

Table 1: Summary Statistics on Disruption Events for Teachers Matched with Student Achievement Data

Type of Event	All Events	Disruptive Events	Fraction of Disruptive Events that...			School Days Missed (Zeros Excluded)			
			Both Start and End in Year	Start But Not End in Year	Start Before But End in Year	Mean	25th Pctile	Median	75th Pctile
Maternity Leave	659	589	54.2%	42.3%	3.6%	63	40	54	77
Child Care Leave	692	280	54.6%	36.1%	9.3%	64	39	54	81
Medical Leave	1314	1206	71.0%	27.6%	1.4%	51	34	42	58
Personal Leave	530	95	8.4%	18.9%	72.6%	42	12	18	72
Sick Family Member Leave	119	73	65.8%	28.8%	5.5%	40	19	35	54
Other Leave	445	145	59.3%	31.7%	9.0%	59	39	49	71
Sabbatical	373	44	0.0%	97.7%	2.3%	93	92	92	93
Resignation or Retirement	5257	514	5.1%	77.0%	17.9%	71	35	75	108
Involuntary Termination	1068	95	7.4%	11.6%	81.1%	47	17	41	78
Termination, Certification	209	46	2.2%	78.3%	19.6%	39	5	39	58
Death	27	19	0.0%	100.0%	0.0%	50	26	42	63
All Events	10693	3106	48.4%	41.0%	10.6%	58	35	49	77

Note: Number of Observations correspond to the number of spells by type of event.

Table 2: Summary Statistics on Teachers by Type of Disruption Event

	No Disruption Event	Type of Disruption Event											
		All Types	Maternity Leave	Child Care Leave	Medical Leave	Sick Family Leave	Death	Personal Leave	Other Leave	Sabbatical	Resignation or Retirement	Involuntary Termination	Termination, Certification
# of Observations	85454	3217	611	283	1298	76	18	95	159	45	524	48	101
Age	38.73	37.56	32.19	33.58	38.83	41.99	47.39	39.45	43.94	48.80	38.11	41.19	38.42
Female	78%	86%	99%	97%	91%	83%	56%	84%	78%	76%	69%	40%	68%
Black	26%	28%	26%	17%	25%	26%	28%	58%	42%	16%	25%	33%	53%
Hispanic	12%	12%	13%	12%	11%	7%	17%	7%	13%	4%	9%	21%	22%
Asian	4%	3%	3%	4%	3%	4%	0%	5%	4%	0%	3%	4%	2%
Teach for America	2%	1%	0%	0%	0%	1%	0%	0%	1%	0%	3%	0%	1%
Teaching Fellow	8%	8%	7%	7%	6%	4%	11%	3%	10%	0%	17%	19%	1%
Ever Uncertified	23%	26%	32%	25%	21%	25%	22%	14%	28%	0%	27%	42%	81%
Masters Degree	43%	45%	48%	59%	46%	45%	33%	53%	45%	40%	33%	33%	34%
Teaching Experience	4.35	4.57	4.19	4.98	5.19	5.09	5.22	4.68	5.22	7.00	2.96	3.00	4.19

Note: Number of Observations correspond to the number of teachers by year that take any type of leave

Table 3: Summary Statistics on Student Characteristics by Type of Disruption Event

	Type of Disruption Event												
	No Disruption Event	All Types	Maternity Leave	Child Care Leave	Medical Leave	Sick Family Leave	Death	Personal Leave	Other Leave	Sabbatical	Resignation or Retirement	Involuntary Termination	Termination, Certification
# of Observations	85,454	3,217	611	283	1,298	76	18	95	159	45	524	48	101
Black	35%	38%	34%	31%	37%	34%	42%	49%	44%	29%	41%	50%	51%
Hispanic	39%	37%	37%	38%	34%	40%	31%	33%	39%	38%	44%	38%	37%
White	13%	14%	16%	15%	16%	13%	15%	11%	8%	18%	7%	7%	7%
Asian	13%	11%	13%	16%	13%	13%	12%	7%	9%	15%	8%	5%	5%
Female	49%	50%	50%	48%	49%	51%	53%	51%	50%	51%	50%	53%	50%
Free/Reduced Price Lunch	85%	85%	83%	84%	84%	86%	86%	87%	89%	83%	89%	85%	85%
English Language Learner	7%	6%	6%	5%	5%	7%	4%	6%	10%	5%	8%	10%	8%

Note: Displayed are the characteristics of students matched with their math or English Language Arts teachers and included in our regression analysis, averaged across students whose teacher in either subject had a particular type of disruption event.

Table 4: Absence Frequency by Presence of Extended Work Disruption

	No Extended Disruption	Any Extended Disruption
Number of Observations	85,454	3,217
Total Absences	8.837	8.836
(s.d.)	(6.157)	(8.150)
By Type of Absence:		
Self-Treated Sick / Personal	4.791	3.884
Medically Certified Sick	1.958	3.335
Conference/School Activities	1.114	0.471
Funeral / Death in Family	0.329	0.258
Jury Duty/Military Service	0.269	0.162
Injury	0.115	0.325
Graduation	0.101	0.039
Religious Holiday	0.100	0.113
Grace Period	0.014	0.171
Unauthorized	0.011	0.053
Late More than Half Day	0.003	0.002

Note: Number of Observations corresponds to the number of teachers by year that are matched with student level data in 4th to 8th grade, from the school years 1999-2000 through 2007-08.

Table 5: Baseline Results on Work Disruptions and Teacher Productivity

	Math		
	(1)	(2)	(3)
Extended Work Disruption	-0.0619*	-0.0550*	
	(0.0041)	(0.0057)	
Extended Work Disruption Starting...			
...Before the Start of School Year			-0.0532*
			(0.0173)
....Before Student Exams			-0.0658*
			(0.0065)
....After Student Exams			0.0022
			(0.0136)
Non-Disruptive Event (After Year Ends)			0.0025
			(0.0035)
Total Daily Absences	-0.0025*	-0.0017*	
	(0.0002)	(0.0002)	
Total Daily Absences Prior to Exam			-0.0022*
			(0.0002)
Total Daily Absences After Exam			-0.0010*
			(0.0003)
Teacher-School-Grade Fixed Effects		√	√
R-squared	0.664	0.702	0.702
Number of Observations	2255568	2255568	2255568
	English		
	(4)	(5)	(6)
Extended Work Disruption	-0.0271*	-0.0235*	
	(0.0040)	(0.0056)	
Extended Work Disruption Starting...			
...Before the Start of School Year			-0.0387*
			(0.0187)
....Before Student Exams			-0.0383*
			(0.0072)
....After Student Exams			0.0014
			(0.0078)
Non-Disruptive Event (After Year Ends)			-0.0030
			(0.0040)
Total Daily Absences	-0.0015*	-0.0008*	
	(0.0002)	(0.0003)	
Total Daily Absences Prior to Exam			-0.0008*
			(0.0003)
Total Daily Absences After Exam			-0.0002
			(0.0003)
Teacher-School-Grade Fixed Effects		√	√
R-squared	0.616	0.645	0.645
Number of Observations	2152534	2152534	2152534

Note: All specifications control for student characteristics, teacher experience, school characteristics, and a grade-year fixed effect. Specifications without teacher-school-grade fixed effects also control for time-invariant teacher characteristics. For more information, see the text. Standard errors (in parentheses) are clustered by school. + significant at 10% * significant at 5%

Table 6: Heterogeneity by Timing and Cause of Extended Work Disruptions

	Math	English
Extended Disruption Before Exam Due To...		
Maternity Leave	-0.0635* (0.0123)	-0.0346* (0.0127)
Medical Leave	-0.0622* (0.0082)	-0.0447* (0.0093)
Resignation, Retirement, or Termination	-0.0937* (0.0197)	-0.0172 (0.0291)
Other Type of Leave	-0.0666* (0.0141)	-0.0284+ (0.0154)
Extended Disruption After Exam Due To...		
Maternity Leave	-0.0113 (0.0252)	-0.0075 (0.0178)
Medical Leave	0.0012 (0.0206)	0.0108 (0.0109)
Resignation, Retirement, or Termination	-0.0086 (0.0363)	-0.0067 (0.0271)
Other Type of Leave	0.0269 (0.0317)	-0.0123 (0.0180)
Total Daily Absences Prior to Exam	-0.0022* (0.0002)	-0.0008* (0.0003)
Total Daily Absences After Exam	-0.0010* (0.0003)	-0.0002 (0.0003)
R-squared	0.702	0.645
Number of Observations	2,255,568	2,152,534

Note: These specifications control for student characteristics, teacher experience, school characteristics, teacher-school-grade fixed effects, and a grade-year fixed effect. For more information, see the text. Standard errors (in parentheses) are clustered by school. + significant at 10% * significant at 5%

Table 7: Heterogeneity by Timing and Cause of Daily Absences

	Math	English
Total Daily Absences Prior to Exam		
...Self Treated Sickness / Personal Days	-0.0039* (0.0005)	-0.0016* (0.0006)
...Certified Sickness	-0.0018* (0.0003)	-0.0006+ (0.0003)
...Other Types of Absence	-0.0020* (0.0004)	-0.0008+ (0.0005)
Total Daily Absences After Exam Due to...		
...Self Treated Sickness / Personal Days	-0.0008 (0.0007)	0.0002 (0.0006)
...Certified Sickness	-0.0012* (0.0004)	-0.0001 (0.0003)
...Other Types of Absence	-0.0008 (0.0006)	-0.0005 (0.0005)
R-squared	0.702	0.645
Number of Observations	2,255,568	2,152,534

Note: These specifications control for student characteristics, teacher experience, school characteristics, the four types of disruptive events which start during the school year, before and after the exam, teacher-school-grade fixed effects, and a grade-year fixed effect. For more information, see the text. Standard errors (in parentheses) are clustered by school. + significant at 10% * significant at 5%

Table 8: Placebo Test Using Work Disruptions of "Other Subject" Teacher

	Math			
	(1)	(2)	(3)	(4)
Extended Work Disruption, Same Subject Teacher, Starting...				
...Before the Start of School Year	-0.0550*	-0.0414		
	(0.0210)	(0.0329)		
....Before Student Exams	-0.0587*	-0.0476*		
	(0.0085)	(0.0119)		
Extended Work Disruption, Other Subject Teacher, Starting...				
...Before the Start of School Year			-0.0092	-0.0161
			(0.0160)	(0.0187)
....Before Student Exams			-0.0022	0.0032
			(0.0083)	(0.0073)
Same Subject Teacher-School-Grade Fixed Effects		√		√
R-squared	0.688	0.716	0.688	0.710
Number of Observations	930385	930385	930385	930385
	English			
	(5)	(6)	(7)	(8)
Extended Work Disruption, Same Subject Teacher, Starting...				
...Before the Start of School Year	-0.0185	-0.0203		
	(0.0128)	(0.0302)		
....Before Student Exams	-0.0263*	-0.0238+		
	(0.0087)	(0.0137)		
Extended Work Disruption, Other Subject Teacher, Starting...				
...Before the Start of School Year			-0.0301	-0.0002
			(0.0188)	(0.0171)
....Before Student Exams			-0.0084	-0.0123
			(0.0080)	(0.0081)
Same Subject Teacher-School-Grade Fixed Effects		√		√
R-squared	0.629	0.648	0.629	0.643

Note: All specifications are limited to students with different teachers for math and English, and each have 930,385 observations. Regressions include controls for student characteristics, teacher experience, school characteristics, and a grade-year fixed effect. Specifications without teacher-school-grade fixed effects also control for time-invariant teacher characteristics. For more information, see the text. Standard errors (in parentheses) are clustered by school. + significant at 10% * significant at 5%

Table 9: Work Disruptions and Teacher Experience

	Math	English
	(1)	(2)
Extended Disruption Before Student Exams	-0.0720*	-0.0427*
	(0.0071)	(0.0079)
Extended Disruption Before Student Exams * Teacher w/ Fewer Than 3 Years Experience	0.0409*	0.0269
	(0.0144)	(0.0166)
Total Daily Absences Prior to Exam	-0.0025*	-0.0010*
	(0.0003)	(0.0003)
Total Daily Absences Prior to Exam * Teacher w/ Fewer Than 3 Years Experience	0.0013*	0.0008
	(0.0005)	(0.0006)
R-squared	0.702	0.645
Number of Observations	2255021	2152376

Note: All specifications control for student characteristics, teacher experience, teacher-school-grade fixed effects, school characteristics, and a grade-year fixed effect. For more information, see the text. Standard errors (in parentheses) are clustered by school. + significant at 10% *