SUPPLEMENTARY MATERIAL

Organisational justice protects against the negative effect of workplace violence on teachers' sleep: A longitudinal cohort study

Supplementary Table 1 Percentage of teachers with disturbed sleep across different levels of justice and the three waves among those exposed to violence

Justice component	Level	Pre-event	Event	Postevent
Procedural justice	Low	18 %	21 %	19 %
	Intermediate	7 %	13 %	12 %
	High	10 %	11 %	11 %
Interactional justice	Low	14 %	21 %	18 %
	Intermediate	11 %	14 %	12 %
	High	11 %	10 %	12 %

n=4988.

Supplementary Table 2 Characteristics and descriptive statistics for teachers without exposure and other municipal employees with exposure to violence

Sample	Variable	n	Mean (SD) or %	Range
Teachers without exposure[b]	Gender (% female)	5849	71%	-
	Age	5849	44.89 (10.53)	22 - 72
	Procedural justice	5849	3.37 (0.89)	1 - 5
	Interactional justice	5849	3.96 (0.86)	1 - 5
	Disturbed sleep[a]			
	Pre-event	1462	2.42 (1.07)	1 - 6
	Event	5849	2.41 (1.08)	1 - 6
	Postevent	1468	2.41 (1.10)	1 - 6
Other municipal employees with exposure	Gender (% female)	5426	87%	-
	Age	5426	43.09 (10.00)	21 - 73
	Procedural justice	5426	2.95 (0.92)	1 - 5
	Interactional justice	5426	3.69 (1.01)	1 - 5
	Disturbed sleep[a]			
	Pre-event	1108	2.59 (1.16)	1 - 6
	Event	5426	2.66 (1.17)	1 - 6
	Postevent	1592	2.68 (1.18)	1 - 6

[a] Mean score for the Jenkins Sleep Problems Scale. [b] Timing of the event randomly assigned. Age, procedural justice and interactional justice were measured the same year when exposure to violence was reported.

SENSITIVITY ANALYSIS

Sensitivity analysis included only those participants who had information on sleep at least from the wave preceding exposure to violence and the wave of reported exposure. The mean number of sleep measurements per participant in the analysis was 2.5 waves. According to log-binomial regression analyses with GEE, among teachers reporting exposure to a violent event (n=1056), there was an increase in sleep disturbances at the time of the event compared with the time prior to the event (RR 1.27, 95% CI 1.08 to 1.49). The increase did not significantly persist after the event (RR 1.21, 95% CI 0.98 to 1.49). There was no change in sleep disturbances among teachers without exposure to violence (n=1462, RR 1.10, 95% CI 0.94 to 1.28 and RR 1.03, 95% 0.81 to 1.30 for the randomly assigned time point and the subsequent wave, respectively). The results from log-binomial regression analyses with GEE on the associations between the two justice components and disturbed sleep during the follow up for teachers reporting exposure to violence are presented in Supplementary Table 3 and illustrated in Supplementary Figure 1.

Supplementary Table 3 Regression analyses predicting disturbed sleep in association with a violent event and different levels of organisational justice
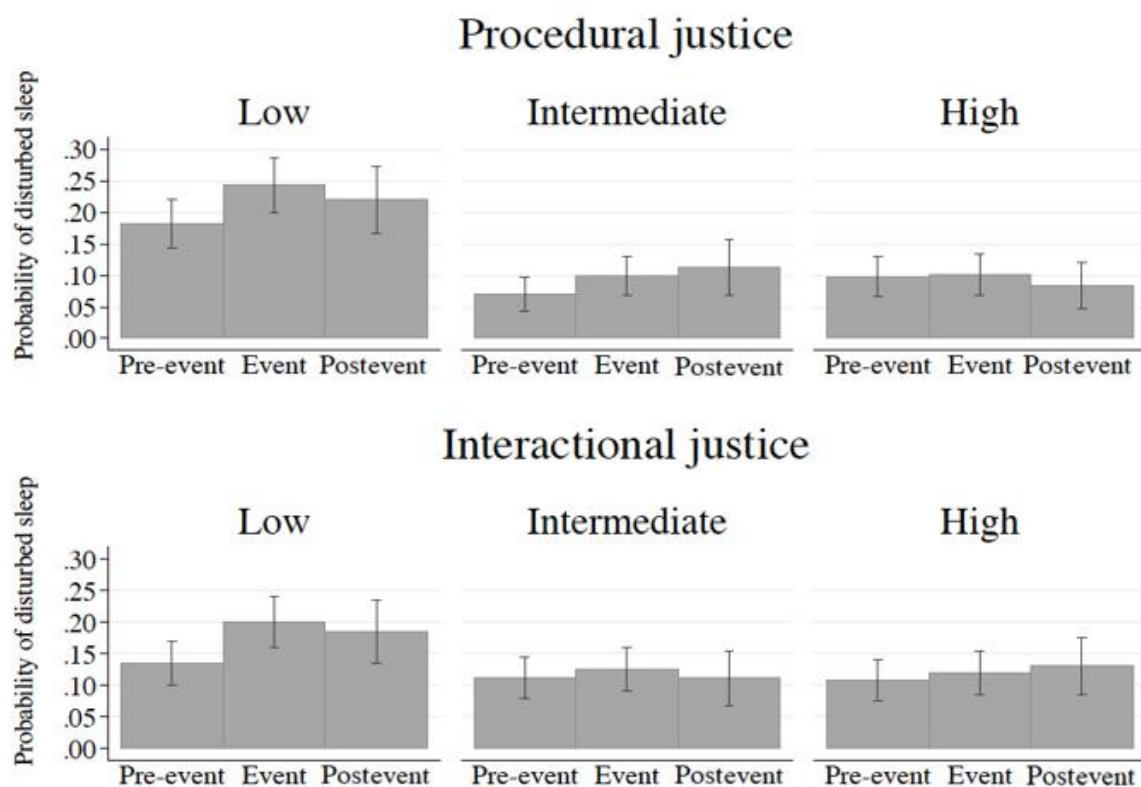
			Procedural justice				Interactional justice			
	Step 1		Step 2a		Step 3a		Step 2b		Step 3b	
Variable	RR	(95% CI)	RR	(95% CI)	RR	(95% CI)	RR	(95% CI)	RR	(95% CI)
Time										
Pre-event	1		1		1		1		1	
Event	1.27**	(1.08 to 1.49)	1.27**	(1.09 to 1.49)	1.03	(0.71 to 1.51)	1.28**	(1.15 to 1.46)	1.11	(0.80 to 1.52)
Postevent	1.21	(0.98 to 1.49)	1.20	(0.97 to 1.48)	0.86	(0.53 to 1.40)	1.21	(1.08 to 1.41)	1.21	(0.81 to 1.80)
Organisational justice										
High			1		1		1		1	
Intermediate			0.93	(0.65 to 1.35)	0.72	(0.44 to 1.19)	1.00	(0.72 to 1.41)	1.03	(0.67 to 1.58)
Low			2.23***	(1.63 to 3.04)	1.87**	(1.26 to 2.76)	1.48*	(1.09 to 2.01)	1.25	(0.84 to 1.87)
Event × intermediate justice					1.35	(0.79 to 2.32)			1.02	(0.65 to 1.59)
Event × low justice					1.29	(0.84 to 1.97)			1.34	(0.90 to 2.00)
Postevent × intermediate justice					1.87	(0.92 to 3.78)			0.82	(0.47 to 1.47)
Postevent × low justice					1.40	(0.81 to 2.44)			1.14	(0.69 to 1.90)

n=1056. Adjusted for gender and age. Components of organisational justice are indicated in the column headings. Steps 2a and 3a are for procedural justice; steps 2b and 3b for interactional justice.
*$p < .05$.
**$p < .01$.
***$p < .001$.

Supplementary Figure 1 Predicted probabilities of disturbed sleep among teachers reporting exposure to a violent event in low-justice, intermediate-justice and high justice conditions. Predictions were derived from log-binomial regression analysis using generalised estimating equations, adjusted for gender and age. n=1056.