	0.61	1.00	0.55
Mentorship	0.53	0.16	1.00	0.21	0.25	0.16	0.59	0.06	0.37	0.32	1.00	0.43	0.15	0.18	1.00	0.50
Time Management	0.90	0.31	1.00	0.26	0.73	0.44	0.68	0.06	0.16	0.20	1.00	0.43	0.26	0.19	1.00	0.50

Table A.13: Difference between 2008 and 2006 WCS as Dependent Variable

Growth of % Agree	Coef.	Std. Err.
There is an atmosphere of trust and mutual respect		
At optimal bandwidth	0.139	(0.222)
x 0.5 optimal bandwidth	0.357	(0.307)
x 2 optimal bandwidth	0.091	(0.169)
CCT bandwidth	0.537	(0.458)
The school leadership consistently supports teachers		
At optimal bandwidth	0.072	(0.179)
x 0.5 optimal bandwidth	0.194	(0.252)
x 2 optimal bandwidth	0.031	(0.150)
CCT bandwidth	0.378	(0.362)
Teachers are involved in decision making about ed. issues		
At optimal bandwidth	0.350*	(0.191)
x 0.5 optimal bandwidth	0.363	(0.242)
x 2 optimal bandwidth	0.278	(0.177)
CCT bandwidth	0.550	(0.370)
Teachers trusted to make decisions about instruction		
At optimal bandwidth	0.204	(0.172)
x 0.5 optimal bandwidth	0.307	(0.222)
x 2 optimal bandwidth	0.175	(0.147)
CCT bandwidth	0.582	(0.399)

Note: Standard errors in parentheses. Bandwidth determination is by the Imbens-Kalyanarama algorithm.

The bottom row is the estimator with robust bias-corrected CI from Calonico, Cattaneo, and Titiunik (2014).

**** denotes an estimate significant at the 1% level; ** the 5% level; * the 10% level*

Table A.14: Bonus Receipt Next Year, by School Accountability History

	No Fail		Mid-Fail		High-Fail	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
Bonus Receipt Next Year						
Baseline Probability	92.1%		87.6%		73.8%	
At optimal bandwidth	-0.073	(0.098)	0.023	(0.047)	0.081	(0.159)
x 0.5 optimal bandwidth	-0.125	(0.125)	-0.023	(0.064)	0.263	(0.217)
x 2 optimal bandwidth	-0.072	(0.094)	0.020	(0.039)	0.081	(0.119)

*Note: Standard errors in parentheses. Bandwidth determination is by the Imbens-Kalyanarama algorithm. *** denotes significant at the 1% level; ** the 5% level; * the 10% level*

Table A.15: Principal and Teacher Characteristics and Turnover in Response to Treatment

	All Schools		No Fail		Mid Fail		High Fail	
	Coef.	Std.Err.	Coef.	Std. Err.	Coef	Std. Err.	Coef.	Std.Err
New Principal Transferred to School								
At optimal bandwidth	-0.020	(0.073)	0.073	(0.135)	-0.044	(0.064)	0.052	(0.170)
x 0.5 optimal bandwidth	-0.017	(0.133)	0.141	(0.172)	-0.079	(0.093)	0.348	(0.240)
x 2 optimal bandwidth	-0.064	(0.052)	-0.172	(0.128)	-0.009	(0.005)	-0.013	(0.126)
CCT bandwidth	0.061	(0.104)	0.082	(0.155)	0.229*	(0.120)	-0.163	(0.231)
% Newly Transferred Teachers at School								
At optimal bandwidth	0.019	(0.016)	0.055	(0.061)	0.039	(0.023)	-0.007	(0.044)
x 0.5 optimal bandwidth	0.026	(0.022)	0.153*	(0.082)	0.004	(0.036)	-0.016	(0.064)
x 2 optimal bandwidth	0.006	(0.012)	-0.011	(0.041)	0.026	(0.018)	-0.005	(0.033)
CCT bandwidth	0.034	(0.030)	-0.268	(0.164)	-0.017	(0.044)	0.047	(0.048)
Years of Experience Principal								
At optimal bandwidth	0.031	(1.099)	-2.175	(1.766)	1.095	(1.272)	-0.465	(1.898)
x 0.5 optimal bandwidth	-0.432	(1.511)	-4.446**	(1.922)	0.591	(1.552)	-1.860	(2.271)
x 2 optimal bandwidth	0.649	(0.871)	-1.093	(1.713)	1.214	(1.212)	-1.084	(1.508)

CCT bandwidth	0.148	(0.695)	0.548	(1.726)	0.656	(0.516)	0.143	(1.249)
Years of Experience Teacher								
At optimal bandwidth	0.058	(0.275)	0.179	(0.625)	0.015	(0.408)	0.469	(0.593)
x 0.5 optimal bandwidth	0.235	(0.371)	0.219	(0.649)	0.148	(0.560)	0.769	(0.754)
x 2 optimal bandwidth	-0.075	(0.239)	0.163	(0.621)	-0.123	(0.334)	0.409	(0.564)
CCT bandwidth	1.481	(1.078)	0.577	(5.447)	1.054	(1.497)	2.241	(1.685)
% Teacher Minority								
At optimal bandwidth	-0.005	(0.021)	-0.038	(0.040)	0.005	(0.025)	-0.061	(0.051)
x 0.5 optimal bandwidth	-0.003	(0.029)	-0.058	(0.051)	0.011	(0.030)	-0.054	(0.066)
x 2 optimal bandwidth	0.002	(0.018)	-0.032	(0.039)	0.007	(0.023)	-0.045	(0.045)
CCT bandwidth	-0.047*	(0.027)	-0.102	(0.072)	0.156**	(0.065)	0.039	(0.042)
% Teacher Female								
At optimal bandwidth	0.004	(0.008)	0.005	(0.016)	0.004	(0.010)	0.014	(0.031)
x 0.5 optimal bandwidth	0.017	(0.011)	0.035*	(0.020)	0.011	(0.013)	0.035	(0.045)
x 2 optimal bandwidth	-0.002	(0.007)	0.002	(0.016)	-0.004	(0.009)	0.012	(0.021)
CCT bandwidth	0.023	(0.033)	0.179	(0.169)	0.026	(0.053)	0.003	(0.078)

*Note: Standard errors in parentheses. Bandwidth determination is by the Imbens-Kalyanarama algorithm. The bottom row is the estimator with robust bias-corrected CI from Calonico, Cattaneo, and Titiunik (2014). *** denotes an estimate significant at the 1% level; ** the 5% level; * the 10% level*

Table A.16: Teacher and Principal Turnover Analysis

	Teachers				Principals			
	Transfer Out		Exit Teaching		Transfer Out		Exit Profession	
	Base: 9.98% Transfer Rate		Base: 7.18% Exit Rate		Base: 7.47%		Base:13.99% Exit Rate	
Index Score	-0.099*** (0.017)		-0.089*** (0.015)		-0.039 (0.087)		0.095 (0.122)	
Index Score Spline (<-0.1)		-0.569*** (0.089)		0.020 (0.075)		-0.752 (0.465)		0.415 (0.657)
Index Score Spline (<0)		-0.160** (0.080)		-0.203*** (0.068)		0.444 (0.418)		-0.121 (0.591)
Index Score Spline (<0.1)		0.062 (0.062)		-0.036 (0.052)		-0.164 (0.321)		0.030 (0.453)
Index Score Spline (>0.1)		-0.083* (0.043)		-0.093*** (0.036)		-0.029 (0.209)		0.206 (0.295)
Years of Experience	-0.002*** (0.000)	-0.002*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	-0.002** (0.001)	-0.002** (0.001)	0.002 (0.001)	0.002 (0.001)
Female	-0.049*** (0.007)	-0.049*** (0.007)	-0.004 (0.006)	-0.004 (0.006)				
Minority	0.015*** (0.002)	0.015*** (0.005)	-0.013*** (0.004)	-0.013*** (0.004)				
Years without bonus	0.001 (0.002)	0.001 (0.002)	0.000 (0.002)	0.001 (0.002)	-0.007 (0.010)	-0.006 (0.010)	0.009 (0.014)	0.008 (0.014)
Observations	35,743	35,743	35,743	35,743	936	936	936	936

Linear Probability Model of likelihood of transferring or exiting teaching. Constant is suppressed. Standard errors in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01.

Table A.17: Difference between the Index Scores of Origin and Destination Schools among Teachers and Principals who Transfer

	Teachers		Principals	
	Index Score of Destination		Index Score of Destination	
Index Score	0.158*** (0.018)	0.121*** (0.021)	0.061 (0.016)	0.307 (0.193)
Years of Experience		-0.002*** (0.000)		0.002 (0.002)
Female		-0.003 (0.007)		
Minority		-0.029*** (0.006)		
Years without bonus		-0.006*** (0.002)		0.044** (0.019)
Observations	2,514	2,514	28	28

OLS of the 2007 index score of the schools teachers and principals transferred to. Constant is suppressed. Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.18: Factor Loaded Sample RD Estimates with Schools Grouped by Low, Mid, and High Average Salary

	All Schools		Low Salary		Mid Salary		High Salary	
	Coef	Std. Err.	Coef	Std. Err.	Coef	Std. Err.	Coef.	Std. Err.
Math Score Increase								
At optimal bandwidth	0.023	(0.017)	0.050	(0.036)	-0.007	(0.023)	0.062 *	(0.036)
x 0.5 optimal bandwidth	0.030	(0.023)	0.081 *	(0.048)	-0.012	(0.030)	0.042	(0.046)
x 2 optimal bandwidth	0.019	(0.015)	0.028	(0.030)	-0.004	(0.021)	0.056 *	(0.033)
Overall								
At optimal bandwidth	0.003	(0.008)	0.024	(0.015)	-0.005	(0.014)	0.000	(0.014)
x 0.5 optimal bandwidth	0.009	(0.011)	0.032	(0.020)	0.004	(0.018)	-0.008	(0.019)
x 2 optimal bandwidth	-0.002	(0.008)	0.014	(0.014)	-0.010	(0.012)	-0.004	(0.014)
Leadership								
At optimal bandwidth	0.009	(0.024)	0.052	(0.050)	0.012	(0.042)	0.013	(0.046)
x 0.5 optimal bandwidth	0.042	(0.030)	0.040	(0.067)	0.101	(0.061)	0.063	(0.056)
x 2 optimal bandwidth	-0.004	(0.022)	0.024	(0.041)	-0.011	(0.034)	-0.004	(0.045)
Autonomy								
At optimal bandwidth	0.033	(0.021)	0.048	(0.037)	0.013	(0.033)	0.073 *	(0.037)
x 0.5 optimal bandwidth	0.064 **	(0.028)	0.048	(0.050)	0.060	(0.047)	0.129 **	(0.046)
x 2 optimal bandwidth	0.016	(0.018)	0.028	(0.031)	-0.001	(0.027)	0.044	(0.036)
Resources								
At optimal bandwidth	0.016	(0.021)	-0.014	(0.034)	0.022	(0.030)	0.040	(0.036)
x 0.5 optimal bandwidth	0.053 *	(0.030)	-0.001	(0.045)	0.085 **	(0.042)	0.068	(0.047)
x 2 optimal bandwidth	0.007	(0.018)	-0.029	(0.031)	0.013	(0.024)	0.038	(0.034)
Mentorship								
At optimal bandwidth	0.010	(0.006)	0.004	(0.013)	0.012	(0.007)	0.008	(0.008)
x 0.5 optimal bandwidth	0.015 *	(0.008)	-0.005	(0.016)	0.018 **	(0.008)	0.016 *	(0.010)
x 2 optimal bandwidth	0.004	(0.005)	0.007	(0.010)	0.007	(0.007)	-0.001	(0.007)
Time Management								
At optimal bandwidth	0.053	(0.076)	0.051	(0.144)	-0.010	(0.094)	0.217	(0.196)

x 0.5 optimal bandwidth	0.072	(0.099)	0.034	(0.180)	-0.016	(0.115)	0.313	(0.265)
x 2 optimal bandwidth	0.045	(0.065)	0.008	(0.120)	-0.013	(0.089)	0.235	(0.169)

*Note: Standard errors in parentheses. Bandwidth determination is by the Imbens-Kalyanarama algorithm. *** denotes an estimate significant at the 1% level; ** the 5% level; * the 10% level*