WOMEN IN FACTORIES FOUNDATIONAL TRAINING CENTRAL AMERICA ENDLINE REPORT

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This research was made possible by a grant from the Walmart Foundation.

Medford, MA
20 August 2018

Foundational Training

- Women in Factories (WIF) is an initiative of the Walmart Foundation's Women's Economic Empowerment (WEE) Program.
- The Foundational Training curriculum was developed by CARE International.
- The FT course requires 15 hours of training.
- There are 7 modules covering communication, managing work and career, gender awareness, personal hygiene and reproductive health.
- The WIF Foundational Training was introduced in Honduras and El Salvador in 2013.
- The Walmart Foundation's delivery partner in Central America was World Vision.

Research Design

- The impact evaluation was conducted in 11 factories in Honduras and 19 factories in El Salvador.
- Workers participating in training were assigned to one of two training batches.
- The study began with a baseline survey of both batches of workers, supervisors and managers.
- After the baseline, batch 1 was trained.
- Following batch 1 training, workers, supervisors and managers were resurveyed.
- Following the midline, batch 2 was trained.
- The study concluded with an endline survey of workers, supervisors and managers.
- 1,619 participants completed the baseline survey, 1,233 completed the midline survey and 529 completed the endline survey.
- 181 supervisors completed the baseline survey, 131 completed the midline survey and 90 completed the endline survey.
- Six key performance indicators were assessed by workers and their supervisors: late-coming, absenteeism, efficiency, product defects, accidents and separations.
- Data collection was conducted by Funde.
- The research was conducted under Tufts SBER IRB protocol 1407012 and funded by a grant from the Walmart Foundation.

Measuring WiF Treatment

WiF training was assessed using three measures.

1. Training participants were asked whether they had had WiF training and to rate the amount of training as *none*, *a little*, *some* or *a lot*. The scale was converted to a set of binary variables and *none* was the excluded group.

2. Training participants were also asked whether their supervisor had had WiF training and to rate the amount of training as *none*, *a little*, *some* or *a lot*. The amount of training a supervisor had received was similarly converted to a set of binary variables and *none* was the excluded group. In many cases, workers reported that they did not know whether their supervisor had had WiF training. The category *none* for supervisor was coded using three separate rules. (1) *Do not know wa*s coded as a missing record. (2) *Do not know* in the baseline was coded as *none.* (3) *Do not know* at baseline, midline and endline was coded as *none.* Results for all three variants will be presented in the analysis below.

3. Supervisors were asked how many workers they supervise, and how many of their workers have had WiF training. These responses were converted to a percent receiving training, which is taken as an indicator of treatment.

Understanding the graphs and tables presented below.

Analysis of treatment is performed using the statistical procedure, regression. The dosages of WiF treatment are included in the regression as independent variables. The equations are estimated using a panel estimator with random effects and clustered standard errors at the factory level. Demographic and time variables are included as controls.

A sample of analysis is presented to the left. The bottom axis indicates the amount of training a participant has received. The vertical axis measures the treatment effect.

A dashed line indicates that the regression estimated a treatment effect but that the effect is not significant at conventional levels.

A solid line indicates that the regression estimated a treatment effect and that it is significant at the 90% level of significance or higher.

Workers were asked how much WiF treatment they had received. Workers also reported whether they informed their supervisor in advance when they were going to be absent.

The image above indicates that after a little WiF training, an additional 5 out of 100 workers provided notice. After some WiF training, an additional 10 out of 100 workers provided notice. These effects are not statistically significant, as indicated by the dashed line. However, once workers reported receiving a lot of WiF training, an additional 20 out of 100 workers gave their supervisor warning of an absence and this effect was statistically significant.

Understanding the graphs and tables presented below.

As noted above, training is measured both by the amount of training the respondent has received and the amount of training a respondent's supervisor has received.

A sample of analysis is presented at the left. As above, the blue line graphs the treatment effect of training workers. The red line graphs the treatment effect of training the supervisor of the respondent.

Note, as before, that the more WiF training a worker received, the more likely she was to inform her supervisor that she would be absent from work.

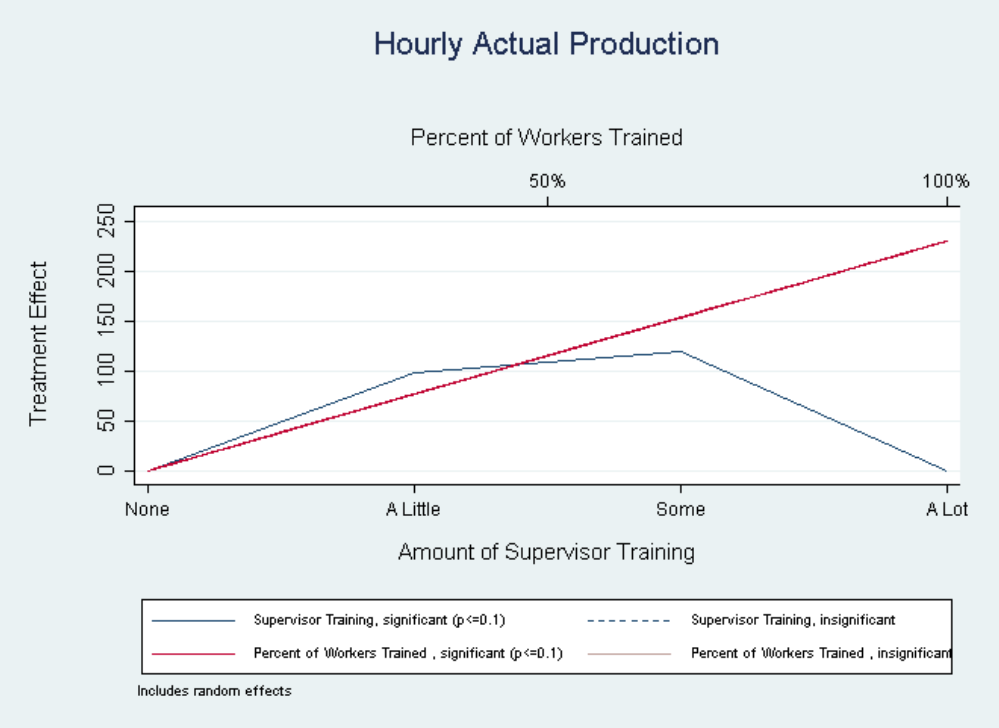
However, the treatment effect is not statistically significant when we include the amount of training the supervisor has received.

Even after only a little supervisor training, workers were significantly more likely to inform their supervisor of an impending absence.

Findings such as those above will be common throughout the report. Often training a worker's supervisor has a stronger treatment effect than training the worker herself. However, this is not always the case. Once we turn to training of supervisors, we will find that supervisors are often more strongly affected by the training received by their subordinates than the training they receive themselves.

WiF training has a powerful effect on the factory, with workers benefiting from the training received by their supervisors, and supervisors, in turn, benefiting from the training received by their subordinates.

Understanding the graphs and tables presented below.



The impact of worker training on the reports of supervisors is depicted to the left.

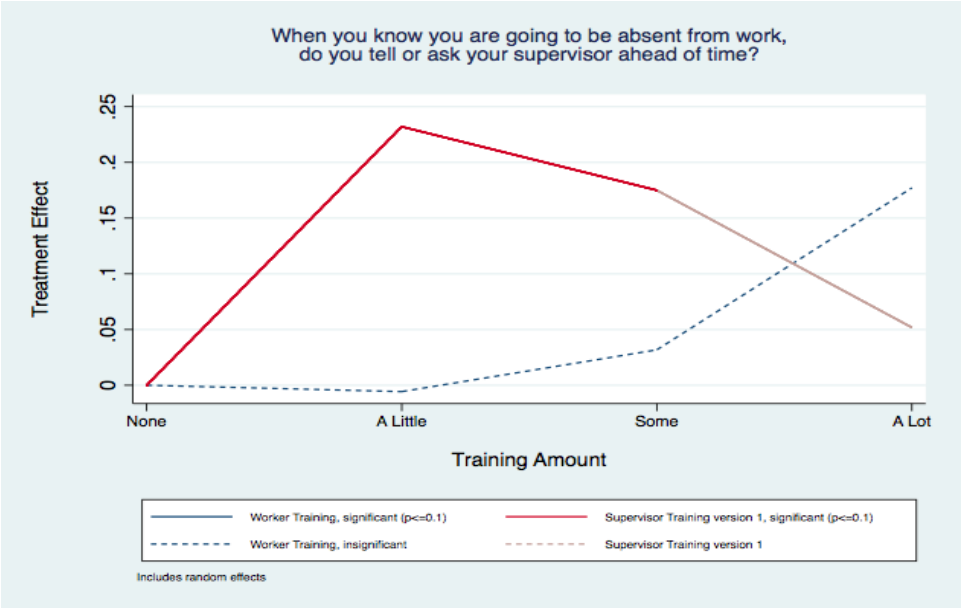
One indicator of productivity is Hourly Actual Production.

The amount of training is reported along the bottom of the graph and the impact of supervisor training on productivity is indicated by the blue line. Notice that when the supervisor has had even just a little WiF training, Hourly Actual Production rises by about 100 units.

The impact of worker training on productivity is indicated by the red line. The percent of workers who have received training is reported along the top of the graph. Providing about half of workers with WiF training also increases Hourly Actual Production by about 100 units. However, when 100 percent of workers receive WiF training, Hourly Actual Production rises by almost 250 units.

In order to keep track of which treatment effect is being reported in a figure: The treatment effect of a respondent's own training is indicated by a blue line. The treatment effect of a respondent's supervisor or subordinate is indicated by a red line. Dashed or pale lines indicate that the effect is not statistically significant. Bold solid lines indicate that the treatment effect is statistically significant.

Absenteeism



Absenteeism significantly adversely affects productivity, yet is common in apparel factories. The adverse effects of absenteeism can be mitigated if workers inform their supervisor in advance that they will be absent from work.

Workers were asked if they inform their supervisor when they are going to be absent from work.

When workers reported having received a lot of WiF training, they were 20 percent more likely to inform their supervisor that they would be absent than untrained workers.

Training supervisors also increases the probability that a worker will inform their supervisor of an impending absence. Even if the supervisor had had only a little or some WiF training, the probability that the worker would provide advanced warning of an absence was 17 to 23 percentage points higher than for an untrained supervisor.

	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	0.0437	-0.00571	-0.0261	0.00586
	(0.0618)	(0.0695)	(0.0618)	(0.0665)
WIF_some	0.0850	0.0318	-0.0102	0.0657
	(0.0635)	(0.0786)	(0.0717)	(0.0681)
WIF_lot	0.197**	0.177	0.165	0.200*
	(0.0841)	(0.120)	(0.111)	(0.108)
WIF_Sup_little		0.232***	0.191***	0.147***
		(0.0573)	(0.0545)	(0.0547)
WIF_Sup_some		0.175***	0.140**	0.0968
		(0.0634)	(0.0649)	(0.0661)
WIF_Sup_lot		0.0518	5.14e-05	-0.0430
		(0.101)	(0.106)	(0.111)
female	0.00834	-0.0222	0.0188	0.0151
	(0.0423)	(0.0531)	(0.0453)	(0.0429)
Constant	3.888***	3.467***	3.775***	3.857***
	(0.218)	(0.314)	(0.223)	(0.215)
Observations	3,063	2,176	2,650	3,036
Number of participant	1,900	1,469	1,769	1,892

Workforce turnover

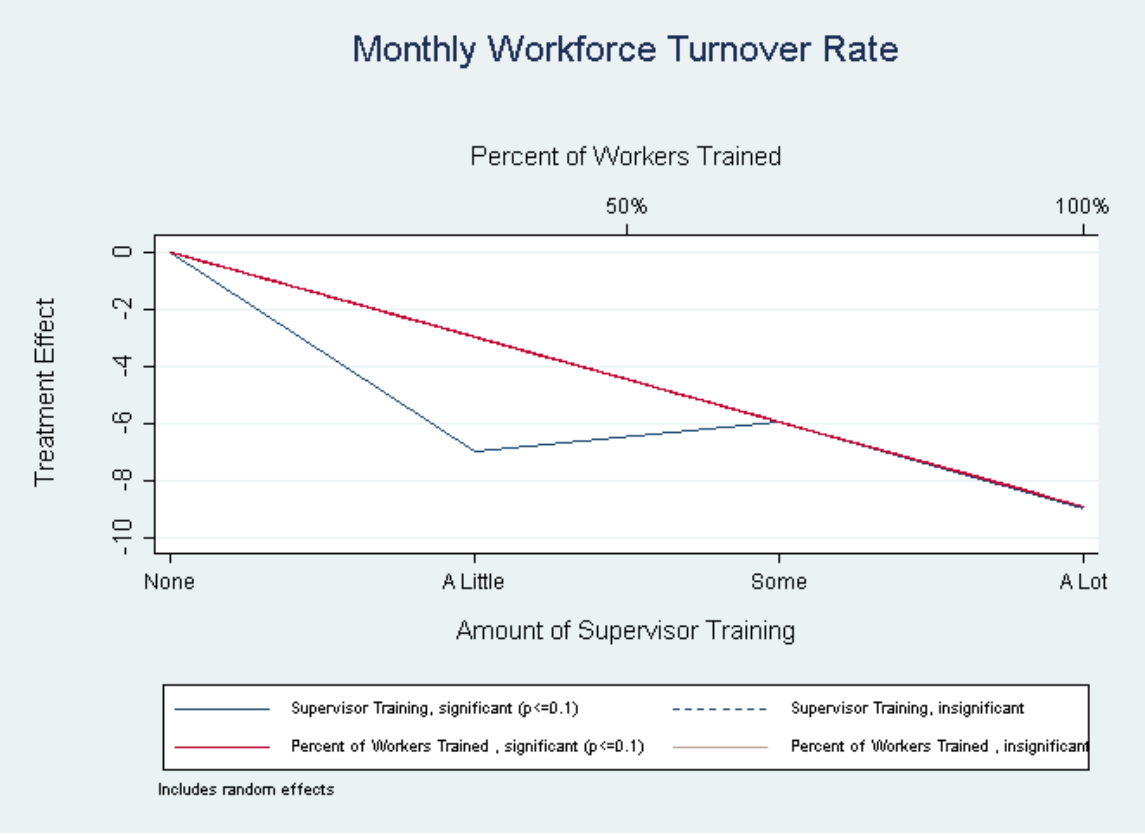
Indeed, workers who had had a small amount of WiF training thought more often about quitting than untrained workers. However, the adverse effect of training workers on turnover was offset when their supervisors were trained. Workers who had supervisors who had had some WiF training thought about quitting less often than workers with untrained supervisors.

Workers in apparel factories think a lot about quitting. The adverse effects of workforce turnover are severe as the factory loses all of the human capital acquired during skills training and on-the-job experience.

Empowering workers may actually increase thoughts of quitting as empowered workers are more aware of work alternatives.

	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	0.0571	0.0890	0.121*	0.0827
	(0.0557)	(0.0621)	(0.0622)	(0.0542)
WIF_some	-0.00120	0.0709	0.0928	0.0383
	(0.0575)	(0.0578)	(0.0605)	(0.0571)
WIF_lot	0.0101	0.0353	0.0895	0.0177
	0.0571	(0.106)	(0.113)	(0.104)
WIF_Sup_little		-0.215***	-0.162***	-0.100*
		(0.0611)	(0.0535)	(0.0556)
WIF_Sup_some		-0.261***	-0.201***	-0.135**
		(0.0784)	(0.0687)	(0.0637)
WIF_Sup_lot		-0.122	-0.0855	-0.0128
		(0.0814)	(0.0783)	(0.0752)
female	0.101*	0.0982	0.101	0.100*
	(0.0585)	(0.0694)	(0.0666)	(0.0605)
Constant	1.619***	1.707***	1.615***	1.628***
	(0.221)	(0.282)	(0.250)	(0.224)
Observations	2,884	2,063	2,508	2,866
Number of participant	1,843	1,425	1,713	1,838

Supervisor reports of workforce turnover



The reduction in thoughts of quitting is reflected in workforce turnover. Supervisors were asked how many workers they supervise and how many under their supervision left the factory in the preceding month. These two figures can be used to calculate the monthly workforce turnover rate.

The average monthly turnover rate was 10 percent. WiF training of supervisors reduced the turnover rate by 9 percentage points. Similarly, if 100 percent of workers on a line were trained, the monthly turnover rate also declined by 8.9 percentage points.

	(1)
VARIABLES	Monthly Workforce Turnover Rate
WIF_Sup_little	-6.984**
	(2.914)
WIF_Sup_some	-5.950**
	(3.013)
WIF_Sup_lot	-8.990***
	(2.990)
Workers_Supervised	-0.0235
	(0.0428)
workerstrainedpercent	-8.914**
	(4.358)
female	3.577
	(2.487)
Constant	9.990
	(6.322)
Observations	280
Number of unique ID	188

The efficiency rate

The most common measure of productivity in the apparel sector is the efficiency rate. The industrial engineer sets a production target for each individual, line or section. The question then becomes how close actual production is to targeted production. If the individual, line or section produces the target within the allotted time, then the efficiency rate is 100%. However, an efficiency rate below 100% is more common.

Workers were first asked whether they have an hourly, daily or weekly production target. They were then asked what their target is and to also indicate actual production. The efficiency rate was calculated as the ratio of actual production to target production.

Workers who reported that their supervisor had had a little or some WiF training also reported an increase in the efficiency rate. The efficiency rate rose by 19 percent with some supervisor training on a base efficiency rate of 91 percent. Such an effect indicates a 20 percent increase in productivity.

	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	-5.009	-10.77*	-19.46***	-6.375
	(7.044)	(6.324)	(7.425)	(8.434)
WIF_some	-7.989	-2.484	-16.07	-10.40
	(6.709)	(11.41)	(10.28)	(6.960)
WIF_lot	48.09	35.68	42.23	45.92
	(47.94)	(37.22)	(47.87)	(47.93)
WIF_Sup_little		11.19	16.21*	3.927
		(8.644)	(8.398)	(9.820)
WIF_Sup_some		7.612	18.96**	8.704
		(10.95)	(8.991)	(7.984)
WIF_Sup_lot		21.10	10.35	1.688
		(23.28)	(21.07)	(21.07)
female	-14.06	-13.31	-6.791	-13.81
	(12.44)	(14.82)	(13.19)	(12.92)
Constant	84.87***	91.05**	91.36***	83.60***
	(24.64)	(45.69)	(29.05)	(27.40)
Observations	751	486	612	747
Number of participant	601	401	506	598

Corroborating evidence of the impact of supervisor WiF training on the efficiency rate is provided by the survey of supervisors. Supervisors were also asked whether they have a production target, the amount of the target and actual production.

WiF training increased the efficiency rate by 15.8 percentage points on a base of 69.4, indicating a 22.8 percent productivity gain associated with a lot of supervisory training.

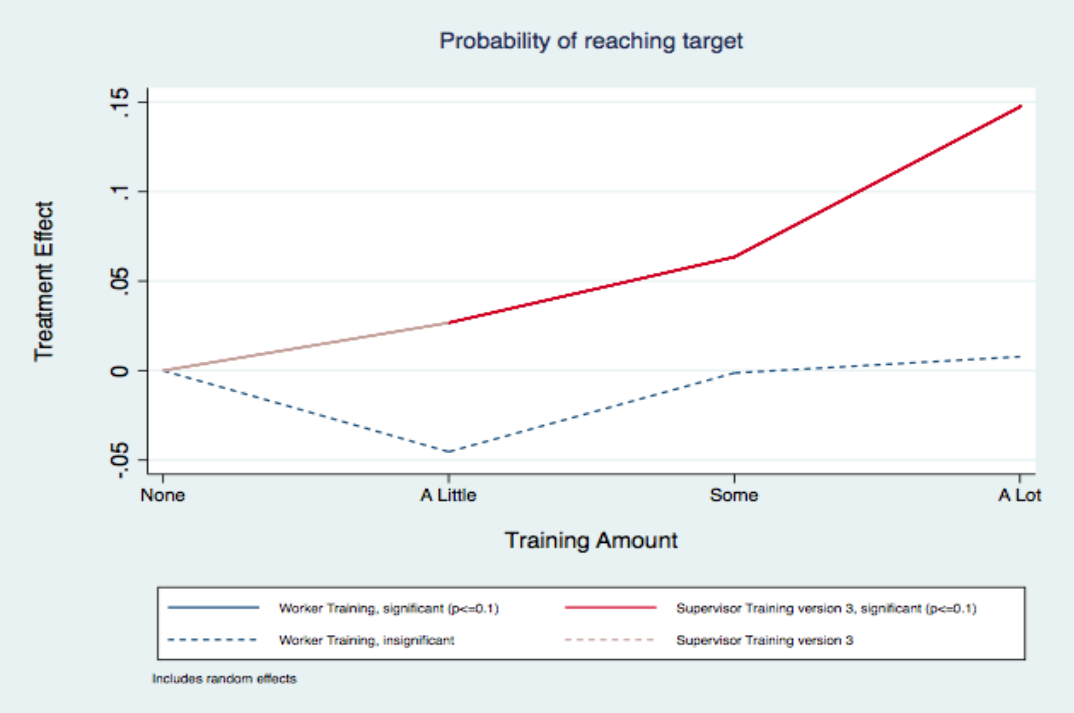
	(1)
VARIABLES	Efficiency Rate
WIF_Sup_little	2.844
	(4.297)
WIF_Sup_some	7.655**
	(3.428)
WIF_Sup_lot	15.79*
	(8.791)
Workers_Supervised	0.0856
	(0.0746)
workerstrainedpercent	-11.07
	(6.836)
female	-3.433
	(3.246)
Constant	69.41***
	(12.80)
Observations	243
Number of unique ID	171

Hourly production target

	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	12.40	23.15	26.66	8.388
	(15.46)	(17.86)	(19.02)	(20.17)
WIF_some	20.17	-2.467	15.17	10.29
	(25.10)	(21.26)	(23.68)	(32.99)
WIF_lot	7.673	-6.197	10.42	-17.47
	(34.29)	(24.84)	(31.32)	(46.58)
WIF_Sup_little		6.980	0.305	22.06
		(17.50)	(20.02)	(32.62)
WIF_Sup_some		10.61	5.224	37.14
		(17.83)	(21.66)	(41.05)
WIF_Sup_lot		52.74*	39.22	55.92
		(30.31)	(30.58)	(44.49)
female	-27.77	4.907	-12.28	-26.75
	(37.72)	(22.03)	(30.78)	(39.57)
Constant	441.9	149.8	289.9	437.2
	(389.5)	(127.1)	(208.9)	(394.5)
Observations	1,218	856	1,024	1,211
Number of participant	870	640	762	867

The treatment effect on the hourly production target indicates that worker training did not affect the industrial engineer's expectation of the ability of the line to produce. However, once a supervisor had received a lot of WiF training, the target for the supervisor increased by an average of 53 units on a base of 150 units. That is, the industrial engineer believed that the supervisor's line could produce 35 percent more after the supervisor had been fully trained.

Probability of reaching the production target



The probability of reaching the production target rose by 7 percent when workers had received a lot of WiF training. WiF training of the supervisor increased the probability of reaching the target by 14.7 percent.

Thus, even though the industrial engineer was increasing the production target for supervisors who had received a lot of training, their subordinates were meeting the engineer's higher expectations of work output.

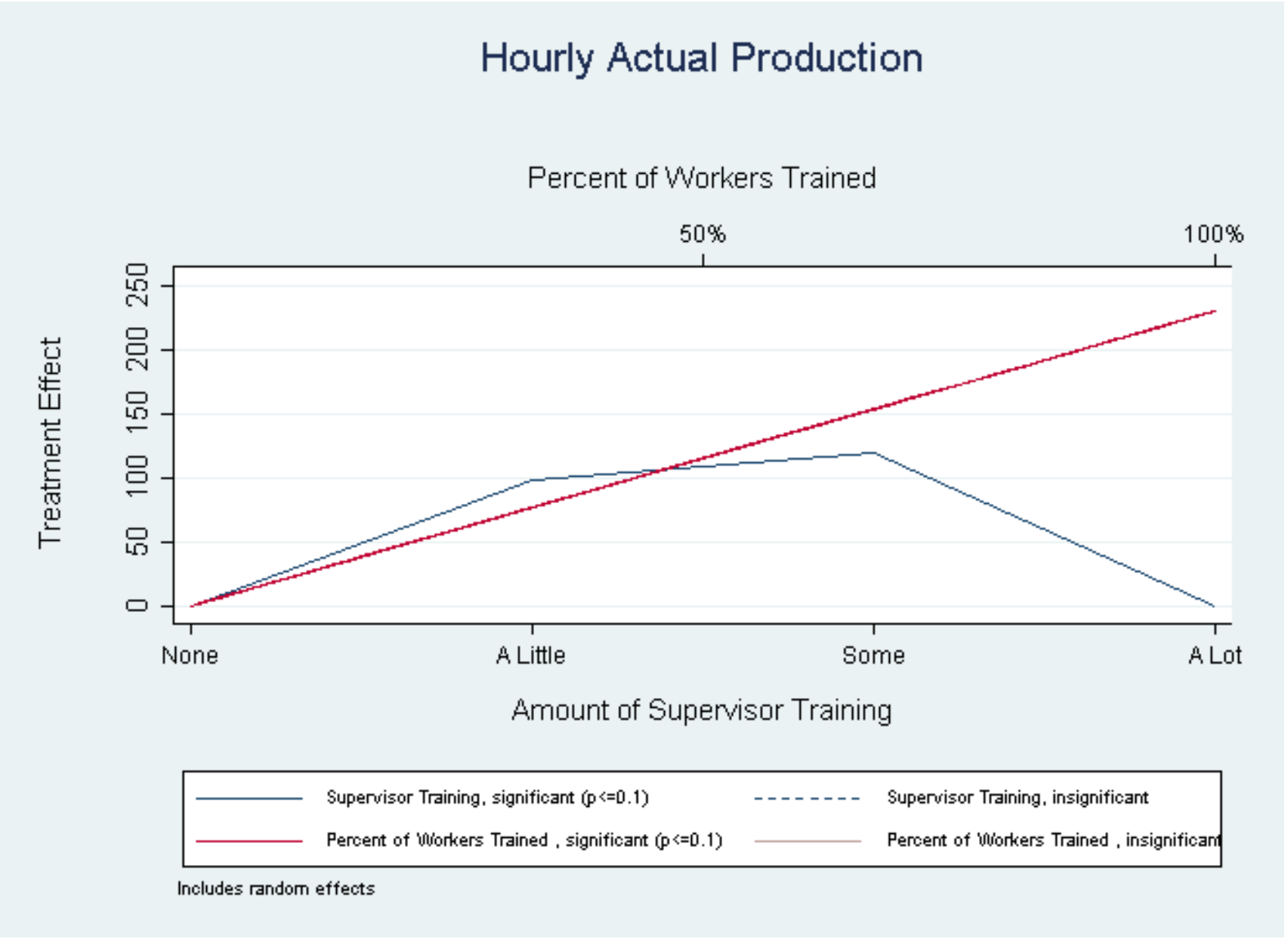
Of course, an increase in the production target by the industrial engineer does not necessarily imply that production will also rise. Actual production may remain constant even though the target has increased.

In order to determine whether an increased production target also indicates an increase in productivity, workers were asked whether they reached their production target in the preceding day.

	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	-0.0328	-0.0449	-0.0360	-0.0454
	(0.0411)	(0.0431)	(0.0416)	(0.0423)
WIF_some	0.0243	-0.0464	-0.0278	-0.00132
	(0.0487)	(0.0528)	(0.0528)	(0.0481)
WIF_lot	0.0731*	-0.0351	-0.0182	0.00776
	(0.0442)	(0.0498)	(0.0493)	(0.0474)
WIF_Sup_little		0.0101	0.0100	0.0267
		(0.0429)	(0.0375)	(0.0332)
WIF_Sup_some		0.0573	0.0561	0.0635**
		(0.0412)	(0.0375)	(0.0314)
WIF_Sup_lot		0.145***	0.140***	0.147***
		(0.0551)	(0.0497)	(0.0442)
female	-0.0841***	-0.0761**	-0.0846***	-0.0791**
	(0.0314)	(0.0303)	(0.0320)	(0.0309)
Constant	0.368***	0.271**	0.344***	0.366***
	(0.101)	(0.137)	(0.110)	(0.106)
Observations	2,380	1,691	2,050	2,368
Number of participant	1,562	1,203	1,444	1,558

Corroborating evidence is provided from the survey of supervisors. Supervisors were asked whether their line reached their production target in the preceding time period. Supervisors who reported having received a lot of WiF training were 24.5 percent more likely to report reaching the target.

	(1)
VARIABLES	Reach Target
WIF_Sup_little	0.107
	(0.0720)
WIF_Sup_some	0.0669
	(0.0841)
WIF_Sup_lot	0.245**
	(0.123)
Workers_Supervised	-0.00254*
	(0.00138)
workerstrainedpercent	0.0434
	(0.135)
female	-0.0144
	(0.0674)
Constant	0.545***
	(0.181)
Observations	302
Number of unique ID	200



	(1)
VARIABLES	Hourly Actual Production
WIF_Sup_little	98.06**
	(48.15)
WIF_Sup_some	119.8*
	(71.81)
Hourly_Target	0.746***
	(0.143)
Workers_Supervised	-2.602**
	(1.188)
workerstrainedpercent	230.3***
	(77.09)
female	-39.23
	(40.70)
Constant	-127.9
	(192.0)
Observations	75
Number of unique ID	63

Production Bonus Amount

However, more important than the training of the workers is the training of the supervisors. The more WiF training a supervisor receives, the more productive the line is, which in turn increases the workers' chance of earning a larger production bonus.

A second indicator of increased productivity is the production bonus amount. Workers who more commonly reach the production target are more likely to earn a production bonus.

The figure to the left indicates that when workers have received some WiF training there is a statistically significant increase in the amount of the production bonus the worker received.

	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	0.114	0.0911	0.0388	0.0443
	(0.167)	(0.204)	(0.193)	(0.168)
WIF_some	0.425***	0.288	0.272	0.283*
	(0.163)	(0.193)	(0.190)	(0.159)
WIF_lot	0.294	0.116	0.0791	0.126
	(0.217)	(0.247)	(0.233)	(0.224)
WIF_Sup_little		0.117	0.176	0.186
		(0.168)	(0.144)	(0.146)
WIF_Sup_some		0.304	0.366**	0.378**
		(0.186)	(0.176)	(0.152)
WIF_Sup_lot		0.378*	0.453*	0.475**
		(0.227)	(0.238)	(0.224)
female	-0.329**	-0.349**	-0.366**	-0.328**
	(0.153)	(0.149)	(0.147)	(0.149)
Constant	0.275	-0.0334	0.331	0.249
	(0.436)	(0.417)	(0.421)	(0.442)
Observations	2,743	1,970	2,380	2,724
Number of participant	1,743	1,357	1,615	1,737

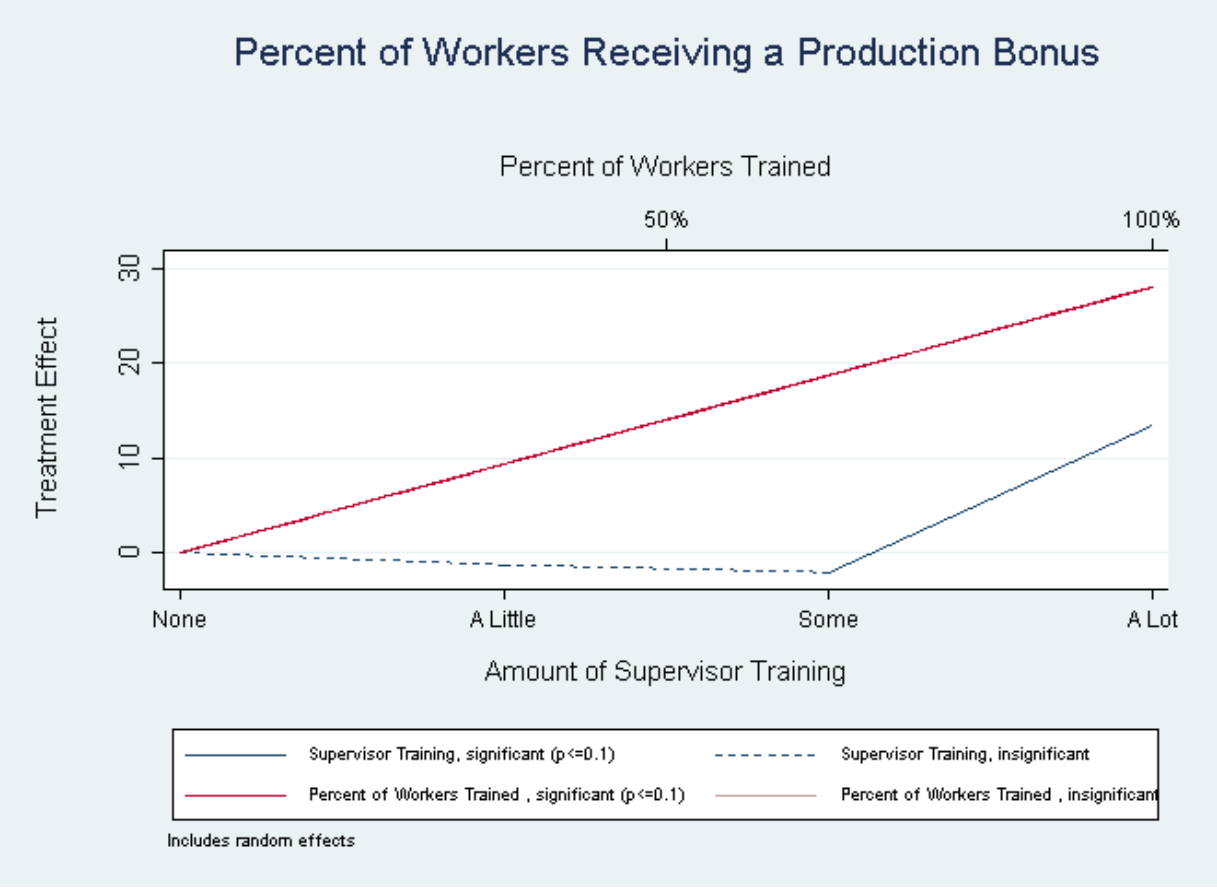
Receive production bonus

In the absence of WiF training of supervisors, about 28.4 percent of workers reported receiving a production bonus. After a worker's supervisor had had a lot of WiF training, the proportion of workers receiving a bonus rose by 12.3 percentage points to 40.7 percent.

Not only were production bonuses larger with WiF training, workers were more likely to earn a production bonus once their supervisor had had some or a lot of WiF training.

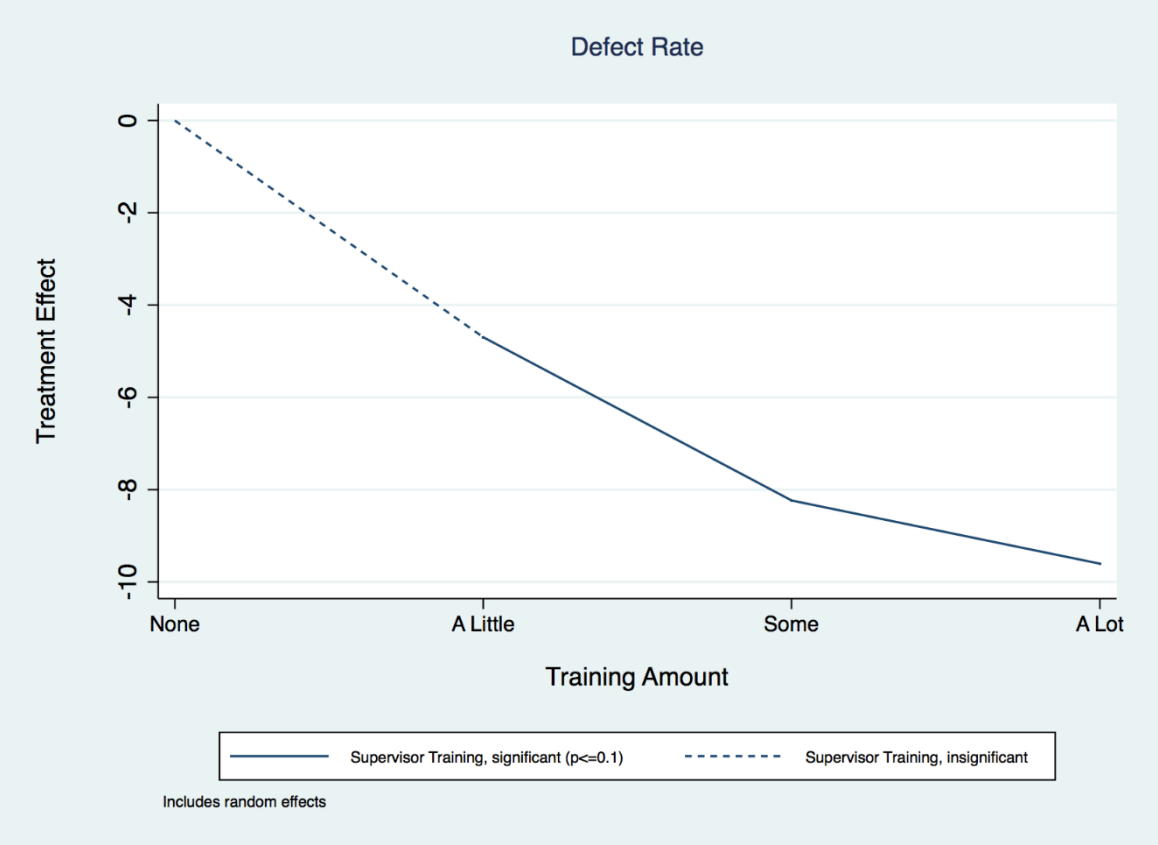
	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	0.000680	-0.00238	-0.0110	-0.0112
	(0.0311)	(0.0350)	(0.0339)	(0.0296)
WIF_some	0.0685**	0.0489	0.0326	0.0357
	(0.0297)	(0.0372)	(0.0360)	(0.0295)
WIF_lot	0.0457	-0.00752	-0.00954	-0.00227
	(0.0641)	(0.0733)	(0.0738)	(0.0690)
WIF_Sup_little		0.0185	0.0186	0.0163
		(0.0330)	(0.0303)	(0.0315)
WIF_Sup_some		0.0840**	0.0886**	0.0849**
		(0.0349)	(0.0363)	(0.0332)
WIF_Sup_lot		0.120***	0.123***	0.123***
		(0.0403)	(0.0398)	(0.0374)
female	-0.0229	-0.0282	-0.0338	-0.0242
	(0.0368)	(0.0339)	(0.0362)	(0.0351)
Constant	0.284***	0.292***	0.326***	0.282***
	(0.109)	(0.0973)	(0.107)	(0.109)
Observations	2,743	1,970	2,380	2,724
Number of participant	1,743	1,357	1,615	1,737

Supervisor reports are comparable. According to supervisor reports, providing WiF training to supervisors and workers increased the proportion of workers receiving a production bonus. Supervisors reported that typically 7 percent of workers on their production line received a production bonus prior to any training. Once supervisors reported receiving a lot of WiF foundational training, the proportion rose by 13.53 percent. That is, the proportion nearly tripled. The proportion receiving a productivity bonus also rose with the percent of workers on the line who had received training. Once 100 percent of workers on a line were trained, the proportion receiving a bonus rose by 28 percent.



	(1)
VARIABLES	Percent of Workers Receiving a Production Bonus
WIF_Sup_little	-1.271
	(3.944)
WIF_Sup_some	-2.062
	(3.883)
WIF_Sup_lot	13.53*
	(7.246)
Workers_Supervised	0.137
	(0.102)
workerstrainedpercent	28.05***
	(7.995)
female	-1.319
	(5.046)
Constant	7.022
	(9.914)
Observations	309
Number of unique ID	214

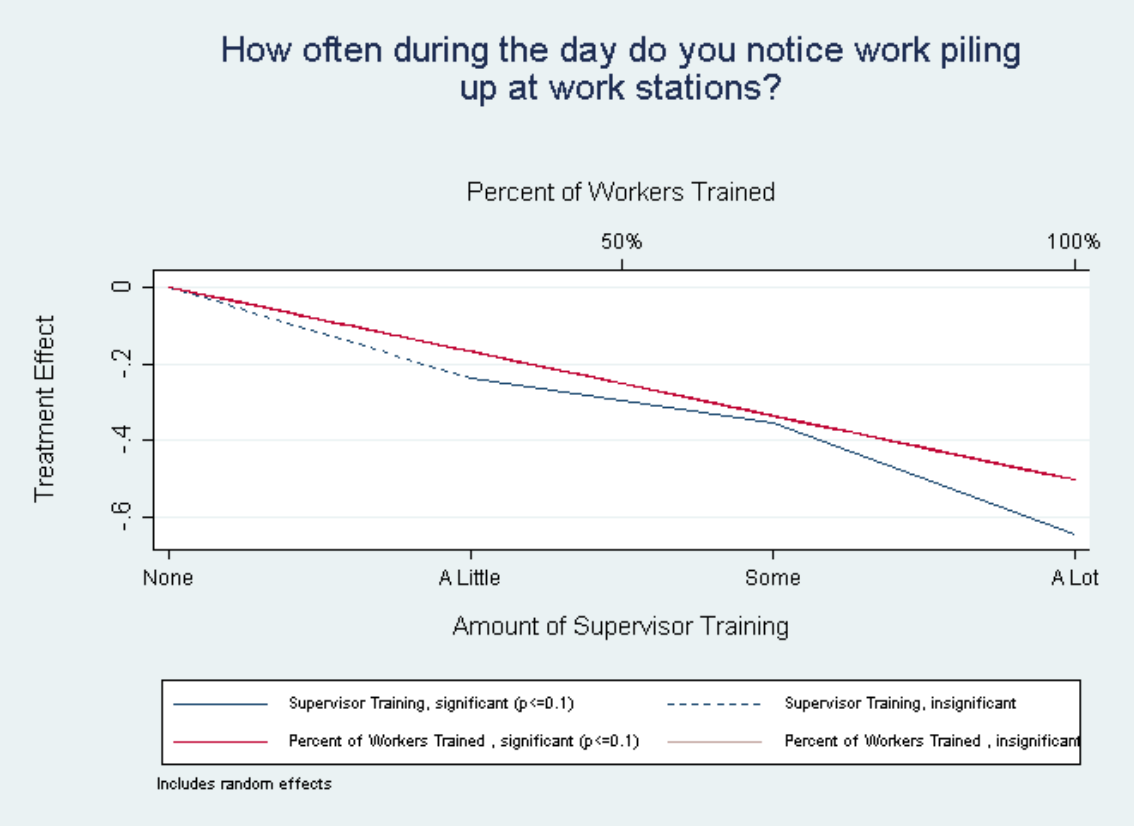
Defect Rate



Providing supervisors with foundational training reduces defects. Prior to training, supervisors reported an average defect rate of about 12 percent. Once supervisors had had some foundational training, the defect rate dropped by 8.2 percentage points. Improvement continued with additional training. Supervisors reporting a lot of WiF training reported that the defect had declined by 9.6 percentage points. That is, WiF foundational training reduced the defect rate by about 80 percent.

	(1)
VARIABLES	Defect Rate
WIF_Sup_little	-4.696
	(3.307)
WIF_Sup_some	-8.235***
	(2.984)
WIF_Sup_lot	-9.605**
	(4.034)
Workers_Supervised	0.0346
	(0.0409)
workerstrainedpercent	-5.899
	(3.799)
female	3.025
	(2.230)
Constant	12.04**
	(5.900)
Observations	324
Number of unique ID	221

Line balancing

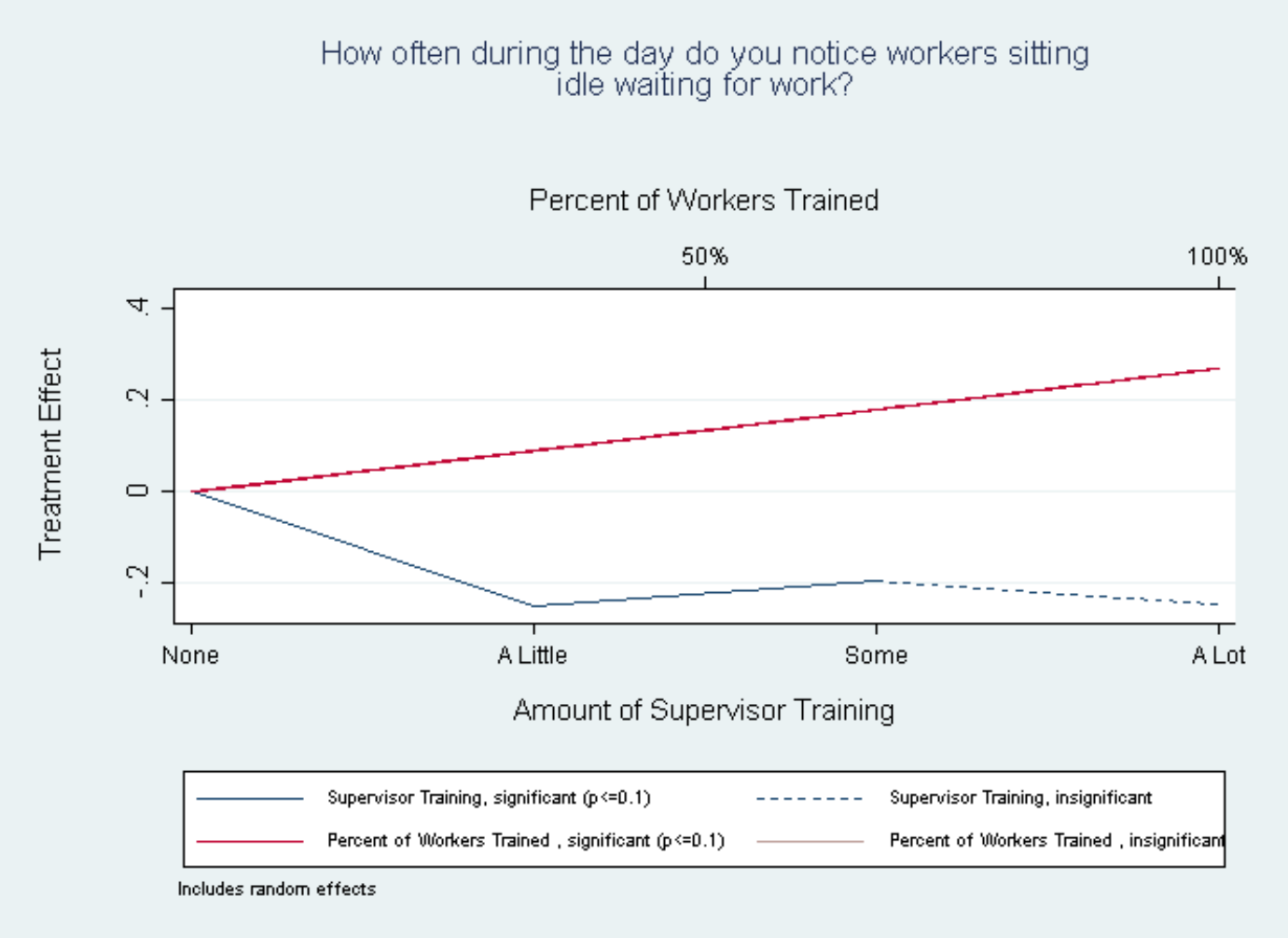


Line balancing is an important contributor to productivity. Production situations in which work is piling up at the station of one worker or a worker is sitting idle are both indicators of poor line balancing.

Supervisors were asked how often they notice work piling up at the work station of some workers. The scale ranged from *1 = never* to *5 = all of the time*.

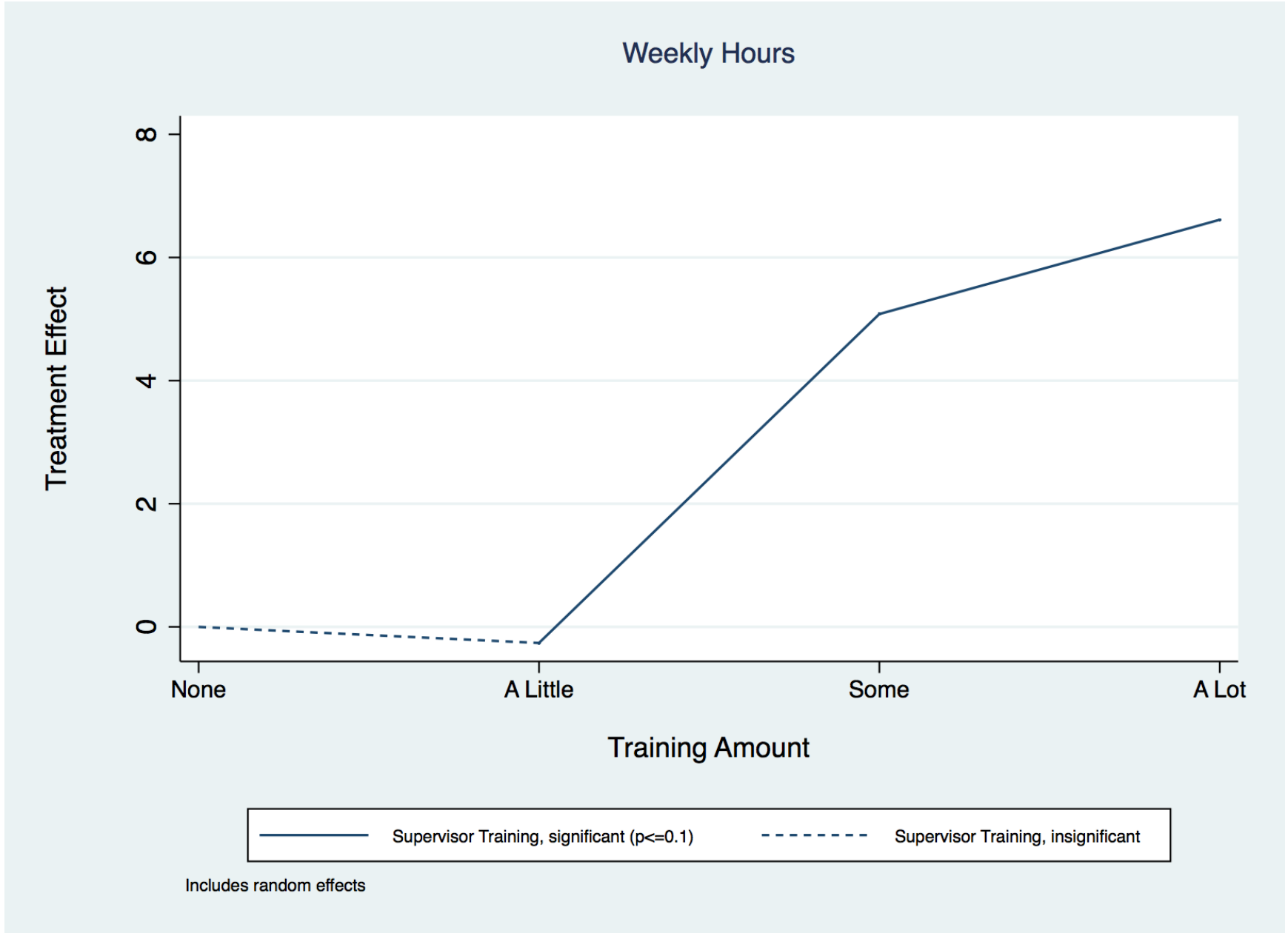
WiF training of workers and supervisors significantly reduced the building up of work at work stations.

	(1)
VARIABLES	notice work piling up
WIF_Sup_little	-0.237
	(0.154)
WIF_Sup_some	-0.354***
	(0.127)
WIF_Sup_lot	-0.643***
	(0.220)
Workers_Supervised	0.00471***
	(0.00145)
workerstrainedpercent	-0.503***
	(0.171)
female	0.535***
	(0.108)
Constant	2.763***
	(0.251)
Observations	355
Number of unique ID	235



By contrast, workers sitting idle was most significantly reduced by supervisor training.

	(1)
VARIABLES	notice of workers sitting idle
WIF_Sup_little	-0.247**
	(0.107)
WIF_Sup_some	-0.195*
	(0.110)
WIF_Sup_lot	-0.245
	(0.161)
Workers_Supervised	-0.00171
	(0.00161)
workerstrainedpercent	0.269*
	(0.162)
female	0.212*
	(0.118)
Constant	1.677***
	(0.280)
Observations	361
Number of unique ID	238

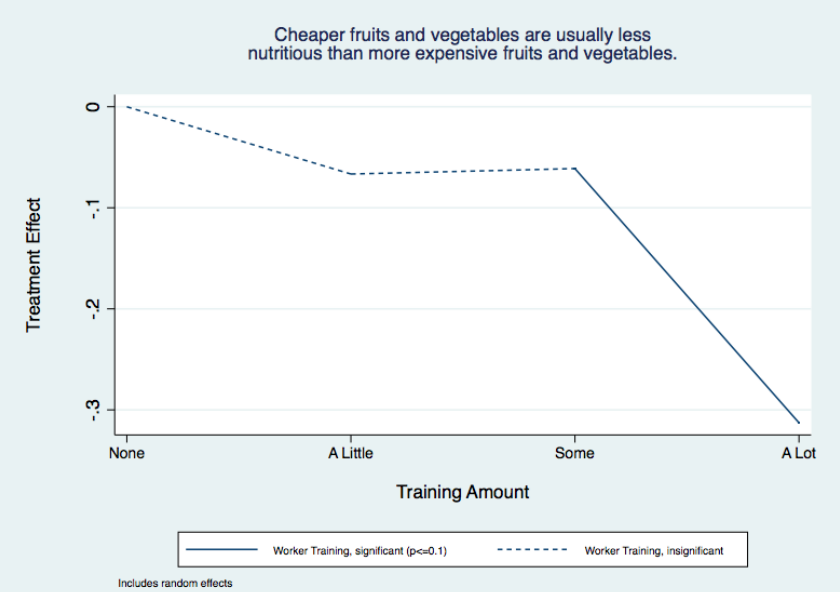


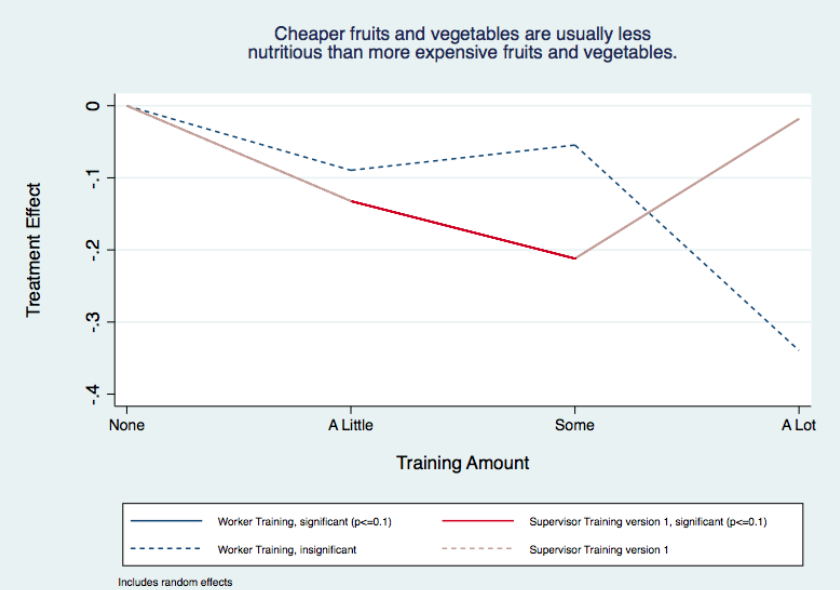
	(1)
VARIABLES	Weekly Hours
WIF_Sup_little	-0.261
	(2.215)
WIF_Sup_some	5.081***
	(1.944)
WIF_Sup_lot	6.613*
	(3.463)
Workers_Supervised	-0.00429
	(0.0361)
workerstrainedpercent	-2.409
	(2.246)
female	-3.358**
	(1.684)
Constant	45.97***
	(5.515)
Observations	358
Number of unique ID	236

Health knowledge and behaviors

Improving health outcomes depends first on whether workers have knowledge of and practice healthy behaviors. WiF training emphasized the health benefits of local fruits and vegetables, hand washing before cooking and eating, boiling water, understanding that unboiled water may have bacteria that cannot be seen simply by inspection, eating breakfast and using personal protective equipment (PPEs) when at work.

Finding Healthy Fruits and Vegetables

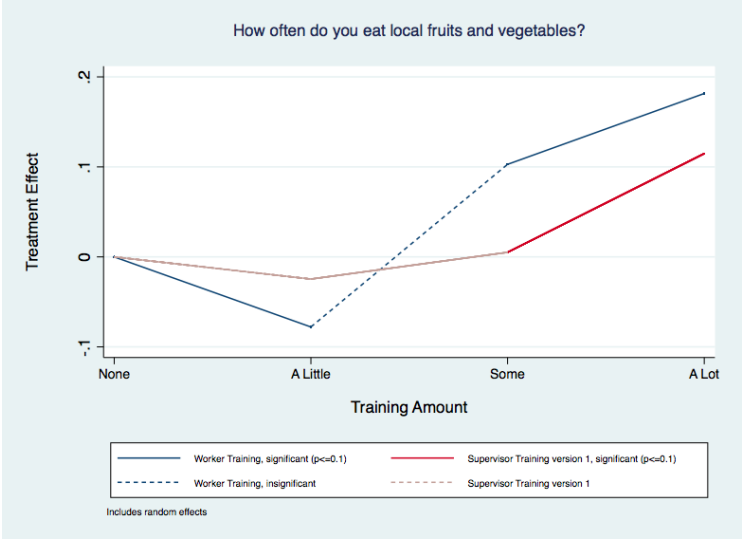


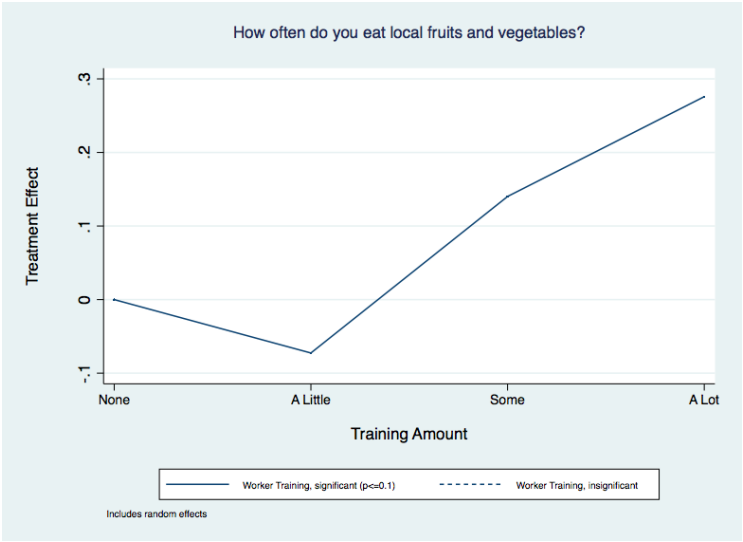


One way we measured knowledge about nutrition is by asking participants whether they agreed or disagreed that cheaper fruits and vegetables are less nutritious than more expensive produce. With greater knowledge, participants should be more likely to disagree. Indeed, when workers received a lot of WiF training, or their supervisors received some WiF training, they were more likely to disagree with this item, showing improved knowledge.

	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	-0.0666	-0.0895	-0.0109	-0.0551
	(0.0534)	(0.0809)	(0.0674)	(0.0558)
WIF_some	-0.0612	-0.0545	-0.00585	-0.0300
	(0.0625)	(0.0953)	(0.0883)	(0.0718)
WIF_lot	-0.313*	-0.339	-0.324*	-0.344**
	(0.165)	(0.207)	(0.192)	(0.174)
WIF_Sup_little		-0.132	-0.0921	-0.0408
		(0.0860)	(0.0784)	(0.0727)
WIF_Sup_some		-0.212**	-0.174**	-0.125
		(0.0989)	(0.0884)	(0.0809)
WIF_Sup_lot		-0.0180	0.0283	0.0727
		(0.187)	(0.177)	(0.170)
female	-0.150*	-0.147	-0.131	-0.148*
	(0.0767)	(0.0943)	(0.0876)	(0.0765)
Constant	3.434***	3.280***	3.377***	3.435***
	(0.193)	(0.262)	(0.193)	(0.194)
Observations	2,961	2,119	2,572	2,937
Number of participant	1,861	1,453	1,738	1,851

Eating local fruits and vegetables

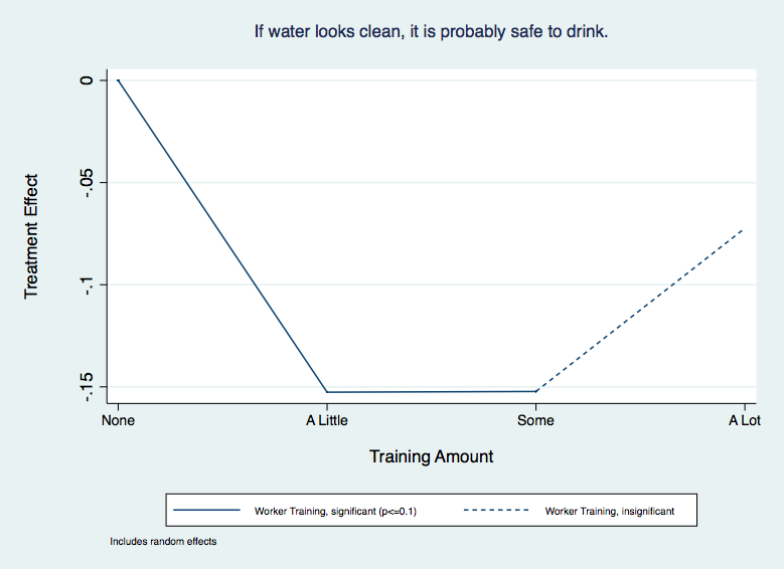


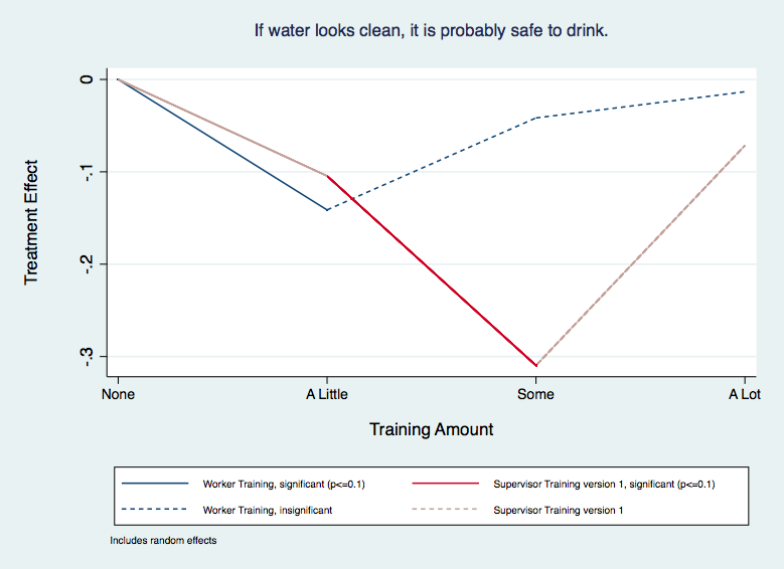


Consistent with this improved knowledge, workers were more likely to eat local fruits and vegetables after they or their supervisor had received training.

	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	-0.0726*	-0.0779*	-0.0480	-0.0758
	(0.0431)	(0.0453)	(0.0436)	(0.0467)
WIF_some	0.140**	0.103	0.138*	0.125**
	(0.0597)	(0.0783)	(0.0728)	(0.0623)
WIF_lot	0.276***	0.182**	0.228***	0.218***
	(0.0803)	(0.0805)	(0.0846)	(0.0773)
WIF_Sup_little		-0.0246	-0.0246	-0.0129
		(0.0437)	(0.0492)	(0.0465)
WIF_Sup_some		0.00508	0.0145	0.0257
		(0.0425)	(0.0447)	(0.0410)
WIF_Sup_lot		0.115*	0.106	0.115*
		(0.0625)	(0.0695)	(0.0680)
female	0.0253	0.0541	0.0226	0.0226
	(0.0397)	(0.0463)	(0.0390)	(0.0398)
Constant	2.316***	2.354***	2.267***	2.317***
	(0.184)	(0.201)	(0.185)	(0.183)
Observations	3,079	2,179	2,661	3,053
Number of participant	1,906	1,474	1,776	1,898

Recognizing safe water

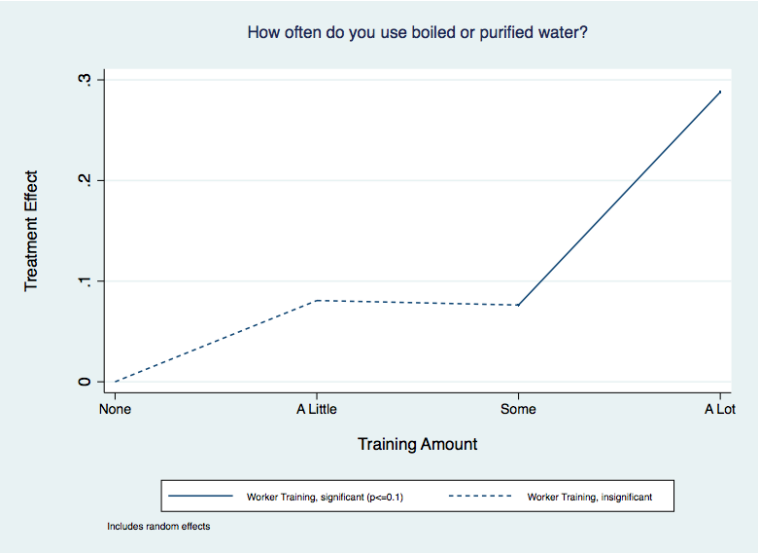


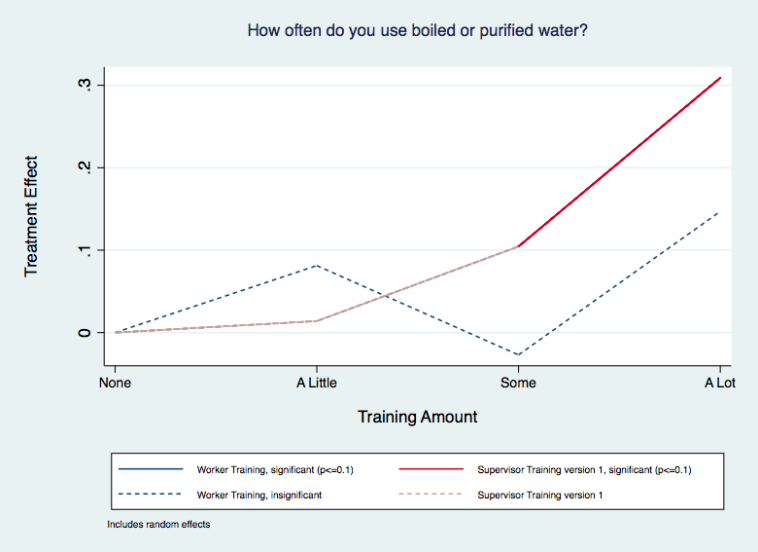


We measured knowledge about clean water by asking whether workers agreed or disagreed that if water looks clean, it is probably safe to drink. Again, we found that with worker or supervisor training, agreement went down, indicating increased knowledge.

	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	-0.153*	-0.141*	-0.0483	-0.149*
	(0.0808)	(0.0821)	(0.0787)	(0.0808)
WIF_some	-0.152***	-0.0416	0.0288	-0.106**
	(0.0480)	(0.0769)	(0.0698)	(0.0479)
WIF_lot	-0.0723	-0.0133	0.00245	-0.0952
	(0.168)	(0.218)	(0.211)	(0.168)
WIF_Sup_little		-0.104	-0.0921	0.0143
		(0.0657)	(0.0654)	(0.0626)
WIF_Sup_some		-0.310***	-0.306***	-0.187**
		(0.0973)	(0.0875)	(0.0852)
WIF_Sup_lot		-0.0715	-0.0508	0.0653
		(0.106)	(0.101)	(0.0918)
female	-0.00343	-0.0436	0.0219	0.00884
	(0.0869)	(0.0929)	(0.0881)	(0.0831)
Constant	3.554***	3.222***	3.456***	3.535***
	(0.290)	(0.305)	(0.285)	(0.282)
Observations	3,069	2,168	2,650	3,041
Number of participant	1,907	1,468	1,773	1,898

Boiling or purifying drinking water



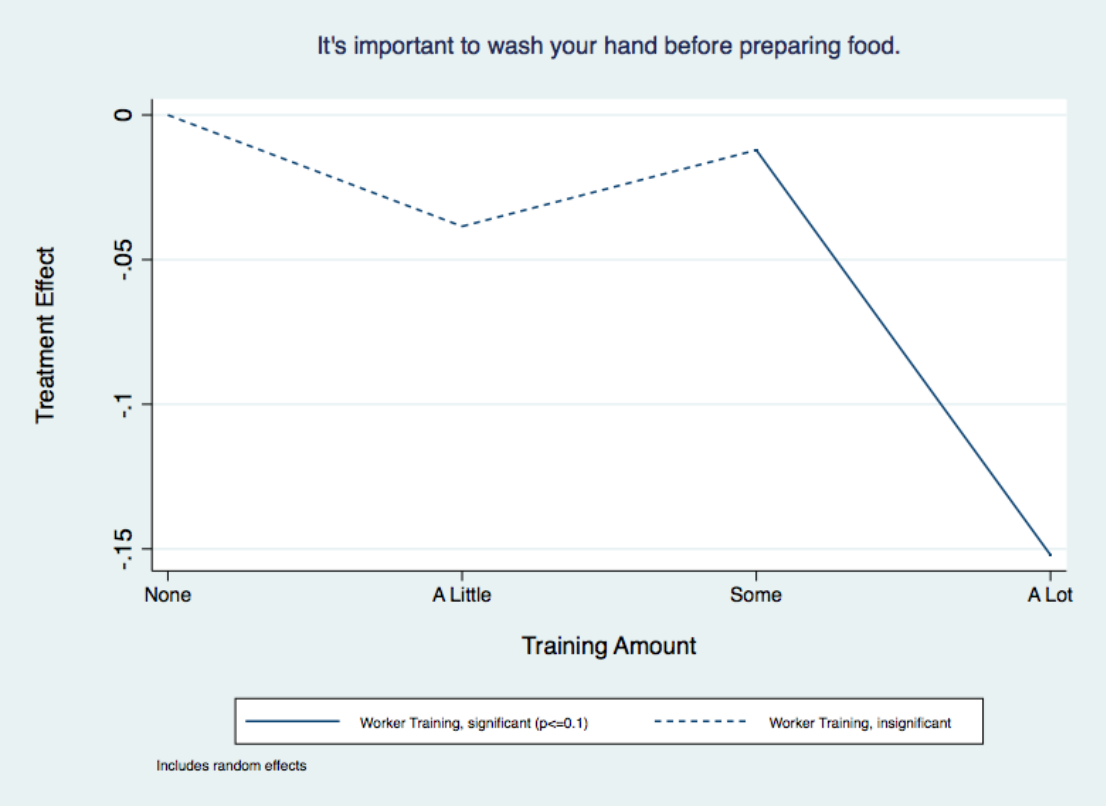


Reflecting their improved knowledge, workers were more likely to use boiled or purified water after they or their supervisors had received a lot of training.

	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	0.0808	0.0813	0.0492	0.0764
	(0.0656)	(0.0772)	(0.0763)	(0.0699)
WIF_some	0.0763	-0.0270	-0.0231	0.0435
	(0.0704)	(0.0859)	(0.0797)	(0.0737)
WIF_lot	0.288**	0.147	0.120	0.184
	(0.138)	(0.156)	(0.155)	(0.157)
WIF_Sup_little		0.0140	0.00219	-0.0293
		(0.0957)	(0.0928)	(0.0884)
WIF_Sup_some		0.104	0.0870	0.0504
		(0.0729)	(0.0624)	(0.0582)
WIF_Sup_lot		0.309***	0.288***	0.244**
		(0.0961)	(0.0965)	(0.102)
female	0.256***	0.260***	0.248***	0.253***
	(0.0622)	(0.0804)	(0.0736)	(0.0628)
Constant	2.845***	2.620***	2.734***	2.837***
	(0.200)	(0.294)	(0.231)	(0.196)
Observations	3,059	2,171	2,648	3,033
Number of participant	1,905	1,468	1,772	1,897

Handwashing before eating or preparing food

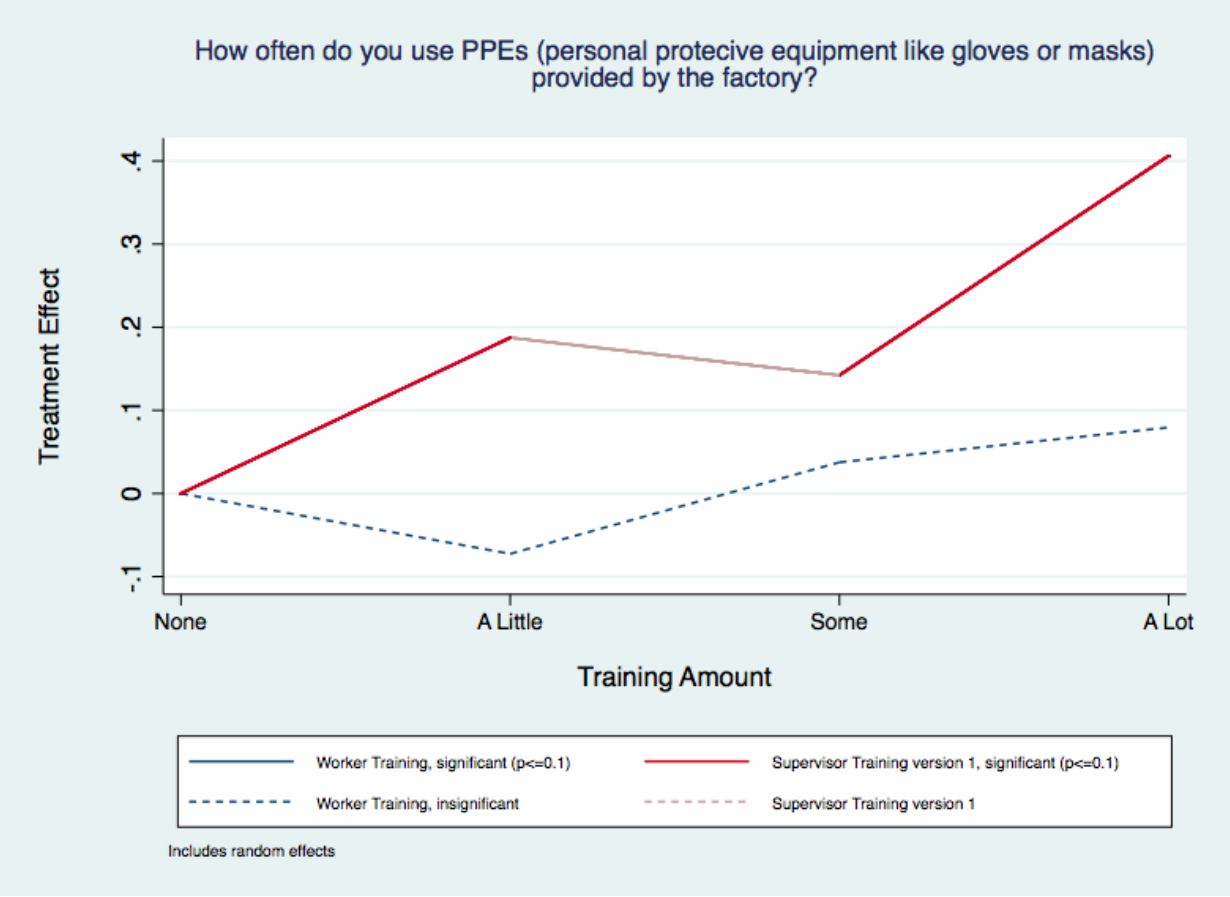
Interestingly, when workers received lots of WiF training, they were also less likely to agree that it's important to wash your hands before preparing foods – not the effect that we would expect. However, the typical response was still around 4, indicating agreement with this statement.



	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	-0.0385	-0.0452	-0.0560	-0.0246
	(0.0308)	(0.0366)	(0.0409)	(0.0299)
WIF_some	-0.0122	-0.0155	-0.0304	0.00148
	(0.0302)	(0.0433)	(0.0432)	(0.0340)
WIF_lot	-0.152*	-0.182*	-0.196**	-0.156*
	(0.0834)	(0.100)	(0.0974)	(0.0878)
WIF_Sup_little		-0.000685	-0.0240	-0.0576*
		(0.0427)	(0.0368)	(0.0338)
WIF_Sup_some		0.0125	-0.00950	-0.0479
		(0.0402)	(0.0374)	(0.0313)
WIF_Sup_lot		0.0720	0.0436	0.00802
		(0.0546)	(0.0493)	(0.0462)
female	0.00712	-0.0121	-0.00591	0.000990
	(0.0275)	(0.0361)	(0.0319)	(0.0285)
Constant	4.232***	4.057***	4.212***	4.250***
	(0.164)	(0.202)	(0.166)	(0.162)
Observations	3,093	2,180	2,668	3,064
Number of participant	1,916	1,474	1,781	1,906

Staying safe at work with personal protective equipment

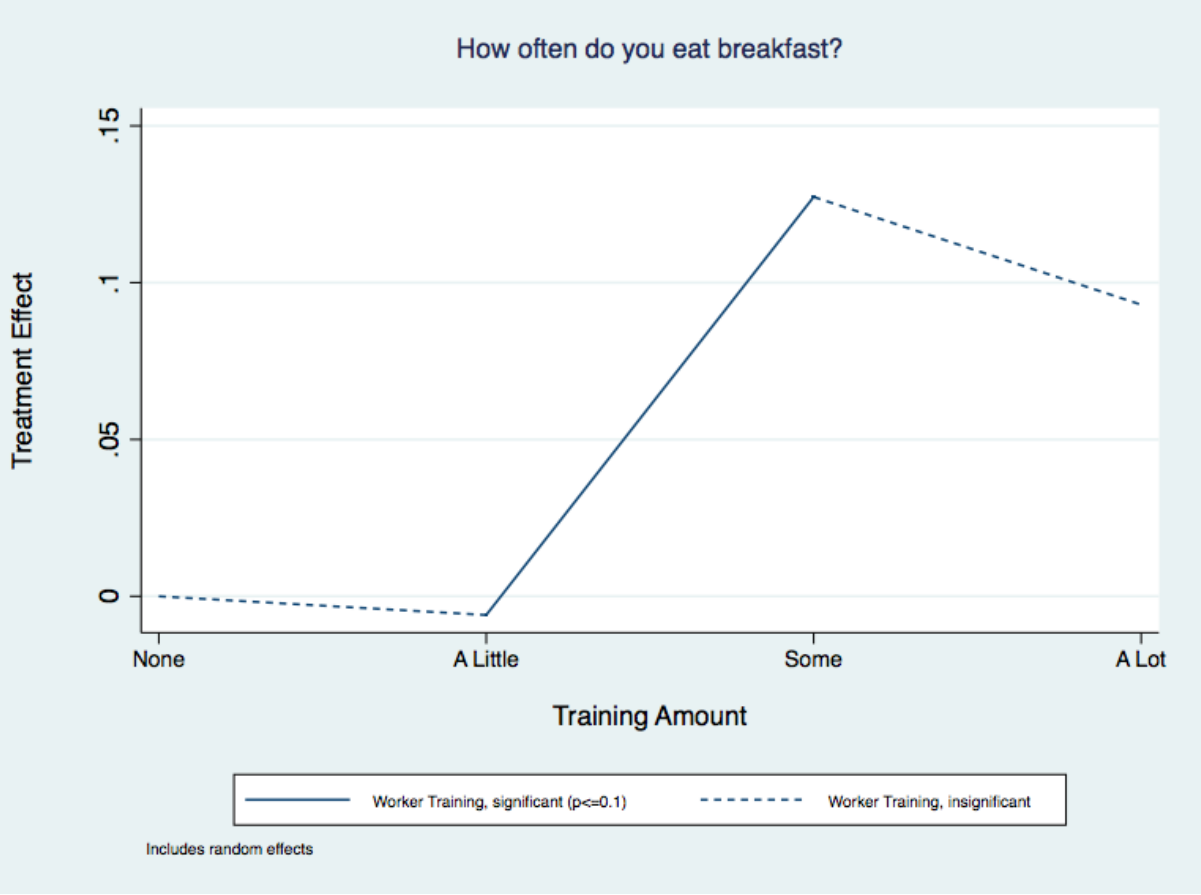
Workers were more likely to use personal protective equipment when their supervisors had received training.



	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	-0.0554	-0.0726	-0.117*	-0.109*
	(0.0633)	(0.0739)	(0.0602)	(0.0613)
WIF_some	0.0706	0.0375	0.00964	0.00743
	(0.0516)	(0.0826)	(0.0772)	(0.0524)
WIF_lot	0.225	0.0794	0.0388	0.0764
	(0.158)	(0.232)	(0.221)	(0.172)
WIF_Sup_little		0.187*	0.168**	0.156*
		(0.0973)	(0.0853)	(0.0820)
WIF_Sup_some		0.142	0.139	0.121
		(0.101)	(0.0994)	(0.0856)
WIF_Sup_lot		0.406***	0.389***	0.361***
		(0.152)	(0.144)	(0.124)
female	-0.419***	-0.353***	-0.415***	-0.410***
	(0.107)	(0.130)	(0.111)	(0.108)
Constant	4.522***	4.592***	4.446***	4.493***
	(0.384)	(0.392)	(0.415)	(0.391)
Observations	3,061	2,171	2,646	3,036
Number of participant	1,904	1,470	1,770	1,896

Eating breakfast

After receiving some WiF training, workers were more likely to eat breakfast.



	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	-0.00597	0.0202	0.0122	-0.00708
	(0.0426)	(0.0553)	(0.0591)	(0.0461)
WIF_some	0.127**	0.0951	0.104	0.114*
	(0.0500)	(0.0617)	(0.0633)	(0.0586)
WIF_lot	0.0930	0.0468	0.0534	0.0666
	(0.0793)	(0.0775)	(0.0786)	(0.0752)
WIF_Sup_little		-0.0395	-0.0215	-0.00884
		(0.0554)	(0.0601)	(0.0550)
WIF_Sup_some		0.0210	0.0308	0.0295
		(0.0492)	(0.0540)	(0.0513)
WIF_Sup_lot		0.0167	0.0358	0.0383
		(0.0648)	(0.0671)	(0.0623)
female	0.0346	0.0713	0.0255	0.0364
	(0.0564)	(0.0602)	(0.0548)	(0.0554)
Constant	3.854***	4.039***	3.922***	3.849***
	(0.242)	(0.325)	(0.234)	(0.242)
Observations	3,096	2,184	2,673	3,068
Number of participant	1,915	1,475	1,782	1,905

Effective communication, problem solving and collectively working toward common goals

WiF training places great emphasis on encouraging workers to understand that their behavior is important to the success of the workplace. The training encourages workers to understand that their behavior affects the outcome of the factory, that they can voice their concerns or suggestions and that they do not have to choose between being aggressive and submissive.

Interdependence of the worker and the factory

We asked workers how important their work was, to get a sense of whether they saw themselves as making a meaningful contribution. Once workers had received a lot of training, or their supervisor had received some training, they saw their work as more important.

	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	-0.0873***	-0.0801***	-0.0812***	-0.0816***
	(0.0259)	(0.0281)	(0.0272)	(0.0262)
WIF_some	-0.0401*	-0.0626***	-0.0653***	-0.0565**
	(0.0235)	(0.0223)	(0.0218)	(0.0238)
WIF_lot	0.0950***	0.101***	0.0983***	0.0839***
	(0.0258)	(0.0293)	(0.0297)	(0.0320)
WIF_Sup_little		-0.00605	-0.0214	-0.0322
		(0.0325)	(0.0290)	(0.0274)
WIF_Sup_some		0.0926***	0.0763***	0.0619***
		(0.0230)	(0.0210)	(0.0217)
WIF_Sup_lot		0.0421	0.0246	0.0168
		(0.0401)	(0.0406)	(0.0399)
female	-0.0203	-0.0386*	-0.0295	-0.0257
	(0.0194)	(0.0232)	(0.0208)	(0.0197)
Constant	3.643***	3.579***	3.640***	3.652***
	(0.108)	(0.146)	(0.111)	(0.105)
Observations	3,060	2,168	2,644	3,034
Number of participant	1,902	1,471	1,771	1,894

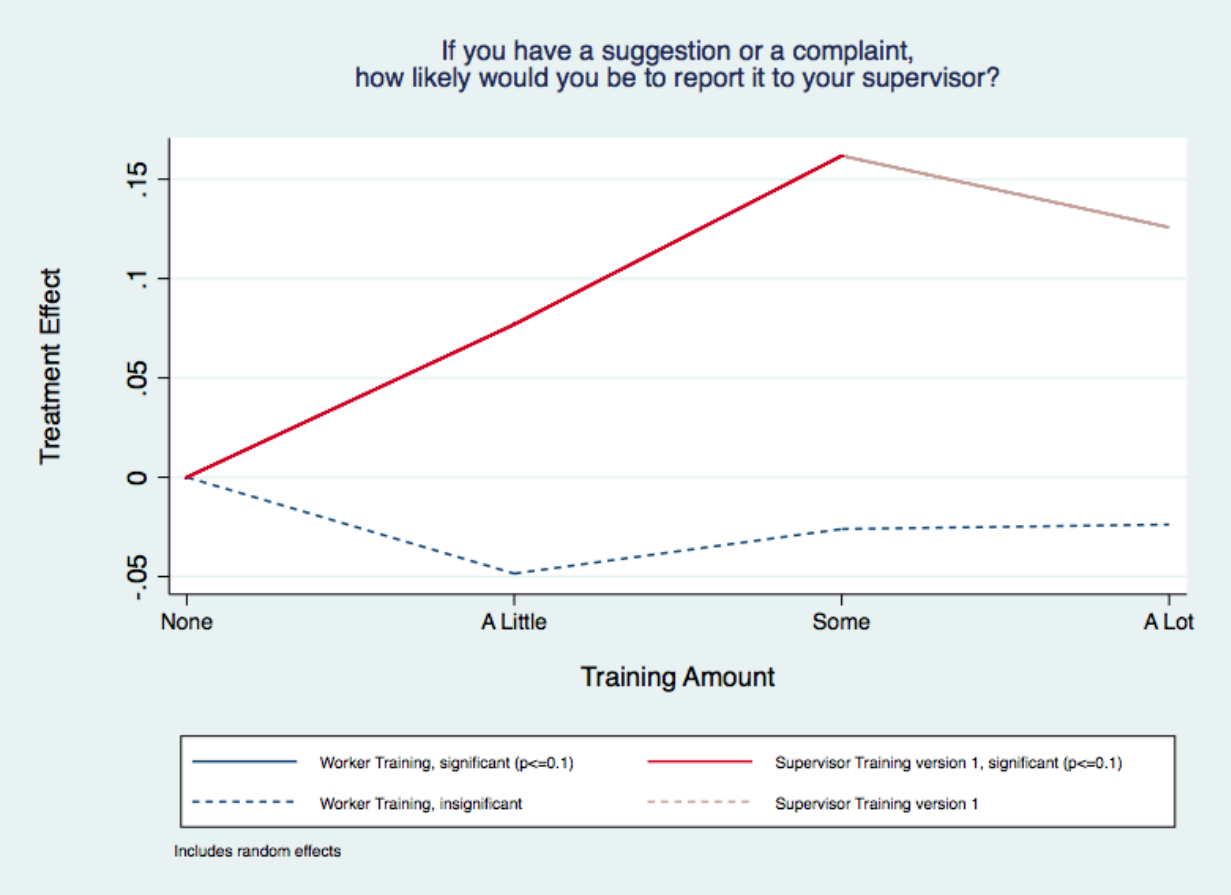
Communication options in social interactions

This is another knowledge question where the correct response is to disagree; in this case, we are measuring whether workers are aware that there are alternatives to being passive or aggressive in communication. Workers were in fact more likely to disagree, showing improved knowledge, after receiving training, but were somewhat more likely to agree after their supervisors had been trained.

	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	-0.132**	-0.0964	-0.0547	-0.133**
	(0.0564)	(0.0670)	(0.0516)	(0.0565)
WIF_some	-0.144*	-0.128	-0.124	-0.167**
	(0.0814)	(0.101)	(0.101)	(0.0820)
WIF_lot	-0.419***	-0.453***	-0.451***	-0.501***
	(0.118)	(0.140)	(0.140)	(0.125)
WIF_Sup_little		-0.0658	-0.0762	-0.0386
		(0.0893)	(0.0860)	(0.0889)
WIF_Sup_some		0.0287	0.0111	0.0483
		(0.0748)	(0.0774)	(0.0732)
WIF_Sup_lot		0.177*	0.172*	0.199**
		(0.105)	(0.103)	(0.0968)
female	0.200***	0.181***	0.222***	0.203***
	(0.0600)	(0.0681)	(0.0577)	(0.0587)
Constant	3.065***	3.122***	2.993***	3.066***
	(0.221)	(0.217)	(0.226)	(0.217)
Observations	2,815	2,040	2,454	2,797
Number of participant	1,794	1,407	1,671	1,786

Voicing concerns and ideas

When their supervisors had been trained, workers were more willing to report suggestions or complaints to them – perhaps indicating that training made supervisors more approachable. There was no effect of the training received by the workers themselves.



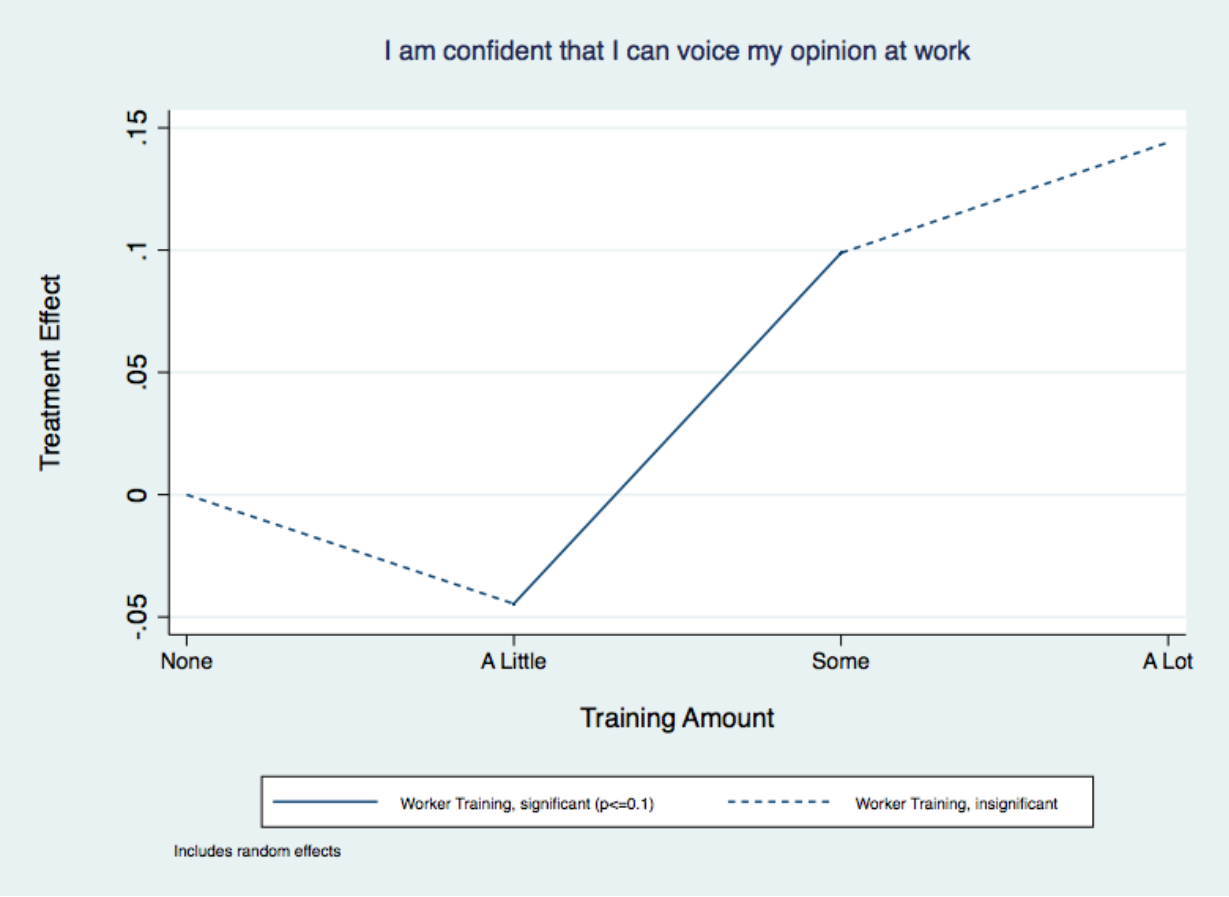
	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	-0.0213	-0.0485	-0.0351	-0.0456
	(0.0444)	(0.0505)	(0.0503)	(0.0484)
WIF_some	0.0393	-0.0261	0.00307	-0.00203
	(0.0456)	(0.0571)	(0.0557)	(0.0494)
WIF_lot	-0.00587	-0.0238	-0.0373	-0.0586
	(0.0791)	(0.0897)	(0.0907)	(0.0882)
WIF_Sup_little		0.0769*	0.0485	0.0500
		(0.0465)	(0.0440)	(0.0384)
WIF_Sup_some		0.162***	0.126**	0.127**
		(0.0591)	(0.0580)	(0.0531)
WIF_Sup_lot		0.126	0.108	0.115
		(0.0957)	(0.0968)	(0.0986)
female	-0.105**	-0.111**	-0.0905*	-0.0999*
	(0.0510)	(0.0477)	(0.0501)	(0.0525)
Constant	2.274***	1.900***	2.224***	2.263***
	(0.189)	(0.200)	(0.198)	(0.191)
Observations	2,997	2,138	2,602	2,975
Number of participant	1,887	1,457	1,751	1,879

Confidence in using skills

Providing information about healthy and constructive behaviors is a first step. However, for knowledge to be meaningful, workers must feel confident in their ability to use new knowledge and skills. Specifically, do workers feel confident in their ability to voice their opinions and stay healthy? More generally, does training affect a worker's locus of control? Do workers come to believe that they can change their life by changing their behavior?

Confidence in voicing opinions

With some training, workers were more likely to feel confident voicing their opinions at work.



	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	-0.0446	-0.129***	-0.0928*	-0.0564
	(0.0396)	(0.0495)	(0.0511)	(0.0460)
WIF_some	0.0988**	0.0247	0.0452	0.0715
	(0.0488)	(0.0628)	(0.0606)	(0.0479)
WIF_lot	0.144	0.0345	0.0660	0.0870
	(0.128)	(0.177)	(0.176)	(0.150)
WIF_Sup_little		0.0661	0.0703	0.0425
		(0.0612)	(0.0594)	(0.0531)
WIF_Sup_some		0.0880	0.0892	0.0616
		(0.0598)	(0.0572)	(0.0485)
WIF_Sup_lot		0.169	0.159	0.131
		(0.123)	(0.116)	(0.115)
female	-0.109*	-0.119**	-0.106*	-0.106*
	(0.0571)	(0.0577)	(0.0609)	(0.0569)
Constant	4.023***	3.933***	3.970***	4.015***
	(0.189)	(0.215)	(0.189)	(0.193)
Observations	3,010	2,141	2,607	2,985
Number of participant	1,885	1,456	1,751	1,876

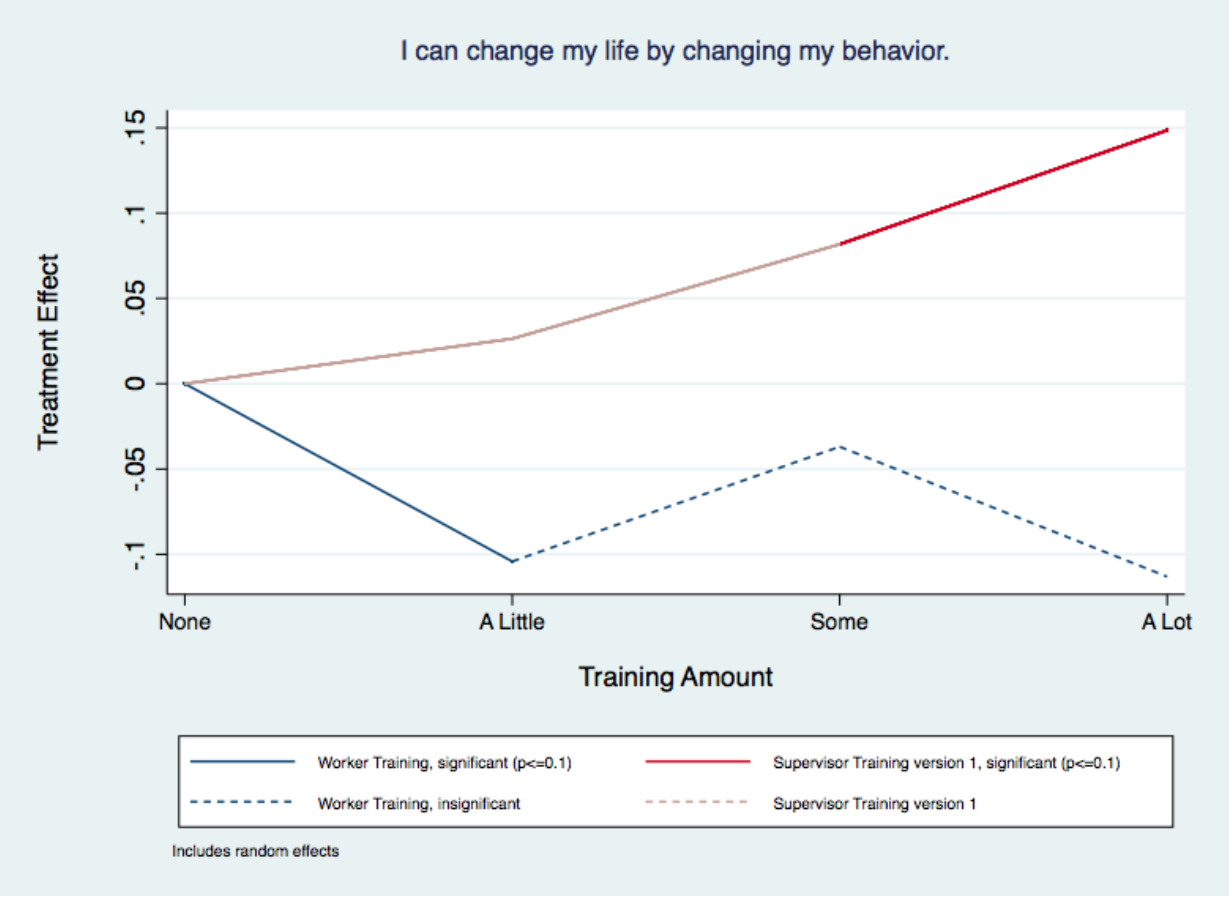
Confidence in ability to stay healthy

Having received lots of training made workers feel more confident that they could stay healthy.

	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	0.0126	0.0301	0.0257	0.0146
	(0.0483)	(0.0556)	(0.0528)	(0.0492)
WIF_some	0.0447	0.0176	-0.00706	0.0391
	(0.0476)	(0.0555)	(0.0567)	(0.0459)
WIF_lot	0.202**	0.150	0.141	0.166*
	(0.0835)	(0.105)	(0.0986)	(0.0911)
WIF_Sup_little		-0.0212	-0.0113	-0.0113
		(0.0462)	(0.0447)	(0.0430)
WIF_Sup_some		-0.0141	0.00737	-0.00639
		(0.0462)	(0.0481)	(0.0424)
WIF_Sup_lot		0.110	0.120	0.106
		(0.0860)	(0.0824)	(0.0770)
female	-0.129***	-0.143**	-0.128**	-0.135***
	(0.0496)	(0.0570)	(0.0533)	(0.0494)
Constant	4.101***	3.980***	4.047***	4.101***
	(0.213)	(0.280)	(0.232)	(0.218)
Observations	3,039	2,153	2,632	3,014
Number of participant	1,897	1,461	1,762	1,890

Locus of control

When their supervisors received training, workers were more likely to feel that they could influence the course of their own life – i.e., to have an internal locus of control.



	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	-0.0789*	-0.104*	-0.103**	-0.0576
	(0.0449)	(0.0548)	(0.0503)	(0.0398)
WIF_some	-0.0131	-0.0369	-0.0449	-0.0127
	(0.0451)	(0.0540)	(0.0531)	(0.0426)
WIF_lot	-0.0679	-0.113	-0.108	-0.0914
	(0.0772)	(0.0928)	(0.0882)	(0.0768)
WIF_Sup_little		0.0264	-0.0201	-0.0653
		(0.0562)	(0.0529)	(0.0464)
WIF_Sup_some		0.0817	0.0412	-0.00539
		(0.0502)	(0.0461)	(0.0417)
WIF_Sup_lot		0.149**	0.102*	0.0548
		(0.0638)	(0.0611)	(0.0488)
female	-0.0443	-0.0557	-0.0610	-0.0571
	(0.0416)	(0.0484)	(0.0457)	(0.0418)
Constant	4.040***	3.845***	4.023***	4.062***
	(0.189)	(0.229)	(0.194)	(0.189)
Observations	3,057	2,167	2,642	3,029
Number of participant	1,906	1,468	1,771	1,896

Gender Attitudes

WiF training attempts to affect attitudes related to gender across several dimensions. Workers are taught that the traits we attribute to women and men are learned rather than innate. As a consequence, girls and boys can benefit equally from educational investments. Altering perceptions of gender can improve promotional opportunities for women by improving receptivity to female leaders such as supervisors.

Equal access for girls and boys

Workers were more likely to agree with this measure of gender equity when their supervisors had received lots of training – another example of the far-reaching effects of training supervisors in addition to workers.

	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	-0.0940*	-0.137**	-0.127**	-0.0799
	(0.0513)	(0.0562)	(0.0572)	(0.0533)
WIF_some	-0.0144	-2.76e-05	0.00253	-0.000953
	(0.0471)	(0.0488)	(0.0476)	(0.0482)
WIF_lot	-0.00458	-0.0283	-0.0317	-0.0308
	(0.0891)	(0.109)	(0.107)	(0.0956)
WIF_Sup_little		-0.0100	-0.0417	-0.0697*
		(0.0467)	(0.0444)	(0.0394)
WIF_Sup_some		-0.0174	-0.0487	-0.0663*
		(0.0389)	(0.0382)	(0.0356)
WIF_Sup_lot		0.116***	0.0831*	0.0643*
		(0.0441)	(0.0429)	(0.0387)
female	-0.0411	-0.0791	-0.0646	-0.0465
	(0.0352)	(0.0514)	(0.0444)	(0.0370)
Constant	4.164***	4.022***	4.173***	4.182***
	(0.203)	(0.244)	(0.224)	(0.201)
Observations	3,073	2,171	2,654	3,045
Number of participant	1,908	1,467	1,773	1,896

Receptivity to female leadership

Workers were actually more likely to prefer male supervisors after receiving lots of training, but less likely if their supervisor had received training. For some reason, supervisor training had more of a positive effect on workers' gender attitudes than worker training.

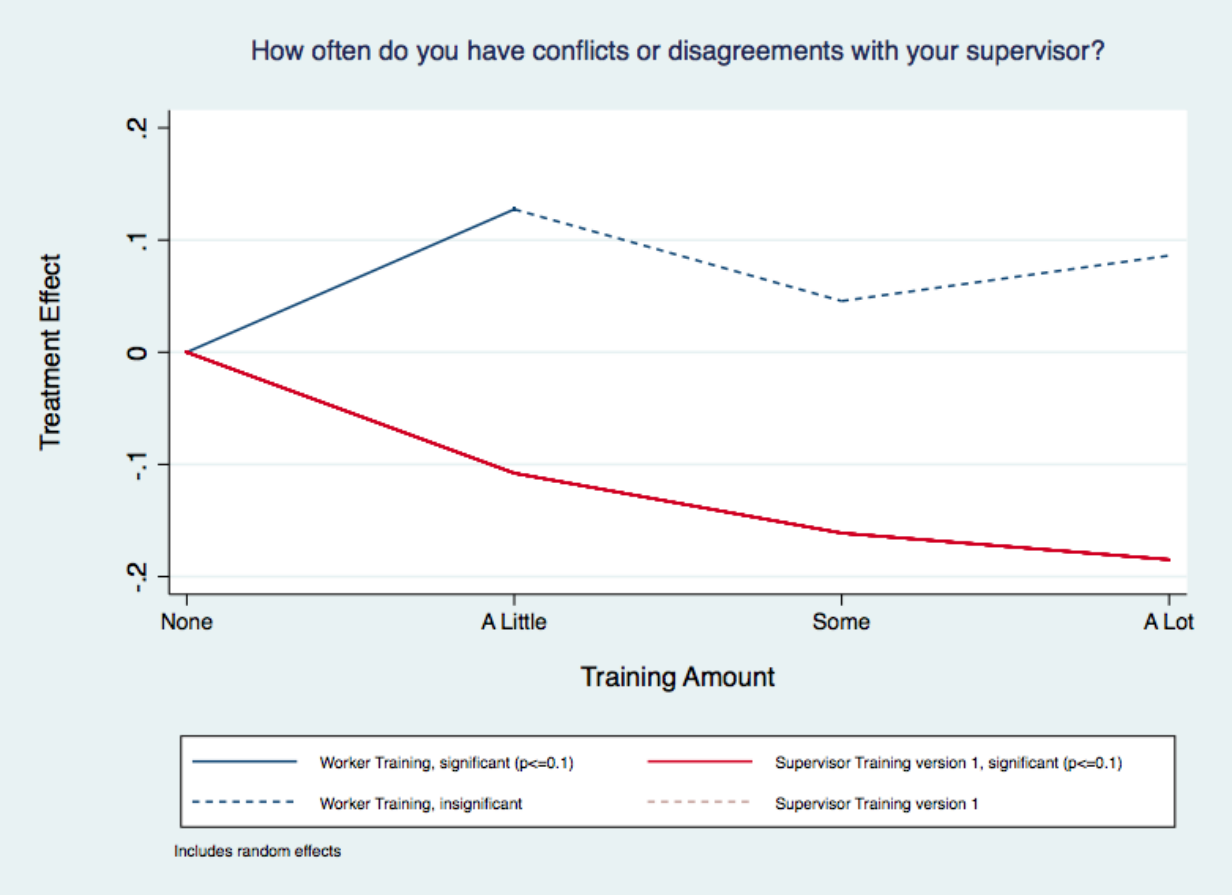
	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	-0.0384	0.0160	0.0151	-0.00952
	(0.0666)	(0.0957)	(0.0934)	(0.0708)
WIF_some	-0.0849	-0.0182	-0.00861	-0.00845
	(0.0603)	(0.0702)	(0.0697)	(0.0604)
WIF_lot	0.135	0.290*	0.282*	0.250*
	(0.125)	(0.164)	(0.160)	(0.146)
WIF_Sup_little		-0.0847	-0.0546	-0.0488
		(0.0871)	(0.0802)	(0.0736)
WIF_Sup_some		-0.265***	-0.250***	-0.248***
		(0.0930)	(0.0796)	(0.0756)
WIF_Sup_lot		-0.289**	-0.255**	-0.256**
		(0.114)	(0.103)	(0.102)
female	-0.0253	-0.0372	-0.0487	-0.0252
	(0.0861)	(0.0970)	(0.0901)	(0.0847)
Constant	2.545***	2.618***	2.608***	2.555***
	(0.341)	(0.326)	(0.329)	(0.337)
Observations	2,875	2,077	2,505	2,855
Number of participant	1,833	1,430	1,698	1,826

Outcomes

The ultimate objective of training is to affect outcomes for workers. Training was designed to reduce conflict within the factory and at home and to make discussions about disagreements more constructive and less dehumanizing, contributing to greater job satisfaction.

Improving workplace and family interactions may impact mental and physical health and increase investments in girls.

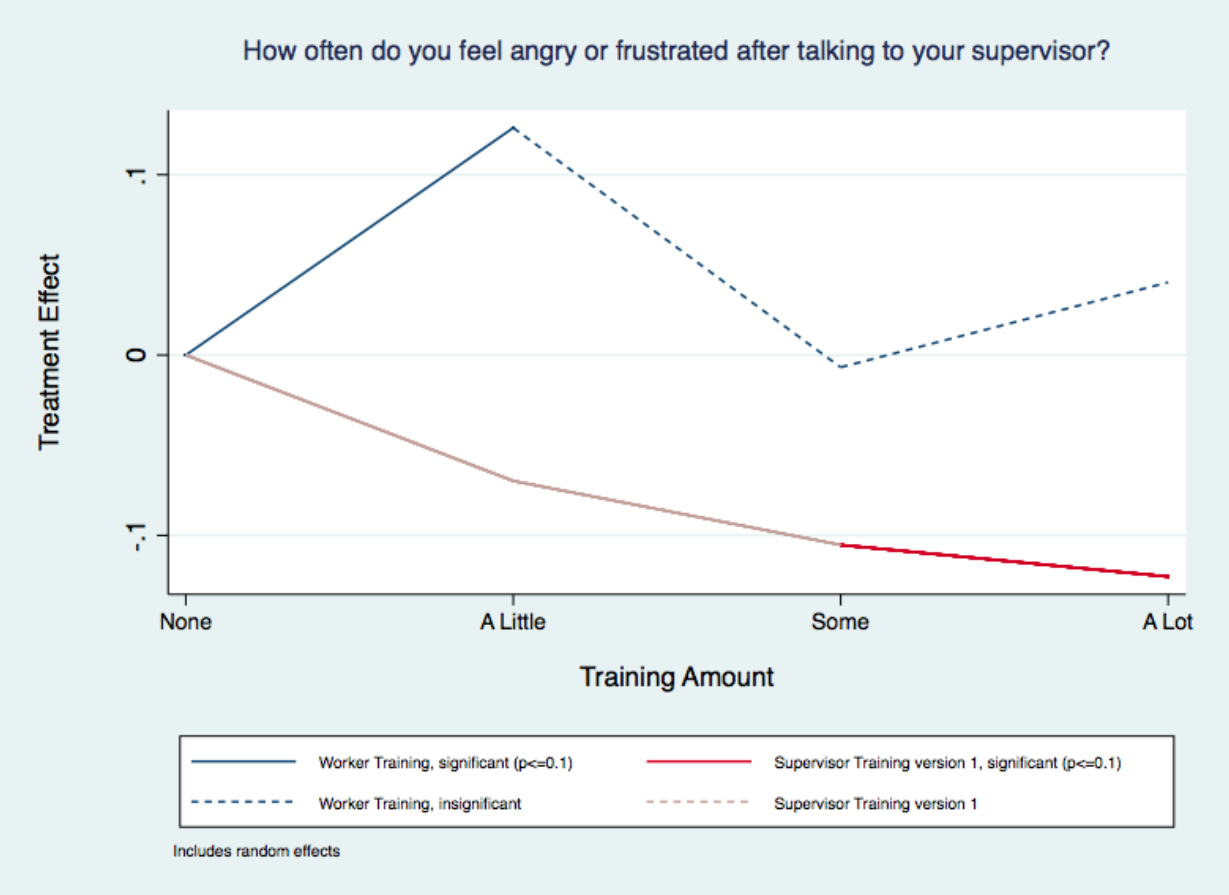
Conflicts and disagreements between workers and supervisors



Here, again, we see the impact of supervisor training on workers. When workers had received a little bit of training, they reported greater conflicts with supervisors – an effect that disappeared with more training. But when their supervisors had received training, worker reports indicated a significant decrease in conflicts with supervisors.

	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	0.0500	0.127***	0.105**	0.0531
	(0.0400)	(0.0421)	(0.0412)	(0.0382)
WIF_some	-0.0261	0.0456	0.0324	0.00403
	(0.0399)	(0.0406)	(0.0471)	(0.0447)
WIF_lot	-0.0174	0.0861	0.0674	0.0269
	(0.0896)	(0.0941)	(0.0885)	(0.0915)
WIF_Sup_little		-0.108**	-0.0568	-0.00667
		(0.0431)	(0.0417)	(0.0380)
WIF_Sup_some		-0.161**	-0.115*	-0.0791
		(0.0638)	(0.0614)	(0.0537)
WIF_Sup_lot		-0.185***	-0.138**	-0.0962
		(0.0625)	(0.0590)	(0.0615)
female	-0.0736	-0.131**	-0.102**	-0.0728
	(0.0457)	(0.0560)	(0.0501)	(0.0478)
Constant	1.227***	1.353***	1.257***	1.233***
	(0.147)	(0.181)	(0.164)	(0.153)
Observations	3,059	2,168	2,648	3,038
Number of participant	1,903	1,469	1,770	1,896

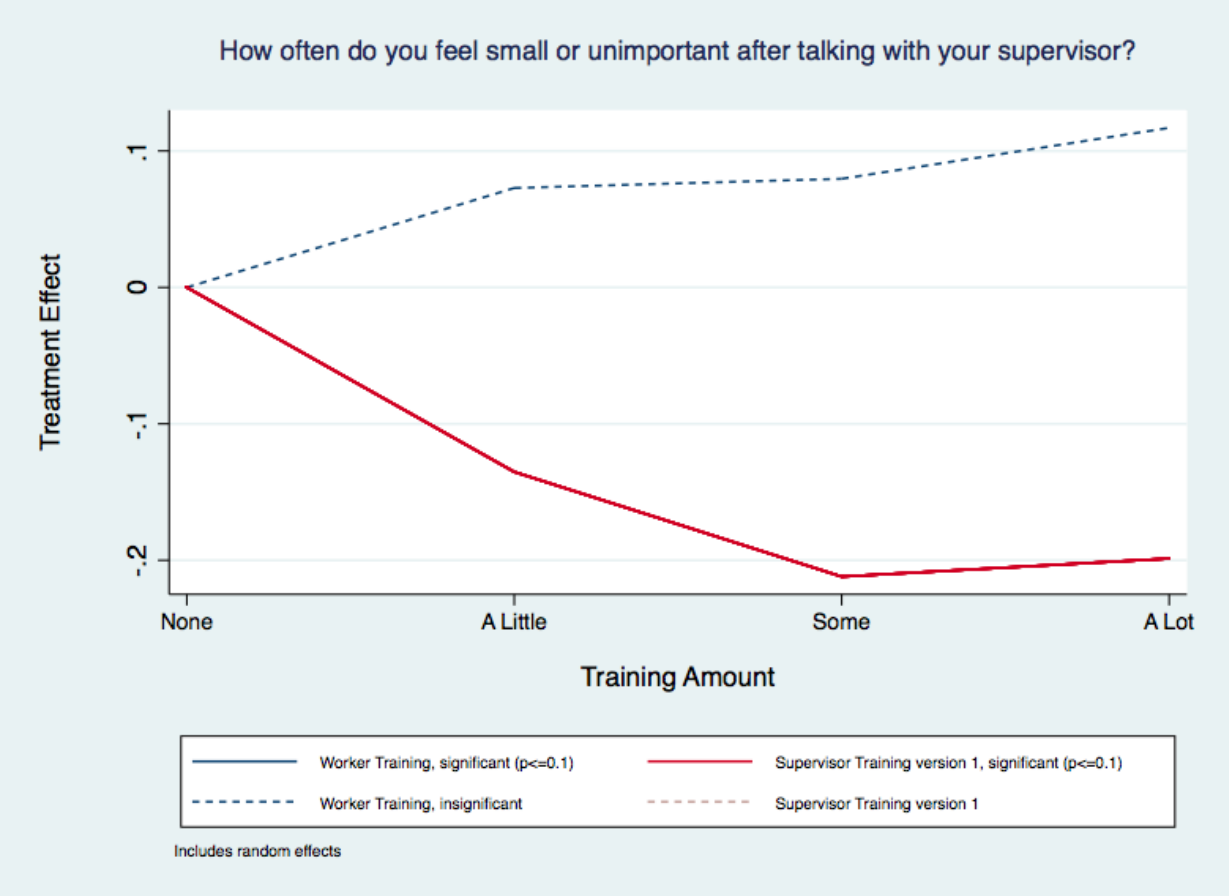
Dehumanizing interactions between workers and supervisors



We saw the same pattern of results when measuring dehumanizing interactions between supervisors and workers. When workers had received a little bit of training, they reported more anger and frustration after talking with supervisors – an effect that disappeared with more training. But when their supervisors had received a lot of training, worker reports indicated a significant decrease in anger and frustration.

	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	0.0908**	0.126**	0.101*	0.0969**
	(0.0457)	(0.0528)	(0.0544)	(0.0450)
WIF_some	0.00177	-0.00677	-0.00802	0.0263
	(0.0353)	(0.0541)	(0.0531)	(0.0382)
WIF_lot	-0.0174	0.0403	0.0275	0.0184
	(0.107)	(0.131)	(0.129)	(0.116)
WIF_Sup_little		-0.0698	-0.0246	-0.00940
		(0.0608)	(0.0524)	(0.0463)
WIF_Sup_some		-0.105	-0.0648	-0.0586
		(0.0678)	(0.0588)	(0.0415)
WIF_Sup_lot		-0.123**	-0.0828	-0.0786
		(0.0625)	(0.0601)	(0.0658)
female	0.00110	-0.0380	-0.0268	0.00189
	(0.0442)	(0.0454)	(0.0446)	(0.0452)
Constant	1.485***	1.657***	1.508***	1.492***
	(0.172)	(0.192)	(0.195)	(0.178)
Observations	3,063	2,178	2,655	3,041
Number of participant	1,902	1,470	1,770	1,897

Feeling small and unimportant after interactions between workers and supervisors



The effects for feeling small and unimportant were driven entirely by supervisor training: When supervisors had been trained, workers reported a decrease in feeling small or unimportant after talking to them.

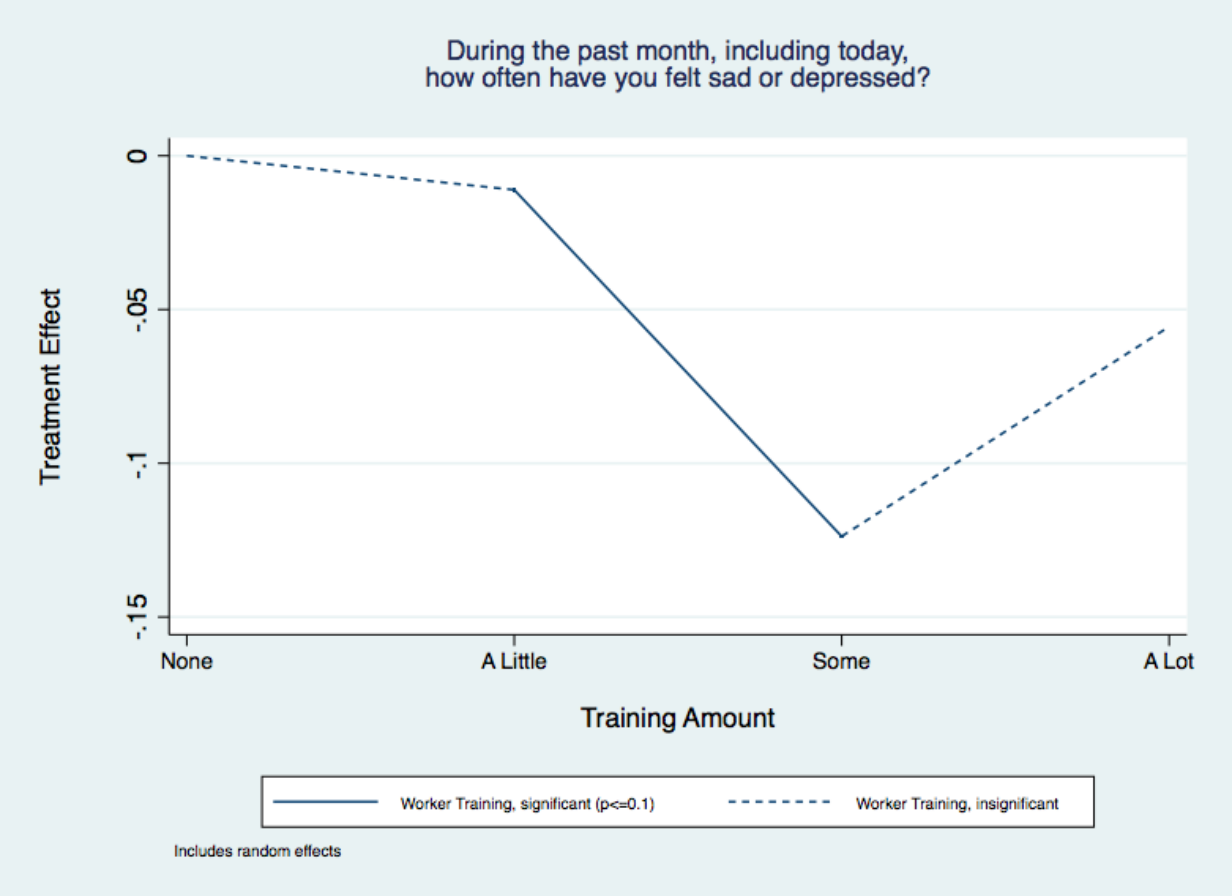
	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	0.0220	0.0729	0.0714	0.0324
	(0.0557)	(0.0653)	(0.0709)	(0.0555)
WIF_some	0.0284	0.0796	0.0918	0.0693
	(0.0606)	(0.0769)	(0.0790)	(0.0672)
WIF_lot	-0.0112	0.117	0.107	0.0313
	(0.0966)	(0.114)	(0.117)	(0.106)
WIF_Sup_little		-0.135*	-0.0776	-0.0322
		(0.0728)	(0.0626)	(0.0479)
WIF_Sup_some		-0.212**	-0.159**	-0.117*
		(0.0903)	(0.0799)	(0.0612)
WIF_Sup_lot		-0.199**	-0.142*	-0.0935
		(0.0926)	(0.0838)	(0.0682)
female	-0.0284	-0.0214	-0.0404	-0.0319
	(0.0503)	(0.0548)	(0.0527)	(0.0517)
Constant	1.660***	1.674***	1.639***	1.668***
	(0.183)	(0.254)	(0.198)	(0.188)
Observations	3,035	2,160	2,633	3,015
Number of participant	1,890	1,462	1,761	1,884

Supporting co-workers

For workers' reports of offering help to coworkers, once again we saw a small negative effect with a little bit of worker training that disappeared with more training. But we also saw a significant and positive effect of supervisor training: When supervisors had received a lot of training, workers were more likely to offer help to coworkers.

	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	-0.122***	-0.126**	-0.127***	-0.118***
	(0.0355)	(0.0491)	(0.0460)	(0.0356)
WIF_some	-0.00948	-0.0527	-0.0519	-0.0182
	(0.0373)	(0.0481)	(0.0457)	(0.0390)
WIF_lot	-0.00171	-0.0696	-0.0661	-0.0426
	(0.0802)	(0.0965)	(0.0937)	(0.0815)
WIF_Sup_little		0.000287	-0.0134	-0.0387
		(0.0422)	(0.0391)	(0.0356)
WIF_Sup_some		0.0700	0.0580	0.0264
		(0.0517)	(0.0460)	(0.0415)
WIF_Sup_lot		0.141**	0.125*	0.0882*
		(0.0700)	(0.0652)	(0.0519)
female	-0.0699*	-0.0983**	-0.0832**	-0.0758**
	(0.0372)	(0.0455)	(0.0413)	(0.0380)
Constant	4.056***	3.965***	4.047***	4.067***
	(0.174)	(0.191)	(0.168)	(0.174)
Observations	3,089	2,184	2,668	3,060
Number of participant	1,914	1,474	1,778	1,903

Mental health



Workers were asked to report how often they feel sad or depressed, on a scale of *1 = never* to *5 = all of the time*. In the absence of training, workers reported that they are sad and depressed rarely. With some training, reports of worker depression went down.

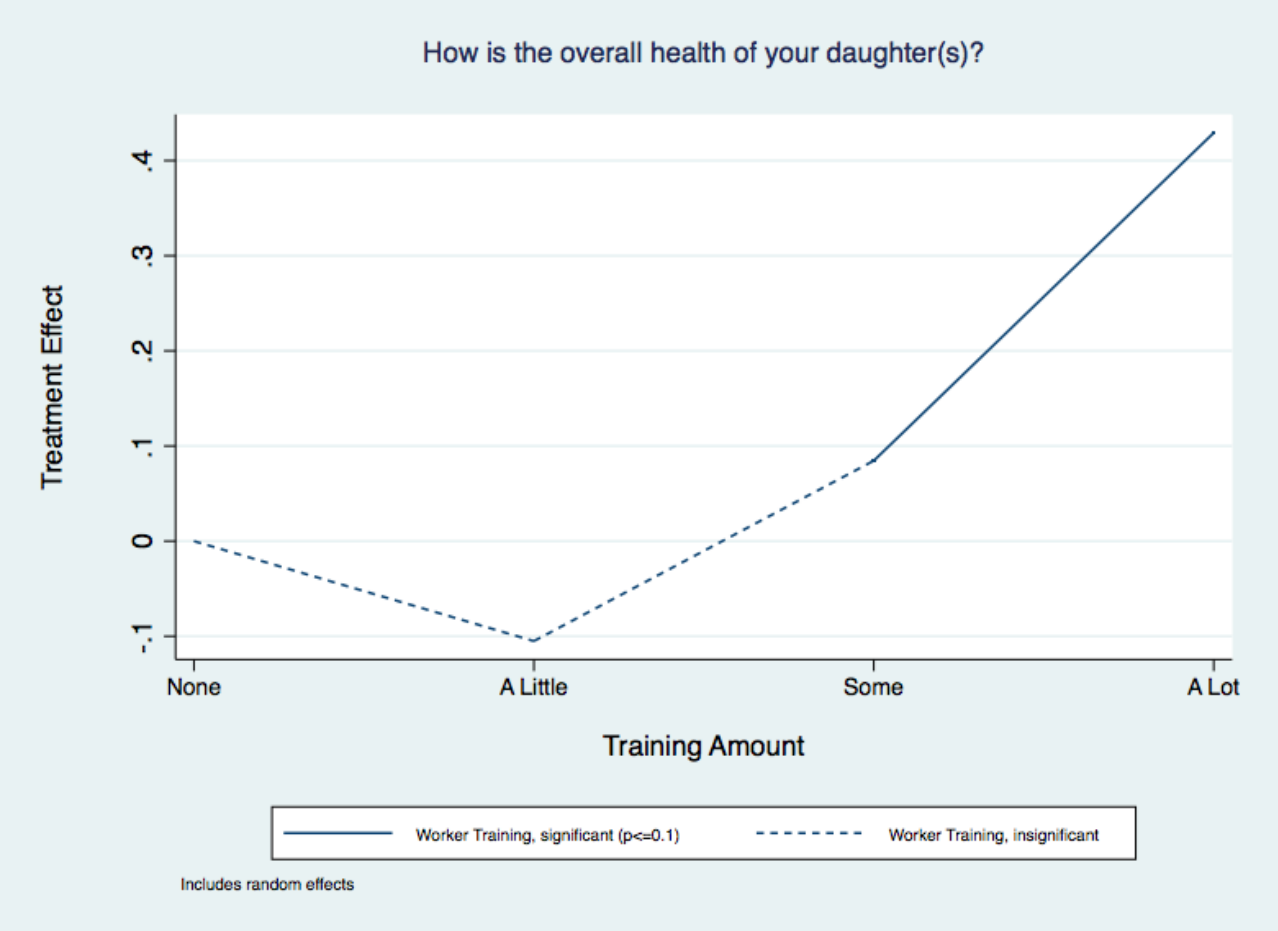
	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	-0.0111	-0.0403	-0.0477	-0.0204
	(0.0457)	(0.0553)	(0.0523)	(0.0444)
WIF_some	-0.124***	-0.106*	-0.101*	-0.111***
	(0.0463)	(0.0587)	(0.0573)	(0.0418)
WIF_lot	-0.0556	-0.0561	-0.0842	-0.0679
	(0.105)	(0.122)	(0.117)	(0.108)
WIF_Sup_little		0.0362	0.0489	0.0401
		(0.0656)	(0.0580)	(0.0532)
WIF_Sup_some		-0.0857	-0.0795	-0.0799
		(0.0705)	(0.0607)	(0.0604)
WIF_Sup_lot		0.0203	0.0370	0.0407
		(0.0888)	(0.0800)	(0.0740)
female	0.360***	0.368***	0.370***	0.374***
	(0.0388)	(0.0521)	(0.0455)	(0.0396)
Constant	2.028***	1.968***	2.024***	2.019***
	(0.196)	(0.205)	(0.212)	(0.198)
Observations	3,066	2,169	2,653	3,041
Number of participant	1,901	1,467	1,771	1,894

Physical Health

Workers were asked to rate their overall health on a scale of *1 = poor* to *5 = excellent*. In the absence of training, workers on average reported their health to be between very good and excellent. Nevertheless, workers' physical health improved with training as well – both worker and supervisor training had positive effects.

	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	-0.0664	-0.138**	-0.105	-0.0781
	(0.0537)	(0.0623)	(0.0665)	(0.0546)
WIF_some	0.0479	-0.0150	-6.48e-05	0.0227
	(0.0626)	(0.0730)	(0.0721)	(0.0729)
WIF_lot	0.316*	0.218	0.234	0.236
	(0.164)	(0.191)	(0.184)	(0.177)
WIF_Sup_little		0.0215	0.0347	-0.00503
		(0.0832)	(0.0726)	(0.0590)
WIF_Sup_some		0.0668	0.0747	0.0406
		(0.0852)	(0.0783)	(0.0724)
WIF_Sup_lot		0.187*	0.213**	0.173**
		(0.101)	(0.0898)	(0.0808)
female	-0.410***	-0.434***	-0.411***	-0.414***
	(0.0539)	(0.0597)	(0.0601)	(0.0524)
Constant	4.590***	4.531***	4.588***	4.610***
	(0.261)	(0.317)	(0.263)	(0.262)
Observations	3,091	2,183	2,670	3,062
Number of participant	1,917	1,475	1,782	1,907

Health of daughters



WiF treatment is also associated with an improvement in the health of daughters. In the absence of training, workers reported that their daughters' health is between very good and excellent. Women reported poorer health for their daughters than men did. Workers who reported receiving a lot of WiF training indicated significantly improved health for their daughters.

	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	-0.105	-0.128*	-0.116*	-0.0950
	(0.0646)	(0.0699)	(0.0680)	(0.0657)
WIF_some	0.0845	0.0225	0.0366	0.0748
	(0.0855)	(0.111)	(0.103)	(0.0902)
WIF_lot	0.429**	0.389*	0.395**	0.405**
	(0.186)	(0.212)	(0.202)	(0.193)
WIF_Sup_little		-0.0553	-0.0479	-0.0830
		(0.0928)	(0.0863)	(0.0648)
WIF_Sup_some		0.0746	0.0790	0.0472
		(0.0840)	(0.0776)	(0.0590)
WIF_Sup_lot		0.0495	0.0609	0.0234
		(0.139)	(0.141)	(0.129)
female	-0.356***	-0.359***	-0.368***	-0.371***
	(0.0691)	(0.0667)	(0.0693)	(0.0707)
Constant	4.683***	4.378***	4.699***	4.769***
	(0.399)	(0.441)	(0.414)	(0.409)
Observations	1,712	1,225	1,480	1,699
Number of participant	1,181	894	1,085	1,173

Job satisfaction

Job satisfaction was another variable affected more by supervisor training than worker training. Workers were asked to rate their job satisfaction from *1 = very dissatisfied* to *5 = very satisfied*. In the absence of training, workers reported being satisfied. When supervisors had received lots of training, workers were more satisfied with their jobs.

	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	-0.103	-0.135	-0.0977	-0.0868
	(0.0788)	(0.0887)	(0.0867)	(0.0789)
WIF_some	-0.0949	-0.113	-0.0879	-0.115
	(0.0869)	(0.0981)	(0.0979)	(0.100)
WIF_lot	-0.119	-0.228	-0.188	-0.219
	(0.149)	(0.171)	(0.176)	(0.159)
WIF_Sup_little		-0.0462	-0.0761	-0.113
		(0.117)	(0.125)	(0.117)
WIF_Sup_some		0.131	0.0939	0.0622
		(0.113)	(0.0967)	(0.0991)
WIF_Sup_lot		0.308**	0.256*	0.230*
		(0.134)	(0.139)	(0.119)
female	0.139**	0.156**	0.147**	0.128*
	(0.0669)	(0.0719)	(0.0684)	(0.0687)
Constant	4.211***	4.462***	4.310***	4.229***
	(0.255)	(0.239)	(0.249)	(0.252)
Observations	3,050	2,158	2,639	3,027
Number of participant	1,900	1,463	1,766	1,893

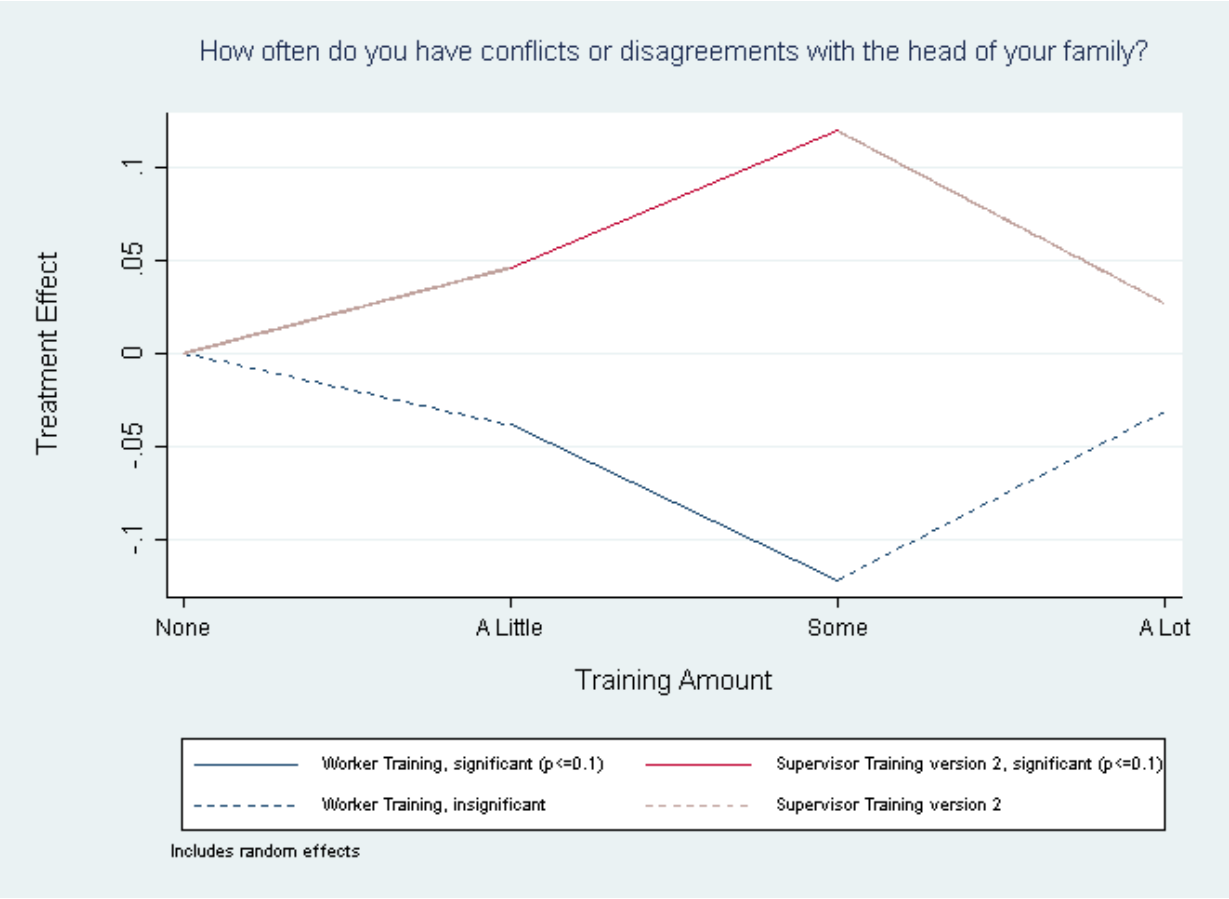
Injuries

One concern is the impact of training on injuries. Workers were asked to report how often they are injured on a scale of *1 = never* to *5 = all of the time*. Workers reported being injured rarely or never. Unfortunately, worker injuries increased with training, perhaps because workers were working faster to meet increased production targets.

The impact on injuries highlights one of the areas of caution when introducing empowering interventions in the workplace. Excessive emphasis on the business benefits of empowerment training may create OSH risks for workers.

	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	0.0365	0.0335	0.0304	0.0257
	(0.0276)	(0.0329)	(0.0325)	(0.0289)
WIF_some	0.0431	0.0508	0.0409	0.0242
	(0.0301)	(0.0354)	(0.0352)	(0.0298)
WIF_lot	0.146**	0.170***	0.155***	0.129**
	(0.0638)	(0.0582)	(0.0590)	(0.0524)
WIF_Sup_little		0.0153	0.0238	0.0384
		(0.0322)	(0.0340)	(0.0320)
WIF_Sup_some		0.00595	0.0149	0.0329
		(0.0366)	(0.0362)	(0.0335)
WIF_Sup_lot		0.0144	0.0321	0.0494
		(0.0746)	(0.0820)	(0.0783)
female	-0.0649*	-0.0598*	-0.0654*	-0.0649*
	(0.0332)	(0.0363)	(0.0361)	(0.0332)
Constant	1.671***	1.868***	1.715***	1.671***
	(0.179)	(0.213)	(0.187)	(0.179)
Observations	3,081	2,175	2,661	3,053
Number of participant	1,912	1,471	1,777	1,902

Conflicts with the head of household



A second area of concern is that training may encourage workers to assert themselves with authority figures in their lives but not provide adequate skills for effectively managing the interactions. Workers were asked how often they have conflicts with their head of household. There was a modest increase in workers' conflicts with the head of their family when supervisors had received some training, but a decrease when workers received some training.

	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	0.00848	-0.0293	-0.0385	-0.00605
	(0.0393)	(0.0590)	(0.0536)	(0.0431)
WIF_some	-0.0416	-0.0920	-0.122**	-0.0759
	(0.0511)	(0.0575)	(0.0600)	(0.0508)
WIF_lot	0.0106	-0.0145	-0.0312	-0.00230
	(0.111)	(0.123)	(0.126)	(0.108)
WIF_Sup_little		0.0789	0.0459	0.0371
		(0.0656)	(0.0585)	(0.0570)
WIF_Sup_some		0.139*	0.119*	0.109*
		(0.0732)	(0.0673)	(0.0572)
WIF_Sup_lot		0.0602	0.0267	0.0134
		(0.0666)	(0.0622)	(0.0588)
female	0.236***	0.210***	0.244***	0.241***
	(0.0449)	(0.0505)	(0.0489)	(0.0438)
Constant	1.597***	1.504***	1.518***	1.591***
	(0.284)	(0.241)	(0.245)	(0.280)
Observations	1,945	1,353	1,677	1,933
Number of participant	1,382	1,017	1,259	1,380

Conflicts or disagreements in the family

While conflicts with the head of the household increased with some supervisor training, workers who are also the heads of their families reported reduced conflict in the household. When workers who were the heads of their families were asked about conflicts with rest of the family, they reported less conflict when their supervisors had been trained.

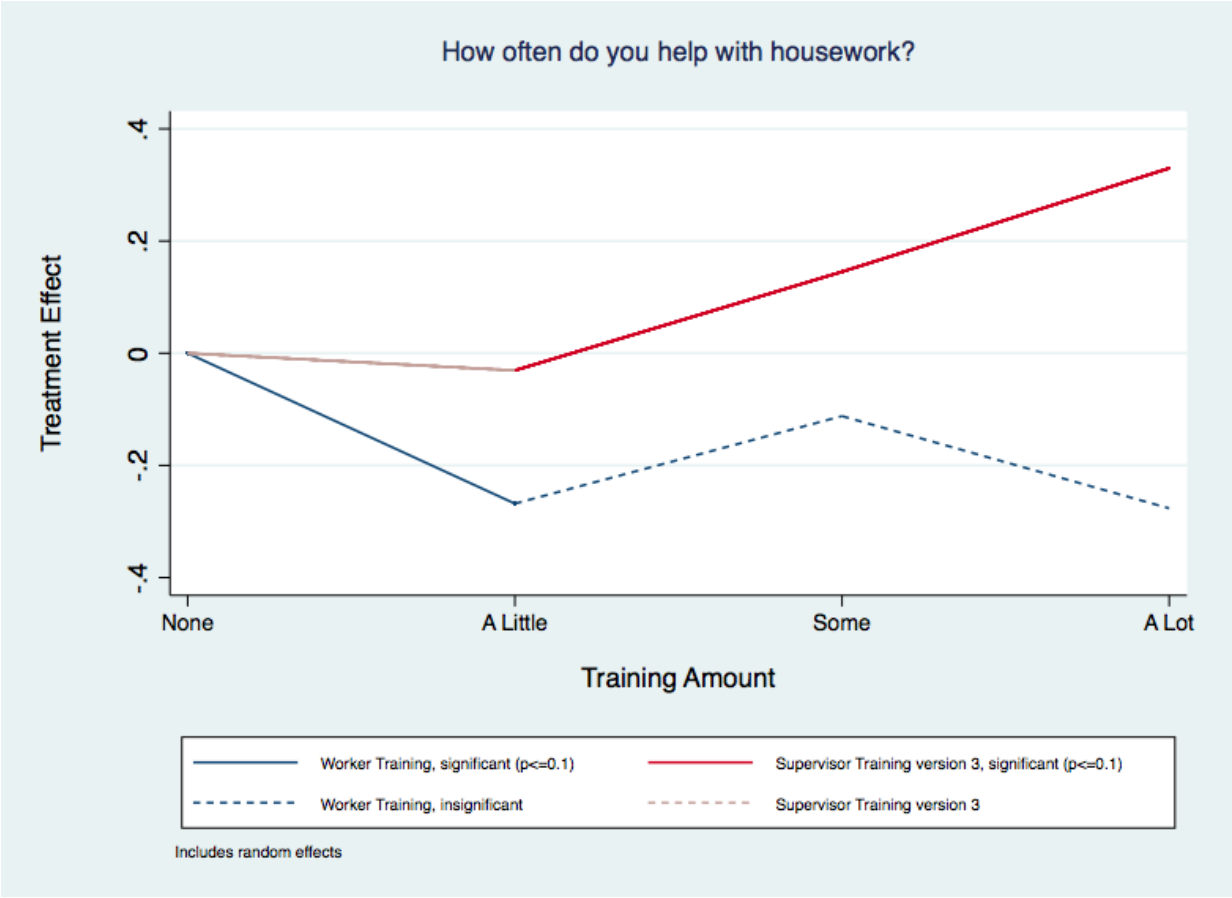
	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	-0.00112	-0.00684	-0.0250	0.00150
	(0.0431)	(0.0605)	(0.0615)	(0.0502)
WIF_some	-0.0236	0.0840	0.0435	0.0342
	(0.0763)	(0.0725)	(0.0698)	(0.0757)
WIF_lot	0.0992	0.169	0.129	0.179
	(0.145)	(0.165)	(0.157)	(0.142)
WIF_Sup_little		0.0191	0.0431	0.0350
		(0.0800)	(0.0795)	(0.0690)
WIF_Sup_some		-0.153***	-0.123**	-0.123***
		(0.0566)	(0.0524)	(0.0422)
WIF_Sup_lot		-0.204**	-0.162*	-0.173**
		(0.0922)	(0.0891)	(0.0837)
female	0.152**	0.145*	0.179**	0.159**
	(0.0689)	(0.0866)	(0.0724)	(0.0666)
Constant	2.277***	2.393***	2.298***	2.263***
	(0.238)	(0.327)	(0.250)	(0.238)
Observations	1,121	818	974	1,107
Number of participant	833	634	751	824

Yelling in the home

In addition to the reduction in conflicts, workers who headed their families reported yelling less at home when their supervisors had been trained.

	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	0.0580	0.0863	0.0781	0.0711
	(0.0548)	(0.0703)	(0.0695)	(0.0530)
WIF_some	-0.0808	-0.0473	-0.0614	-0.0478
	(0.0664)	(0.0559)	(0.0569)	(0.0627)
WIF_lot	0.104	0.156	0.158	0.187
	(0.137)	(0.134)	(0.131)	(0.129)
WIF_Sup_little		-0.0603	-0.0205	0.00207
		(0.0847)	(0.0794)	(0.0749)
WIF_Sup_some		-0.101*	-0.0578	-0.0479
		(0.0606)	(0.0603)	(0.0521)
WIF_Sup_lot		-0.233**	-0.195*	-0.189**
		(0.0988)	(0.103)	(0.0935)
female		0.230***	0.240***	0.255***
		(0.0555)	(0.0657)	(0.0591)
Constant	1.371***	1.699***	1.421***	1.424***
	(0.364)	(0.397)	(0.388)	(0.368)
Observations	1,124	820	977	1,110
Number of participant	835	636	754	827

Sharing household tasks



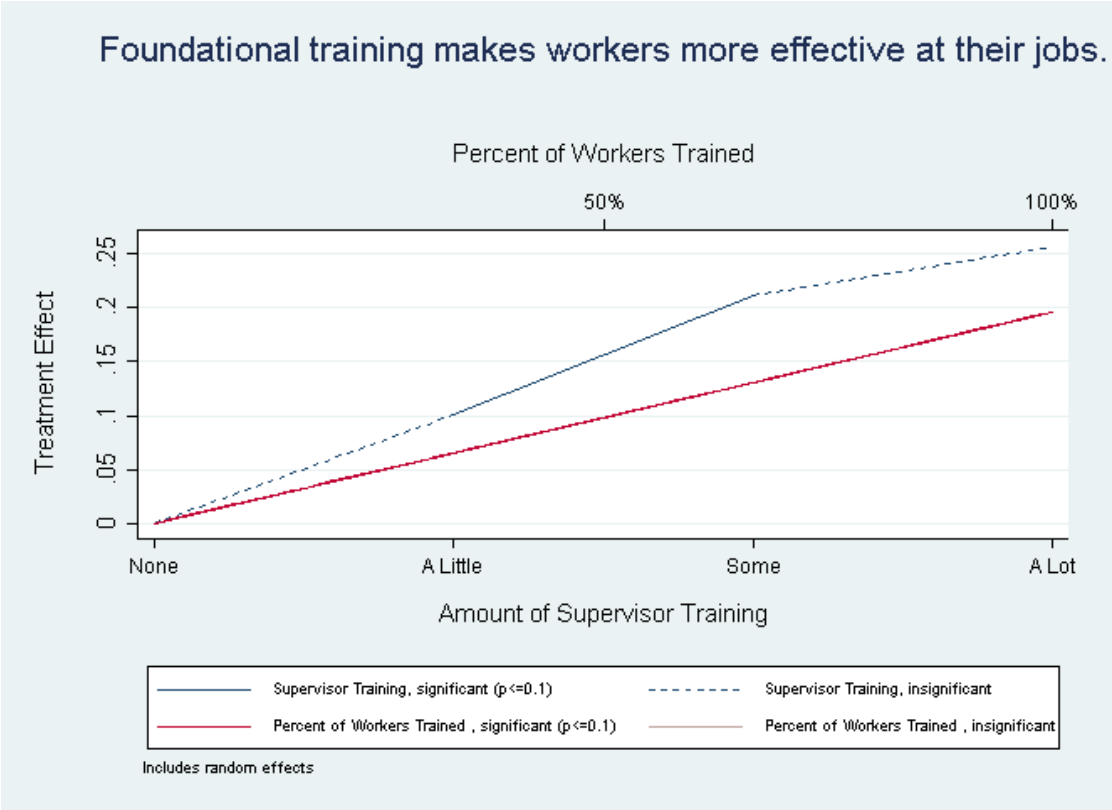
Finally, workers who were the heads of their families reported helping more with housework when their supervisors had been trained. Again, there was a negative effect of a little worker training that disappeared with more training.

	(1)	(2)	(3)	(4)
VARIABLES	Worker	Sup_V1	Sup_V2	Sup_V3
WIF_little	-0.246***	-0.232**	-0.248***	-0.268***
	(0.0879)	(0.0940)	(0.0875)	(0.0918)
WIF_some	-0.0403	-0.0721	-0.121	-0.112
	(0.0802)	(0.0841)	(0.0899)	(0.0837)
WIF_lot	-0.0964	-0.153	-0.274*	-0.277
	(0.161)	(0.174)	(0.163)	(0.194)
WIF_Sup_little		-0.0383	-0.0521	-0.0307
		(0.0784)	(0.0725)	(0.0640)
WIF_Sup_some		0.136	0.127	0.145**
		(0.0835)	(0.0848)	(0.0653)
WIF_Sup_lot		0.253*	0.289**	0.330***
		(0.138)	(0.126)	(0.126)
female				
Constant	4.381***	4.376***	4.314***	4.432***
	(0.346)	(0.424)	(0.364)	(0.345)
Observations	1,042	793	920	1,029
Number of participant	746	597	686	741

Supervisor Perceptions of Foundational Training

Foundational Training can also be assessed through the perceptions of supervisors. Training will most directly affect supervisors if it makes workers more effective at their jobs. Supervisors may, consequently, experience a reduction in cognitive load (i.e., a sense of feeling overwhelmed). Supervisors who received WiF training may come to see their workers in more humanized terms and become more receptive to women as leaders. Finally, WiF training may mitigate some of the workplace characteristics that promote sexual harassment. Sexual harassment is more likely in workplaces where there is significant power imbalance between workers and managers, supervisors lack accountability for their decisions, and norms deterring sexual harassment are weak or absent.

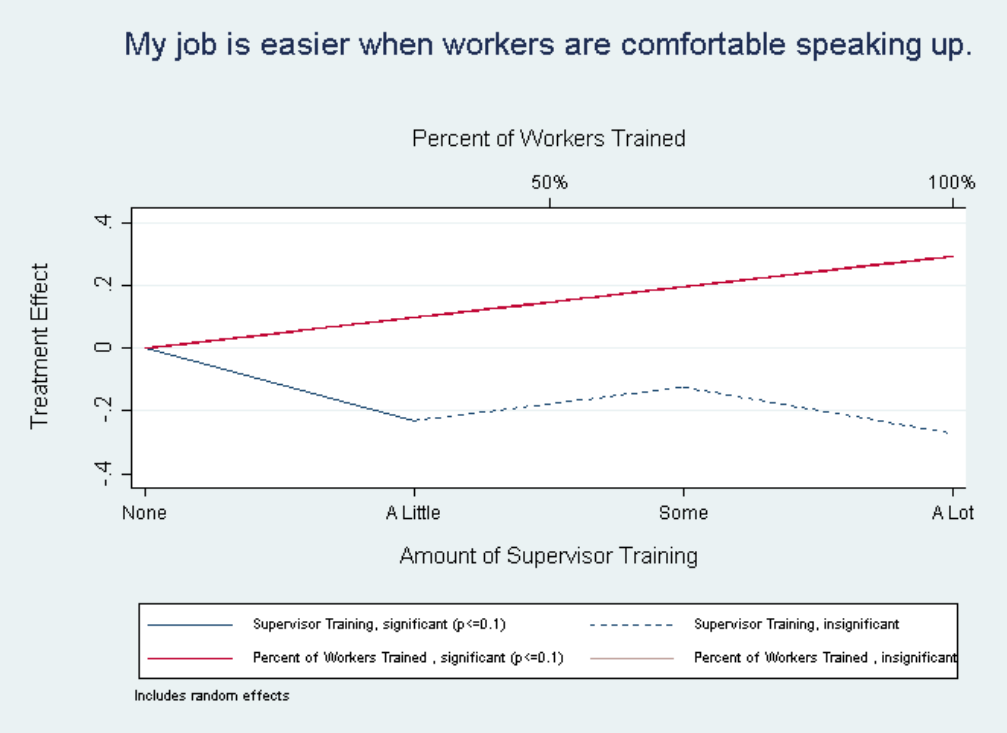
Effectiveness at work



	(1)
VARIABLES	Foundational training makes workers more effective at their jobs.
WIF_Sup_little	0.101
	(0.125)
WIF_Sup_some	0.211*
	(0.125)
WIF_Sup_lot	0.257
	(0.157)
workerstrainedpercent	0.196*
	(0.114)
female	-0.0339
	(0.126)
Constant	3.898***
	(0.458)
Observations	352
Number of unique ID	233

We were interested in whether supervisors saw value in the program; this item measures general program buy-in (particularly with regard to workers). We see that with some training, or as the percentage of trained workers increased, supervisors became more supportive of the program.

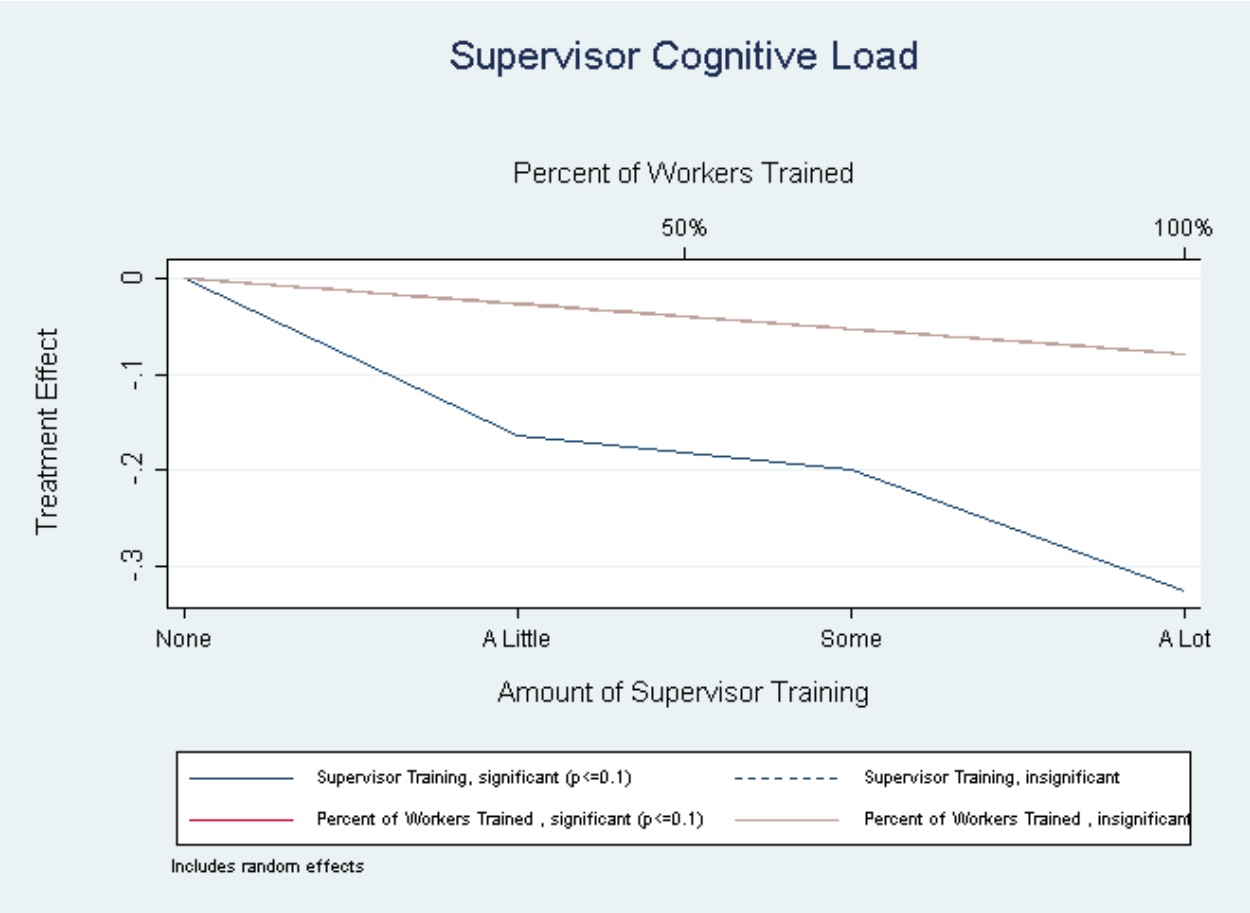
Receptivity to worker voice



	(1)
VARIABLES	My job is easier when workers are comfortable speaking up.
WIF_Sup_little	-0.231*
	(0.123)
WIF_Sup_some	-0.124
	(0.128)
WIF_Sup_lot	-0.270
	(0.307)
workerstrainedpercent	0.295***
	(0.102)
female	0.0123
Constant	4.475***
	(0.224)
Observations	361
Number of unique ID	238

This item is another way of measuring buy-in; in this case, it's endorsement of one of the program goals. Supervisors were somewhat less likely to agree that their job is easier when workers speak up after a little training, but this effect disappeared with more training. However, as the percentage of their workers who had been trained grew, supervisors were more likely to agree that workers should speak up.

Supervisor cognitive load



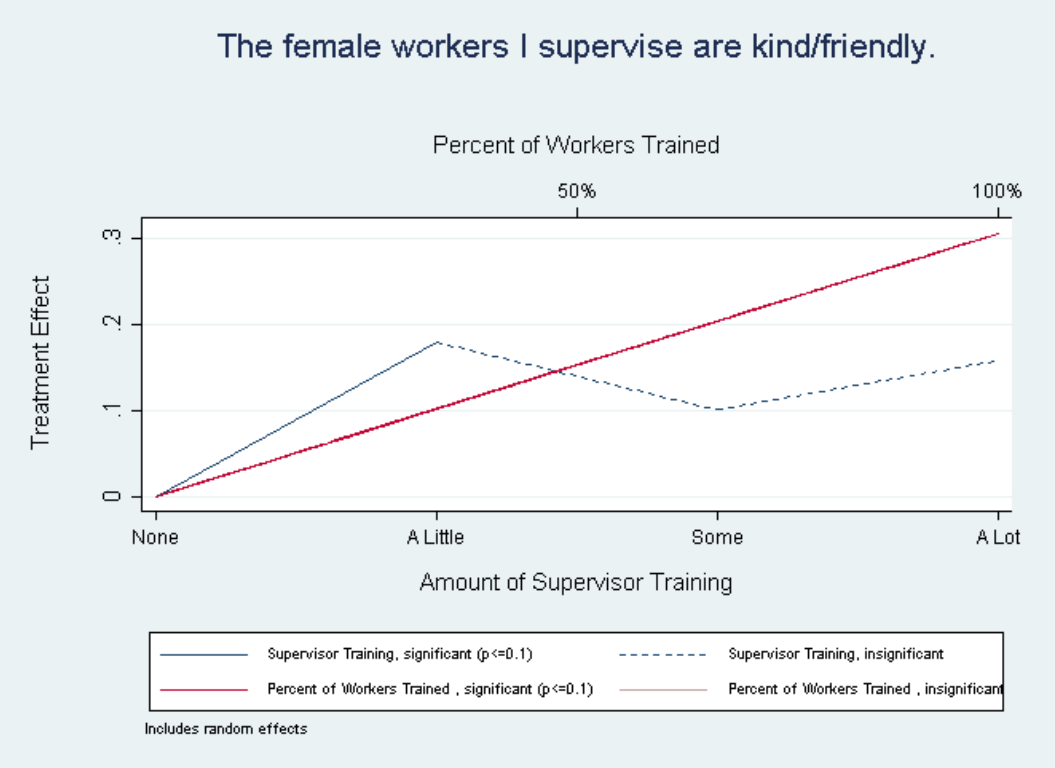
	(1)
VARIABLES	cognitive load
WIF_Sup_little	-0.164**
	(0.0729)
WIF_Sup_some	-0.199***
	(0.0709)
WIF_Sup_lot	-0.325***
	(0.101)
workerstrainedpercent	-0.0784
	(0.0809)
female	0.142**
	(0.0583)
Constant	2.371***
	(0.155)
Observations	321
Number of unique ID	224

Cognitive load measures the state of being at the limits of one's mental capacity; it is a composite of four items (e.g., *How heavy was your workload during the last month? During a normal workweek, how frequently do unexpected issues arise in your work?*). Responses range from *1 = once a week or less* to *5 = five or more times a day*. High cognitive load is associated with less helping behavior. Supervisor training significantly decreased cognitive load.

Rehumanization

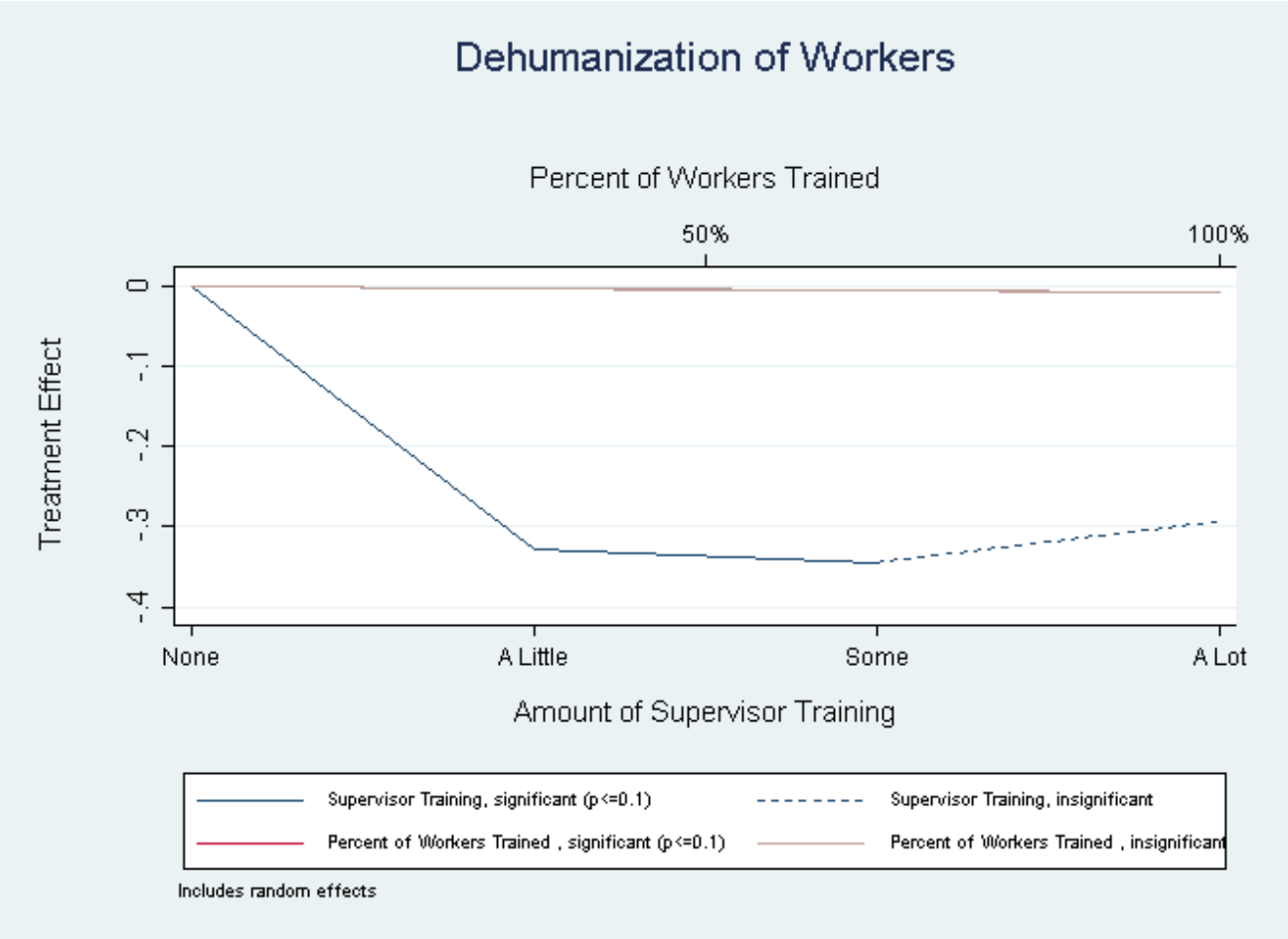
Workers can be dehumanized in the minds of supervisors and managers. That is, workers can be seen more as machines than human beings. One indicator of rehumanization is that workers are seen as warm.

Supervisors were asked specifically about their perceptions of their female subordinates.



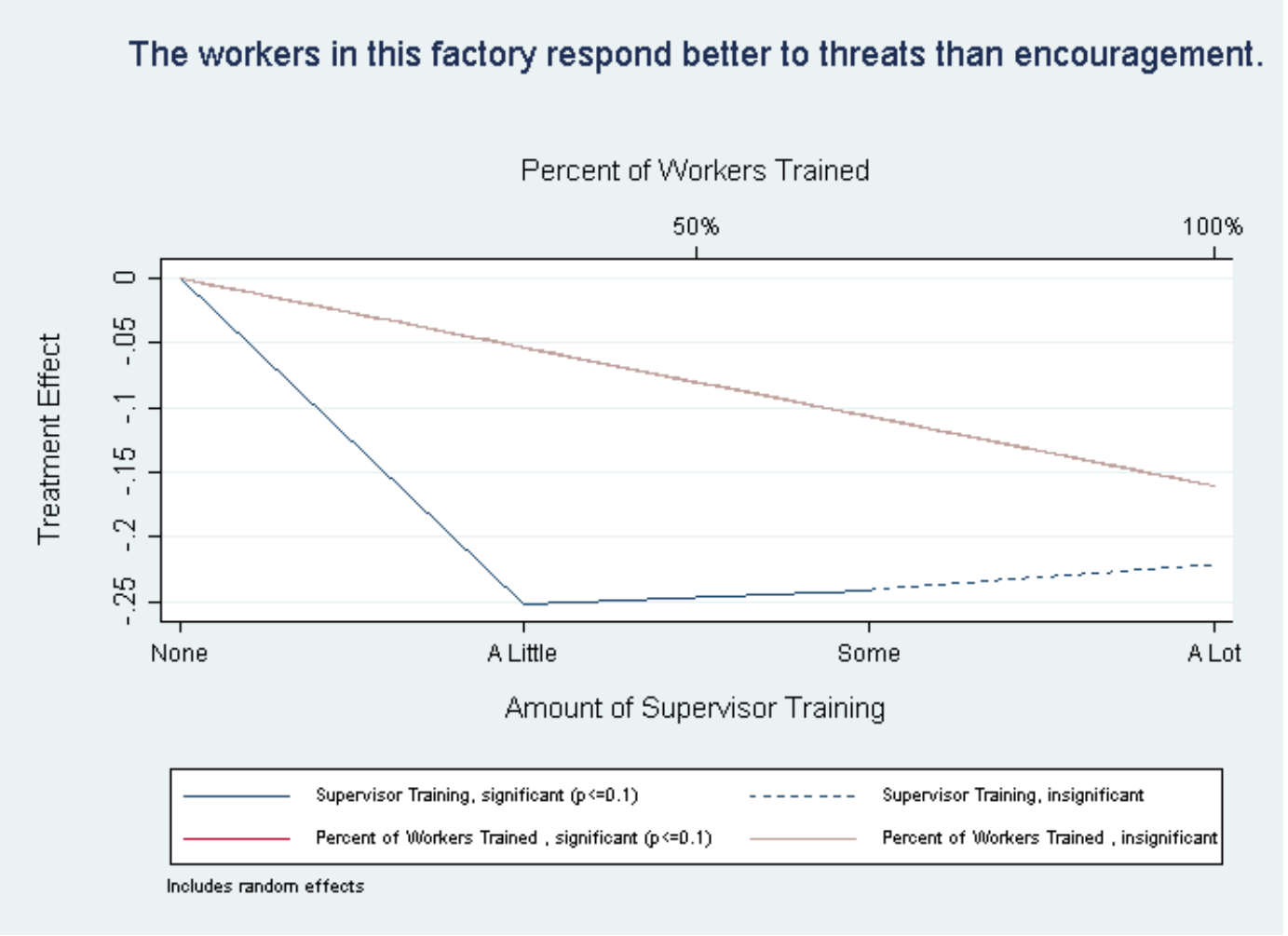
	(1)
VARIABLES	female workers warm composite
WIF_Sup_little	0.180**
	(0.0889)
WIF_Sup_some	0.101
	(0.0943)
WIF_Sup_lot	0.158
	(0.160)
workerstrainedpercent	0.307***
	(0.0922)
female	-0.00454
Constant	3.649***
	(0.206)
Observations	345
Number of unique ID	231

These results represent a composite of two items: *"The female workers I supervise are kind"* and *"The female workers I supervise are friendly."* Combined, these items provide a snapshot of how warm supervisors think their female workers are. Unfortunately, there is often a trade-off for women who assume or aspire to leadership roles; those who are seen as more competent are also seen as less warm (and penalized for that perceived lack of warmth). However, here we see that as a greater percentage of their workers were trained, supervisors saw their female workers as more warm, not less. We did not, however, see a corresponding increase in perceptions of competence.



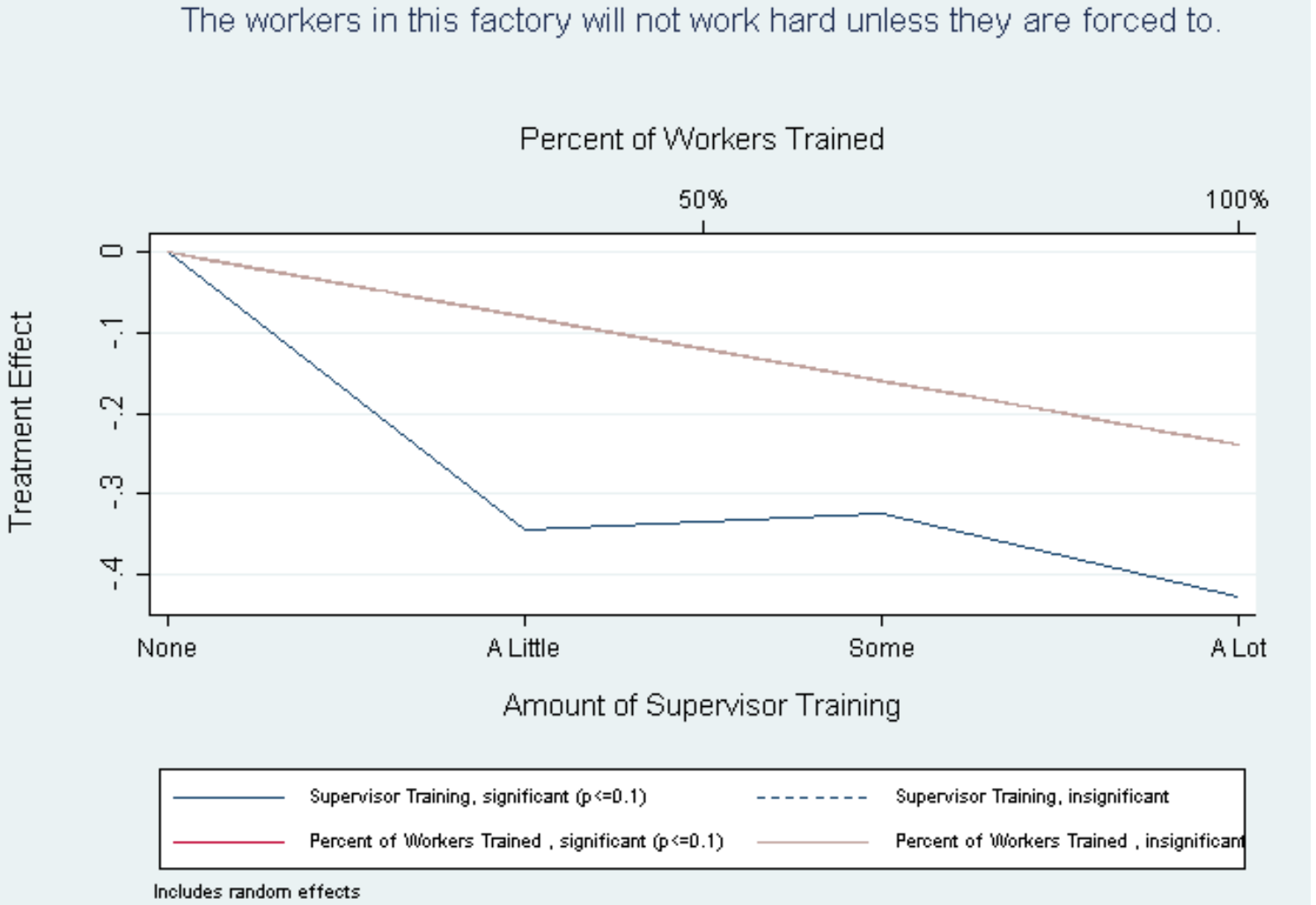
	(1)
VARIABLES	dehumanization
WIF_Sup_little	-0.329**
	(0.136)
WIF_Sup_some	-0.344***
	(0.122)
WIF_Sup_lot	-0.293
	(0.271)
workerstrainedpercent	-0.00755
	(0.175)
female	-0.0176
Constant	2.588***
	(0.336)
Observations	341
Number of unique ID	229

A second indicator of dehumanization is the belief that workers are not capable of understanding complicated ideas. The results above represent a composite of two items: *"The workers in this factory do not think at a very high level"* and *"The workers in this factory do not understand complicated ideas."* Dehumanization can lead to harsh treatment (and harsh treatment can in turn lead to dehumanization, creating a negative spiral), so we looked at whether training reduced dehumanization. At least among supervisors who received a little or some training, training did in fact reduce dehumanization.



	(1)
VARIABLES	workers respond better to threats than encouragement.
WIF_Sup_little	-0.252*
	(0.129)
WIF_Sup_some	-0.241*
	(0.131)
WIF_Sup_lot	-0.221
	(0.171)
workerstrainedpercent	-0.161
	(0.116)
female	-0.0279
Constant	1.771***
	(0.255)
Observations	354
Number of unique ID	237

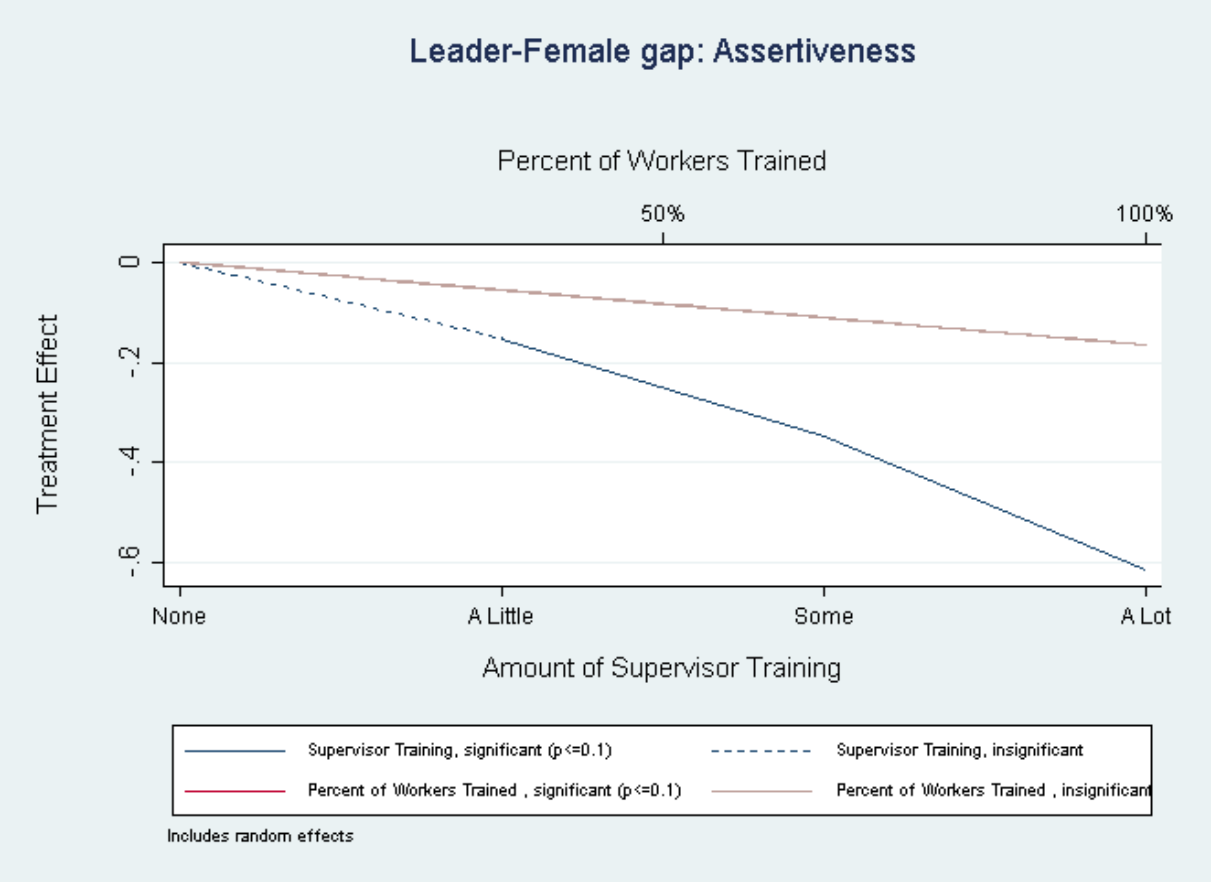
A third approach to measuring dehumanization is to assess supervisor perceptions of which kinds of treatment motivate workers. Supervisors of dehumanized workers often believe that abuse is an effective motivational technique. The item depicted above measures whether supervisors believe that workers respond better to threats as compared to encouragement. Fortunately, we again saw a decrease with a little or some training.



	(1)
VARIABLES	The workers will not work hard unless they are forced to.
WIF_Sup_little	-0.344***
	(0.131)
WIF_Sup_some	-0.326**
	(0.147)
WIF_Sup_lot	-0.428*
	(0.219)
workerstrainedpercent	-0.239
	(0.166)
female	-0.0496
	(0.0997)
Constant	1.861***
	(0.223)
Observations	353
Number of unique ID	235

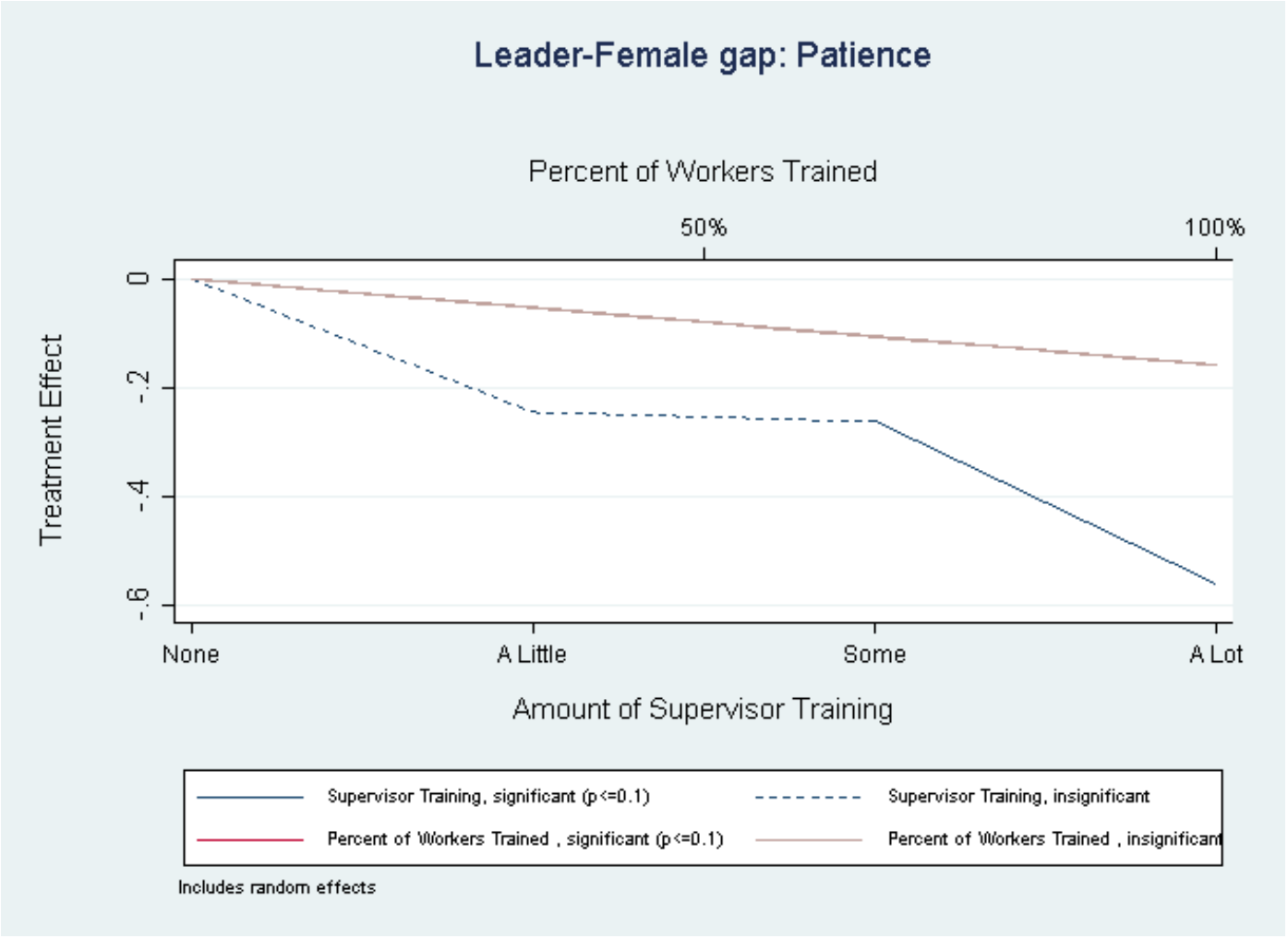
Finally, we consider whether supervisors believe that workers will exert effort without being abused. As with the prior items, this item measured dehumanization, and endorsement decreased with training.

Desirable characteristics in leaders: Leader-female differential



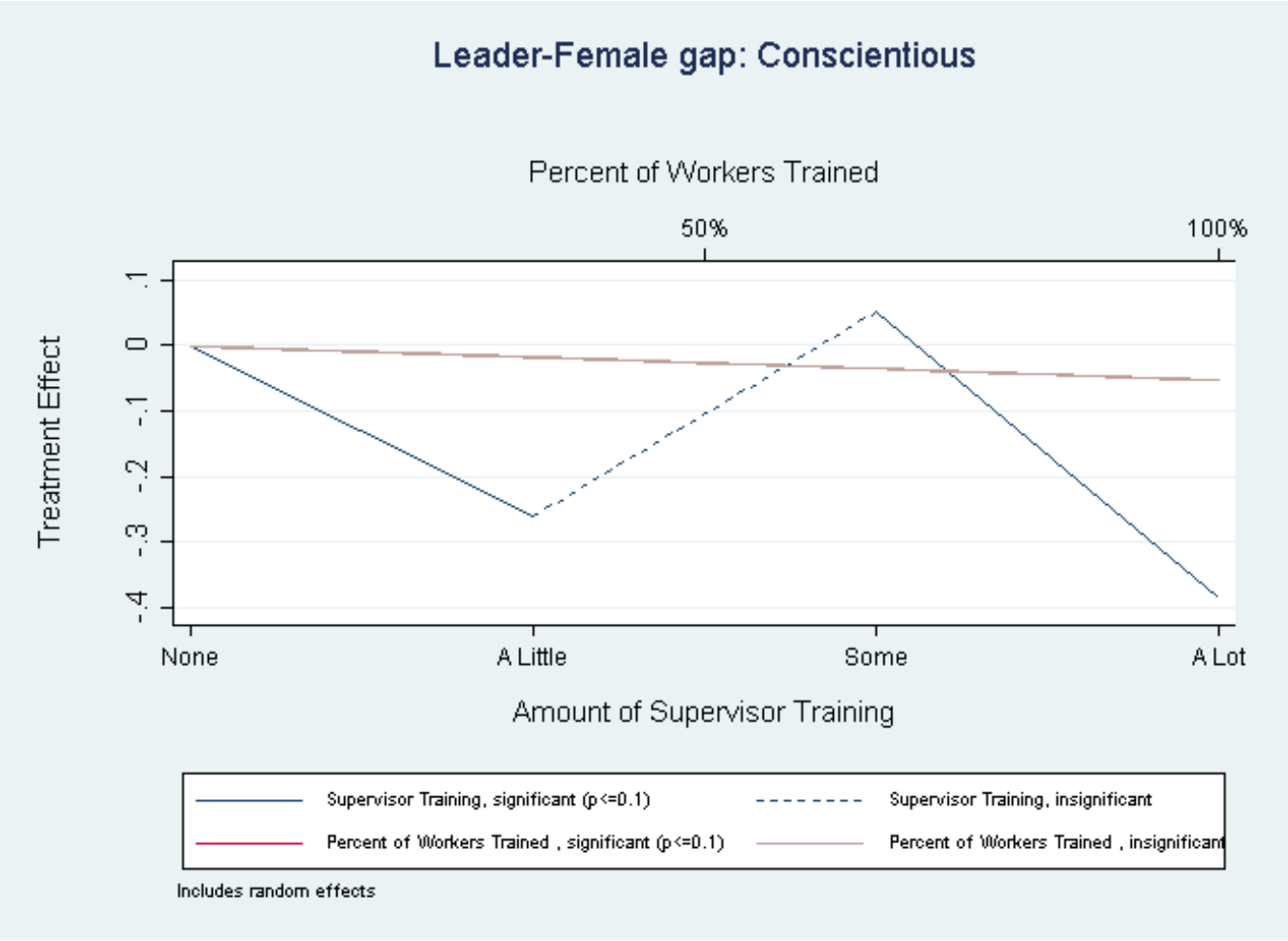
	(1)
VARIABLES	assertivediff
WIF_Sup_little	-0.152
	(0.186)
WIF_Sup_some	-0.348**
	(0.147)
WIF_Sup_lot	-0.613***
	(0.201)
workerstrainedpercent	-0.165
	(0.148)
female	0.137
	(0.177)
Constant	0.878*
	(0.522)
Observations	188
Number of unique ID	144

One obstacle to gender equity in leadership roles is that the traits often associated with good leaders (e.g., bold, ambitious, and assertive) are also those that are associated more with men than with women. To gauge whether the WiF training was reducing this female/leader disconnect, we asked supervisors how important a series of traits are for a good leader to have, and how well those traits described the female workers in their factory. We were looking for a decreased difference between how much supervisors thought each trait fit a good leader and how much they thought it fit female workers. Indeed, we found that training decreased the leader/female gap for the trait "*assertive*."



	(1)
VARIABLES	patientdiff
WIF_Sup_little	0.103
	(0.137)
WIF_Sup_some	0.149
	(0.152)
WIF_Sup_lot	0.807***
	(0.207)
workerstrainedpercent	-0.196
	(0.182)
female	-0.197
Constant	4.249***
	(0.440)
Observations	350
Number of unique ID	233

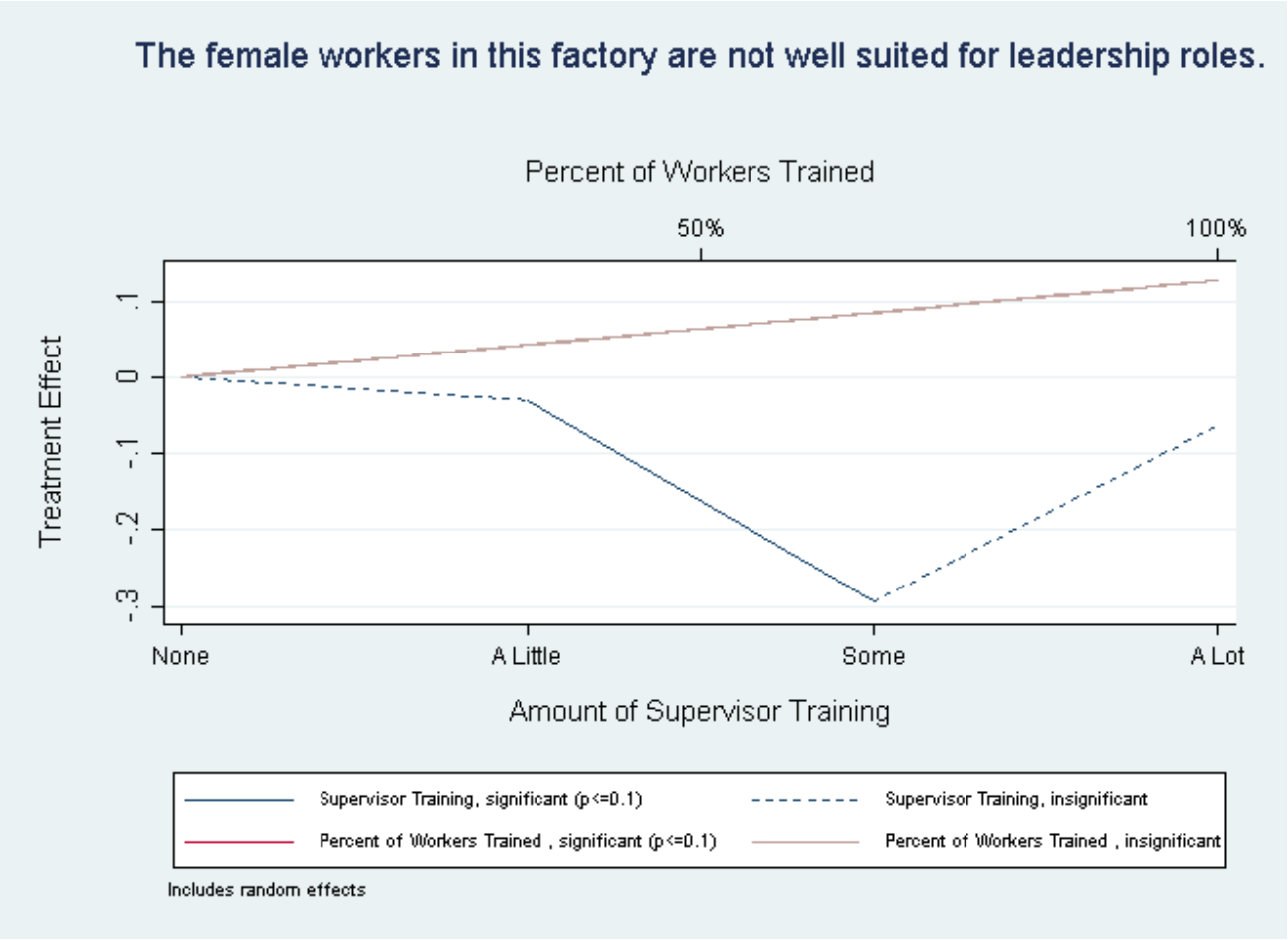
We also found a decrease in the leader/female gap for "*patience*."



	(1)
VARIABLES	conscientiousdiff
WIF_Sup_little	-0.261*
	(0.157)
WIF_Sup_some	0.0513
	(0.150)
WIF_Sup_lot	-0.385**
	(0.186)
workerstrainedpercent	-0.0533
	(0.159)
female	0.249*
Constant	1.032***
	(0.400)
Observations	180
Number of unique ID	136

We found a decrease in the leader/female gap for "*conscientious*" as well.

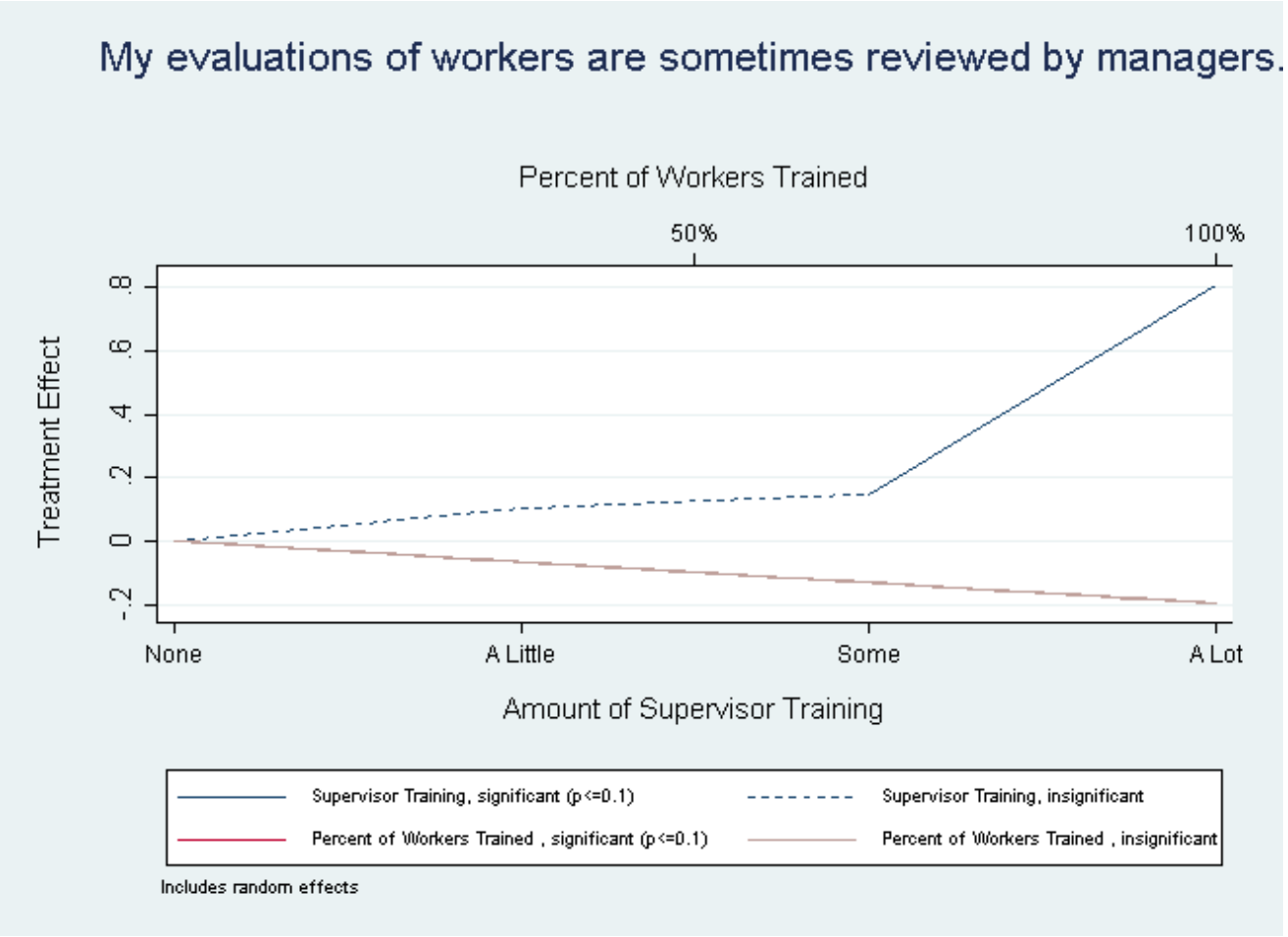
Overall assessment of women as leaders



	(1)
VARIABLES	The female workers in this factory are not well suited for leadership roles.
WIF_Sup_little	-0.0304
	(0.138)
WIF_Sup_some	-0.294**
	(0.141)
WIF_Sup_lot	-0.0635
	(0.402)
workerstrainedpercent	0.127
	(0.173)
female	0.202
Constant	1.747***
	(0.336)
Observations	354
Number of unique ID	233

Supervisors were asked whether they agree with the statement, *"The female workers in this factory are not well suited for leadership roles."* This item provides another, more direct way of determining how supervisors view the female workers. Consistent with the prior items, supervisors had a more favorable view of female workers as leaders after receiving training.

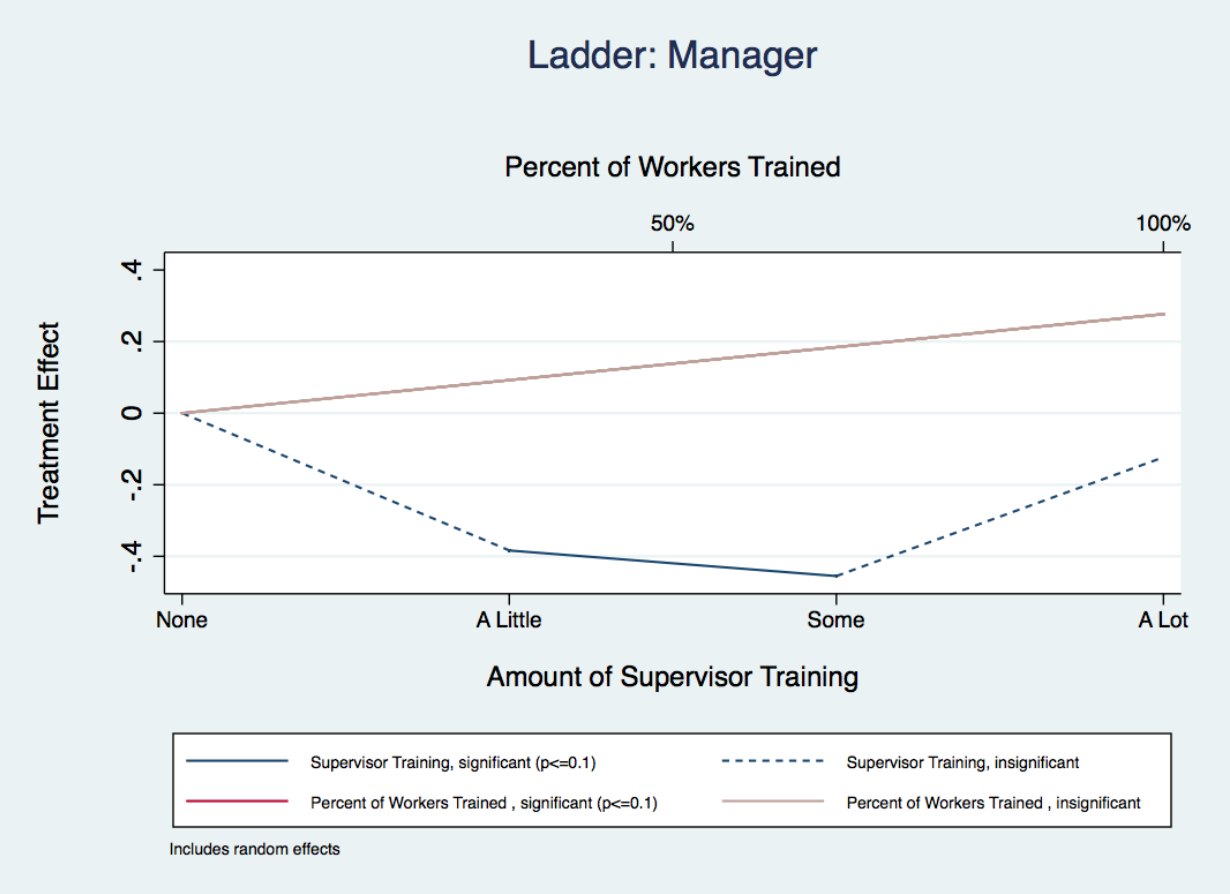
Accountability



	(1)
VARIABLES	My evaluations of workers are sometimes reviewed by managers.
WIF_Sup_little	0.103
	(0.137)
WIF_Sup_some	0.149
	(0.152)
WIF_Sup_lot	0.807***
	(0.207)
workerstrainedpercent	-0.196
	(0.182)
female	-0.197
	(0.122)
Constant	4.249***
	(0.440)
Observations	350
Number of unique ID	233

Sexual harassment is more likely to occur in a factory when workers are eligible for production bonuses but supervisors are not accountable for the decisions that they make. The item depicted above is a measure of accountability. We predicted that supervisor accountability would improve working conditions and particularly reduce sexual harassment. With a lot of training, accountability increased, which is perhaps one reason that supervisor training predicted positive worker outcomes.

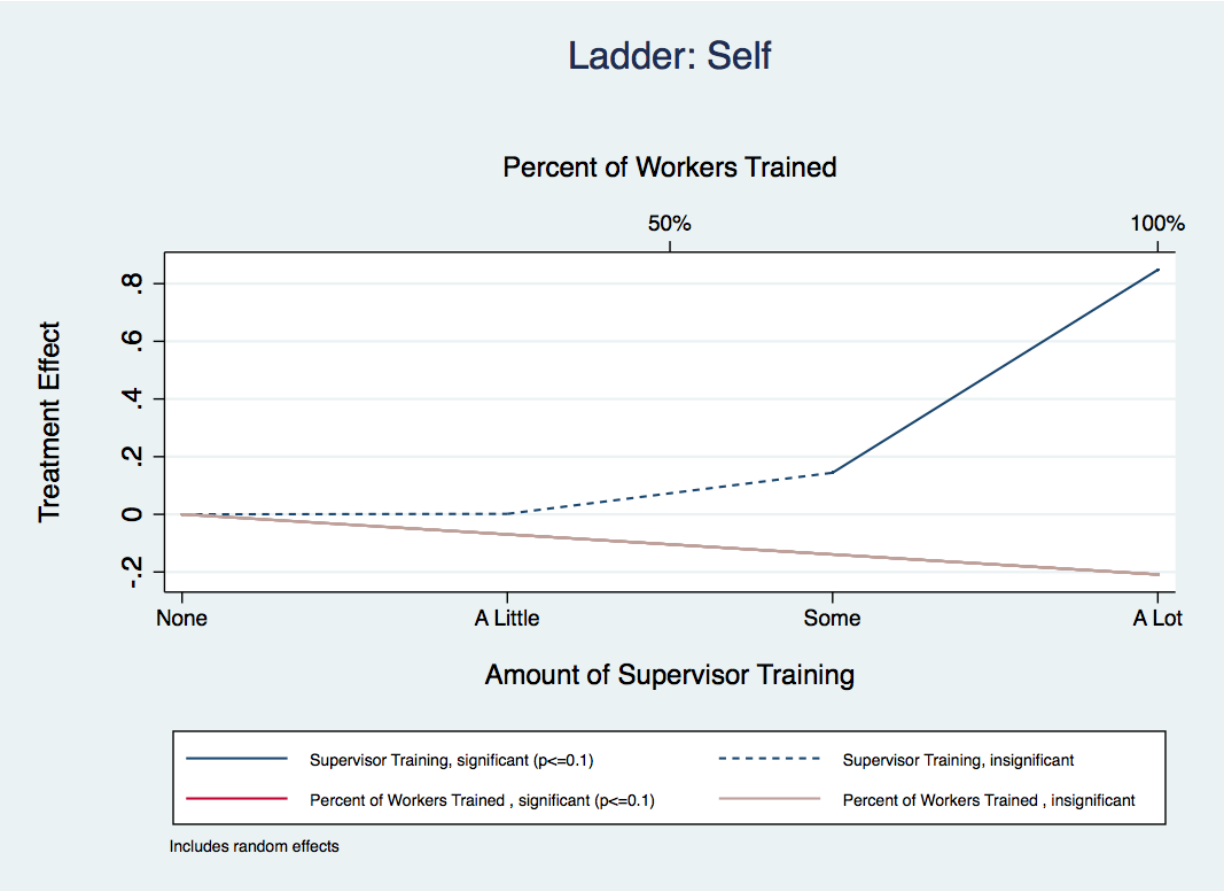
Power



	(1)
VARIABLES	laddermanagers
WIF_Sup_little	-0.384
	(0.309)
WIF_Sup_some	-0.455**
	(0.211)
WIF_Sup_lot	-0.123
	(0.425)
workerstrainedpercent	0.277
	(0.323)
female	0.160
	(0.316)
Constant	7.550***
	(1.070)
Observations	321
Number of unique ID	219

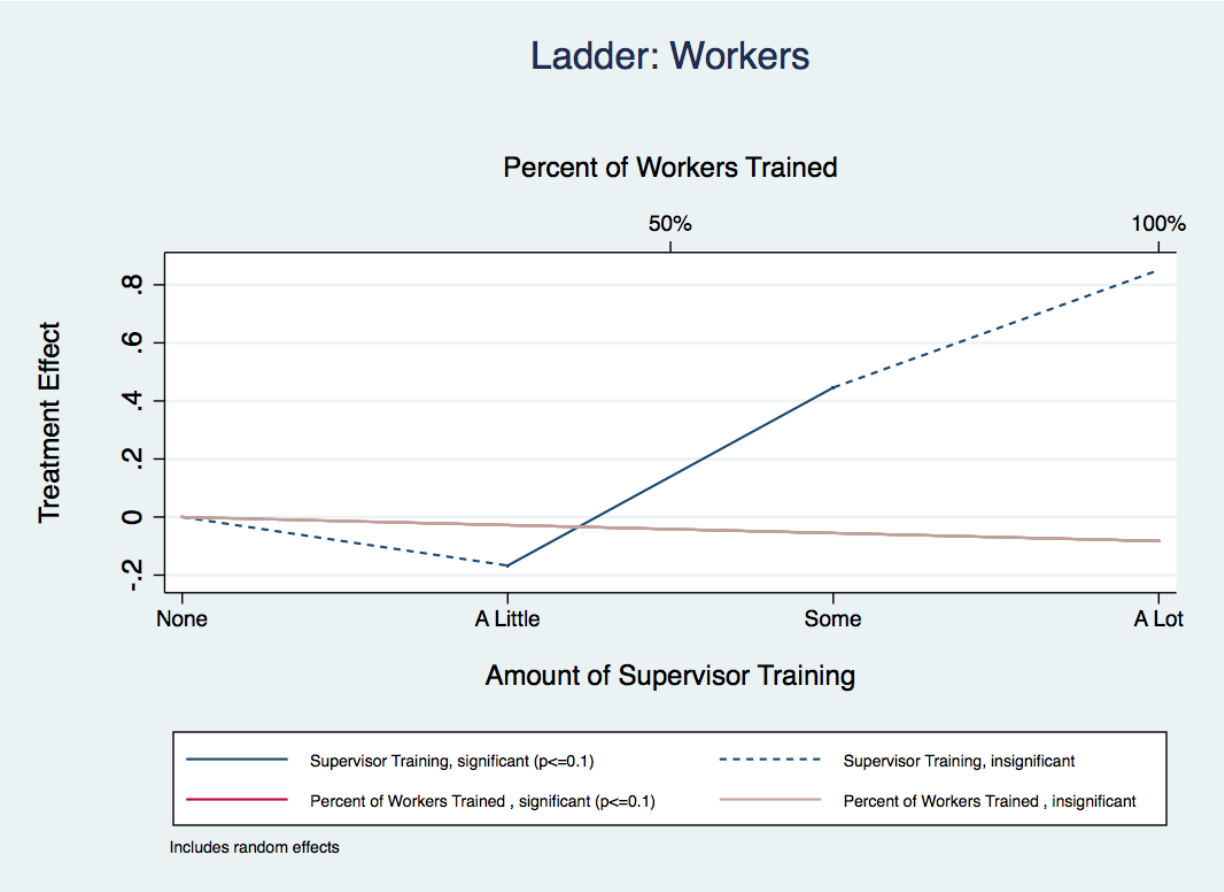
A second contributing factor to sexual harassment is a power asymmetry. Sexual harassment is more likely when supervisors perceive a deficit of power relative to managers or an abundance of power relative to workers. Supervisors were shown three ladders and asked to select the rung on each that corresponded to the amount of power held by their manager, themselves, and their workers. Supervisors typically placed their managers between the 7th and 8th rung on the power ladder.

With some training, supervisors perceived their managers as less powerful, moving down about a half a rung.



	(1)
VARIABLES	ladderself
WIF_Sup_little	0.00159
	(0.231)
WIF_Sup_some	0.144
	(0.194)
WIF_Sup_lot	0.848*
	(0.515)
workerstrainedpercent	-0.209
	(0.198)
female	0.298
Constant	6.275***
	(0.865)
Observations	314
Number of unique ID	216

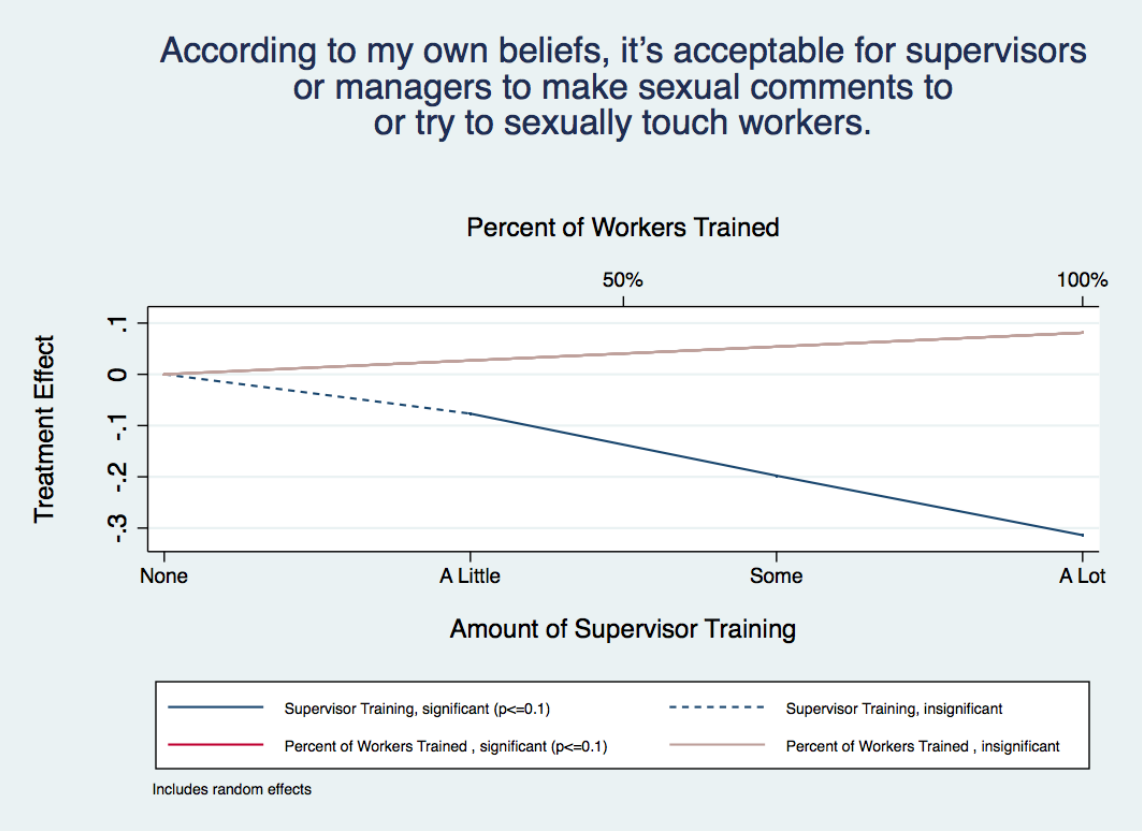
Supervisors placed themselves just above the 6th rung. With a lot of training, supervisors saw themselves as more powerful, moving up almost a full rung.



	(1)
VARIABLES	ladderworkers
WIF_Sup_little	-0.167
	(0.264)
WIF_Sup_some	0.446**
	(0.222)
WIF_Sup_lot	0.851
	(0.723)
workerstrainedpercent	-0.0828
	(0.373)
female	0.760**
	(0.353)
Constant	6.367***
	(0.970)
Observations	316
Number of unique ID	215

Supervisors also placed their workers just above the 6th rung. With some training, supervisors saw their workers as more powerful as well, rising again about one-half rung.

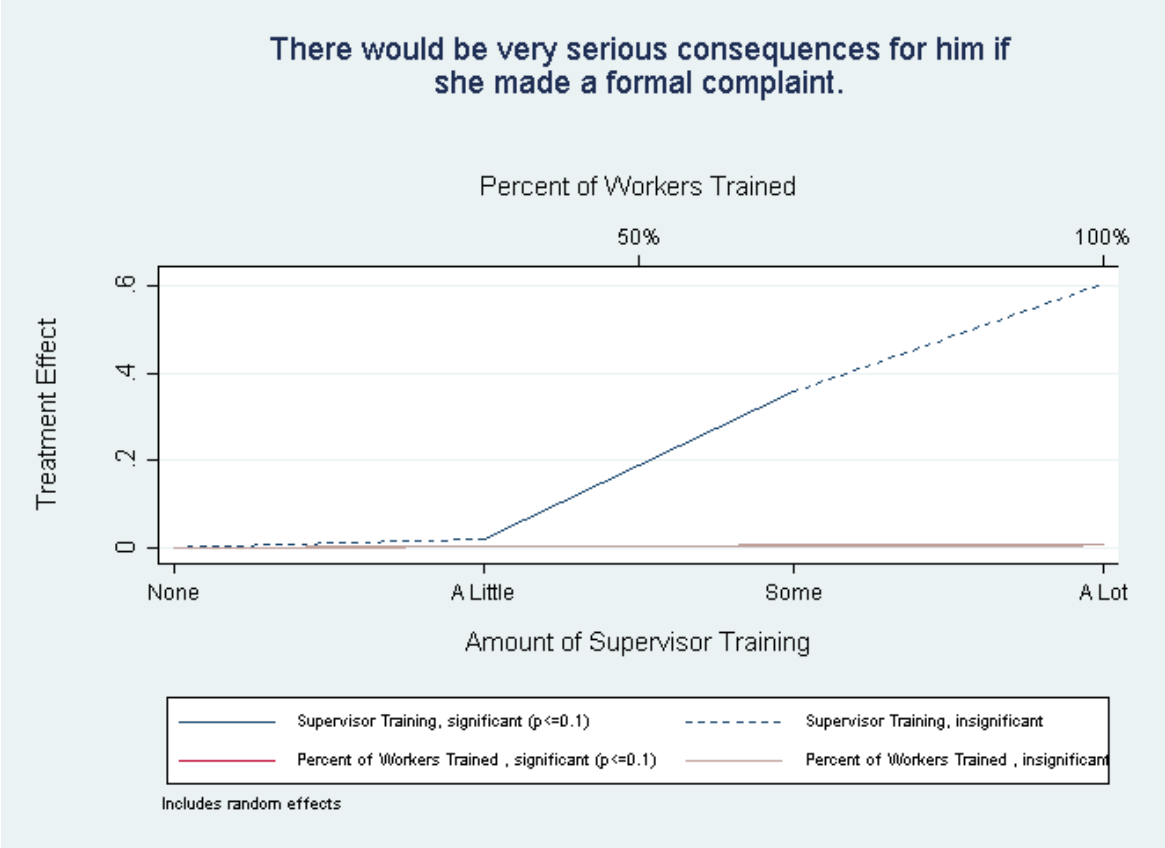
Sexual harassment norms



	(1)
VARIABLES	personal beliefs - hostile env sexual harassment
WIF_Sup_little	-0.0767
	(0.105)
WIF_Sup_some	-0.198*
	(0.108)
WIF_Sup_lot	-0.314*
	(0.172)
workerstrainedpercent	0.0812
	(0.157)
female	-0.00579
	(0.0832)
Constant	1.129***
	(0.191)
Observations	355
Number of unique ID	237

Finally, one of the most powerful deterrents of sexual harassment is the existence of organizational norms prohibiting harassment and individuals' endorsement of those norms. We asked supervisors about their personal beliefs around sexual harassment. In particular, we wanted to know whether they agreed or disagreed with the statement, *"According to my own beliefs, it is acceptable for supervisors or managers to make sexual comments to or try to sexually touch workers."* As above, responses are coded on a five-point scale with *1 = strongly disagree* and *5 = strongly agree*.

With some or a lot of training, supervisors were more likely to report that sexual harassment is unacceptable.



	(1)
VARIABLES	There would be very serious consequences for him if she made a formal complaint.
WIF_Sup_little	0.0189
	(0.207)
WIF_Sup_some	0.357*
	(0.192)
WIF_Sup_lot	0.605
	(0.436)
workerstrainedpercent	0.00488
	(0.187)
female	-0.376**
	(0.155)
Constant	3.508***
	(0.460)
Observations	348
Number of unique ID	232

We also measured organizational tolerance of sexual harassment by asking supervisors to read the following scenario: *"Imagine that a supervisor in your factory has said that he can make things very difficult for a female worker by withholding pay and treating her badly unless she has sex with him."* Supervisors then indicated whether they agreed with the statement *"There would be very serious consequences for him if she made a formal complaint."* Prior to training, supervisors only slightly agreed with this statement.

With some training, supervisors were more likely to say that there would be serious consequences for the hypothetical harasser if the female worker made a formal complaint – indicating less organizational tolerance of harassment and a better environment for all female workers.

Conclusions

Return on Investment

- WiF training increased advanced notice of planned absences.
- A small amount of training increased thoughts of quitting but the adverse effect disappeared with more training, and was reversed when supervisors also received WiF training.
- Training reduced workforce turnover from nearly 10 percent per month to one percent per month.
- Training of supervisors increased the efficiency rate from an average 91 percent to 110 percent, for a 20 percent increase in productivity. Trained workers were more likely to reach the production target and to earn a production bonus. The typical size of the productivity bonus was also larger. Industrial engineers responded to the increase in productivity by increasing the production target.
- WiF training reduced the defect rate and improved line balancing. Workers were less likely to sit idle or have work build up at their station.
- Workers reported higher job satisfaction after their supervisors received training and supervisors reported reduced cognitive load.

Health Behaviors and Outcomes

- WiF training reduced the belief that healthy fruits and vegetables are expensive. Workers became more likely to eat local fruits and vegetables and eat breakfast.
- Workers became aware that even though water looks clean it may not be safe to drink, and were more likely to use boiled or purified water for drinking or cooking.
- Workers became more confident in their ability to stay healthy and were more likely to use personal protective equipment (PPEs).
- Worker training is associated with an improvement in a worker's physical and mental health and fewer episodes of sadness and depression. Reported health of daughters also improved.

Communication and Problem Solving

- WiF training increased awareness of the interdependence of work effort and the willingness of workers to offer each other help.
- Workers also learned that when there is a disagreement they have more choices than simply being passive or aggressive.
- Training of supervisors increased worker comfort and confidence in voicing opinions and ideas.
- Supervisor training reduced conflicts and dehumanizing interactions between workers and their supervisors.
- Problem solving skills learned at work also affected household interactions. Although WiF training of workers resulted in less conflict with the head of their family, training of supervisors led to increased conflict with the head of the family. Conflicts with other family members declined. Yelling in the family also declined and family members were more likely to share in household tasks.
- Supervisors agreed that training made workers more effective at their jobs. Training also made supervisors more receptive to worker voice.

Empowerment, Gender Attitudes, Humanization and Sexual Harassment

- WiF training increased workers' internal locus of control.
- Training of supervisors increased the perception that girls should receive the same opportunities as boys, and improved receptivity to female supervisors.
- Workers were rehumanized in the minds of supervisors. Supervisors were less likely to hold dehumanizing beliefs such as thinking that workers will exert effort only if they are threatened and abused.
- Training increased supervisor perceptions of accountability for their decisions.
- Supervisors had improved perceptions of the power of supervisors and workers relative to managers.
- Organizational norms deterring sexual harassment strengthened.