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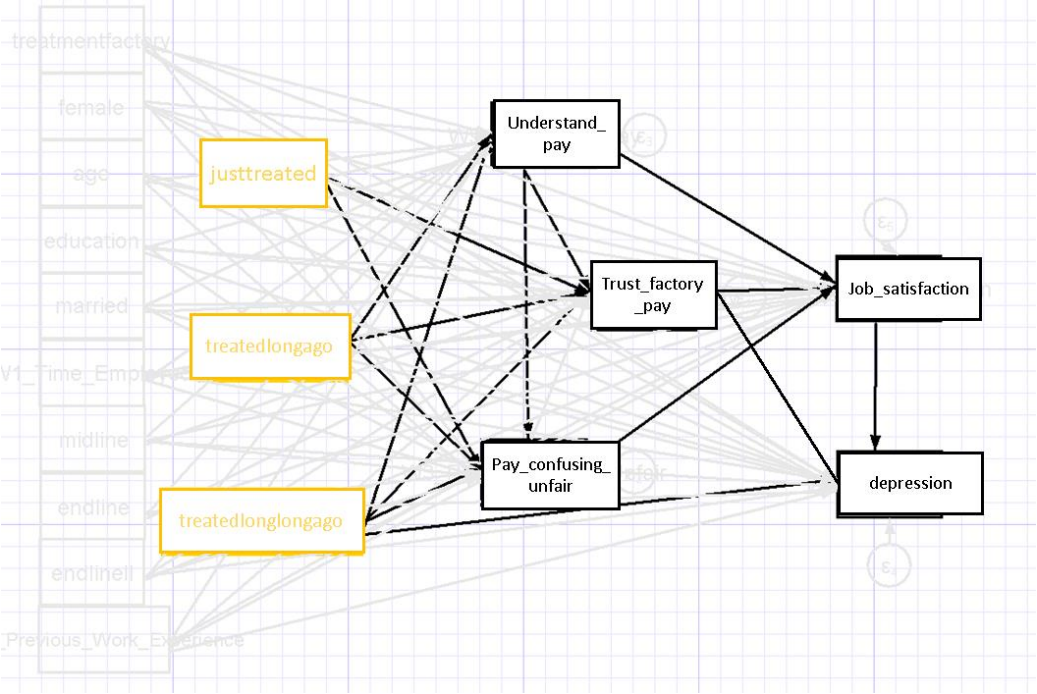
Pay Transparency:
Worker Job Satisfaction and Reports of Depression



Using Simultaneous Equation Modeling (SEM), we are able to ask questions beyond the BIF's program's direct effect on various worker outcomes. Instead, we can look at the impact on multiple variables as a system, which, in turn, enables us to identify mediating variables through which training is most effective.

Above is a visual representation a system of measures for improved pay transparency, worker job satisfaction, and reports of depression. Treatment has a strong effect on improving workers' perceptions of fair and clear payment. Through improving pay transparency, the BIF program increased worker job satisfaction and lowered reported rates of depression.

Variables on the left and in grey are standard demographic and factory control variables. The variables in yellow are the treatment variables measured by how much time has elapsed since training: justtreated, treatedlongago, treatedlonglongago. The middle variables in black are the outcome variables in the system we are interested in examining. These include worker responses to the statements and questions[1]:

- I understand how my pay is calculated. (*understand_pay*)
- How often does the amount you are paid seem confusing or unfair? (*Pay_Confusing_Unfair*)
- I trust the factory to pay me the money I have earned. (*trustfactorypay*)
- How satisfied are you with your job overall? (*Job_satisfaction*)

[1] For *understand_pay* and *trustfactorypay*, workers were asked on a scale of 1-5, 1 meaning "strongly disagree" and 5 meaning "strongly agree." For *Pay_Confusing_Unfair* and *Depression*, they had a 1-5 scale, 1 "never" to 5 "always." And for *Job_satisfaction*, they had a 1-5 scale, 1 "completely dissatisfied" to 5 "completely satisfied."

- During the past month, including today, how often have you felt sad or depressed? (*Depression*)

Arrows between training and primary outcome variable boxes represent an estimated relationships between those variables. If the arrow is black, the relationship is statistically significant.

Treatment from the BIF program had a strong effect on workers' ability to understand how their pay is calculated, their beliefs about whether their pay was confusing or unfair, and their trust in the factory to pay as promised. The effects strengthen over time in magnitude while maintaining their statistical significance, meaning that the program had a lasting effect.

The effects of treatment were compounded in workers' belief about the fairness of pay systems. Not only was there an observable, strong treatment effect, but the more workers agreed that they understood their pay, the less they felt that payment was confusing or unfair and the more they trusted the factory.

Treatment does not have a direct effect on job satisfaction, but pay transparency is a mediator of treatment for worker job satisfaction. As workers understood how to calculate their pay, perceived fairer payments, and trusted the factory, they became more satisfied with their jobs.

Trust in the factory and job satisfaction are important for improving worker mental health. Increased factory trust and job satisfaction decreased the frequency at which workers said that they felt sad or depressed. Additionally, treatment had a direct effect several months after the end of training. Training's long-term effect on mental health may be attributable to other benefits of training not included in the system such as increased worker confidence.

This system of simultaneous equations ultimately shows us that because BIF program bettered pay transparency, specifically workers' understanding of how pay was calculated, it was able to improve workers' beliefs about the fairness of payment and their trust of the factory to pay as promised. This, in turn, increased worker job satisfaction and lead to a long-term improvement in worker mental health.

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VARIABLES	(1) understandpay	(2) Pay_Confusing_Unfair	(3) trustfactorypay	(4) job_satisfaction	(5) Depression
understandpay		-0.101**	0.301***	0.139***	
		(0.0476)	(0.0342)	(0.0486)	
Pay_Confusing_Unfair			-0.0404	-0.126***	
			(0.0285)	(0.0380)	
trustfactorypay				0.271***	-0.266***
				(0.0543)	(0.0427)
Job_satisfaction					-0.112*
					(0.0599)
justtreated	0.0235	-0.693***	0.493***	-0.289	-0.134
	(0.180)	(0.232)	(0.166)	(0.222)	(0.229)
treatedlongago	0.578*	-1.870***	0.868***	-0.425	-0.483
	(0.321)	(0.403)	(0.291)	(0.389)	(0.399)
treatedlonglongago	0.864*	-2.987***	1.242***	-0.602	-1.037*
	(0.467)	(0.585)	(0.424)	(0.564)	(0.577)
midline	-0.205*	-0.192	-0.0529	-0.266**	-0.00280
	(0.108)	(0.136)	(0.0964)	(0.130)	(0.136)
endline	-0.130	0.603**	-0.445**	0.268	-0.0299
	(0.240)	(0.305)	(0.217)	(0.290)	(0.301)
endlineII	-0.593	1.803***	-0.951***	0.403	0.309
	(0.385)	(0.481)	(0.345)	(0.461)	(0.476)
treatmentfactory	-0.416***	0.956***	-0.414***	0.0721	0.260
	(0.128)	(0.159)	(0.117)	(0.156)	(0.159)
female	0.429**	-0.204	0.578***	-0.252	0.173
	(0.180)	(0.231)	(0.166)	(0.228)	(0.248)
age	0.0290	0.0186	0.0165	-0.0153	-0.140***
	(0.0306)	(0.0401)	(0.0283)	(0.0376)	(0.0389)
education	0.0365	0.0686*	0.0473*	-0.0937***	0.0477
	(0.0293)	(0.0368)	(0.0261)	(0.0350)	(0.0365)
married	0.0405	0.0345	0.00107	0.0217	0.188**
	(0.0722)	(0.0926)	(0.0653)	(0.0864)	(0.0893)
W1_Time_Employed	-0.0185	0.0131	0.00606	-0.0121	0.0841***
	(0.0136)	(0.0170)	(0.0121)	(0.0162)	(0.0168)
W2_Previous_Work_Experie	0.00753	0.0117	-0.00847	-0.0240	-0.00472
	(0.0189)	(0.0241)	(0.0170)	(0.0229)	(0.0239)
Constant	3.178***	1.659***	1.997***	3.526***	3.075***
	(0.269)	(0.366)	(0.267)	(0.382)	(0.416)
Observations	707	707	707	707	707

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1