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## SEM Brief 1: Empowerment at Work

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**Main conclusion:** Better Work increases empowerment by increasing formal mechanisms for worker representation, improving channels through which workers can receive support at work, reducing emotional and physical stress at work, and promoting norms deterring verbal abuse and providing workers with maternity leave. Dehumanization, abuse at work and discrimination in promotion opportunities are disempowering, but Better Work does not act on these channels.

### 1. Personality Characteristics

A sense of empowerment may simply reflect a worker's personality traits. We first test for whether the personality traits in a Better Work factory systematically differ from workers in other factories. Results are reported in Table 1.1. Regressions are controlled for demographic characteristics and factory and time, as described below.

Workers in Better Work factories are more likely to be resilient (column 1) and have a growth mindset (column 2) and internal locus of control (column 7). Resilience is measured by how easily a worker can get through stressful events and bounce back from setbacks. Growth mindset measures the ability of a worker to believe that intelligence is not fixed and that it is possible to learn new information with effort. External locus of control measures the ability to control important things in one's life.

### 2. Empowerment

We next turn to whether workers in Better Work factories have a greater sense of empowerment. There are many possible measures of empowerment. For the purposes of this study, empowerment is principally measured by a worker's sense of empowerment at work. Items include whether managers listen to worker ideas, whether workers can easily get the information they need from their supervisor, a worker's confidence in their job, whether they have mastered skills necessary for the job, whether a worker can resolve conflicts at work and whether a worker feels that their work is worthwhile.

As can be seen in the first column of Table 1.2, workers in Better Work factories are more likely to feel empowered at work. Though, the treatment effect is small. Workers in a Better Work factory report empowerment 0.0617 higher on a five-point scale than workers in other factories.

### 3. Working Conditions

Our next question is, what is it about Better Work factories that creates a greater sense of empowerment? Factory conditions that are affected by Better Work are also reported in Table 1.2. Workers in Better Work factories are less likely to report various types of abuse at work (column 1), feel less dehumanized in their interactions with supervisors and managers at work (column 6), and report less physical and emotional stress at work (column 11). Workers in Better Work factories earn 15.17 USD more per month (column 3), receive greater bonus pay (column 4) and work 1.392 fewer hours per work (column 5) than workers in other factories.

Better Work factories are also more likely to provide workers with maternity leave (column 12), accommodate pregnant workers (column 13) and help workers secure vaccinations for their children (column 14).

Better Work factories also have better systems. Workers in Better Work factories report norms deterring verbal abuse (column 9). Workers also report more ease getting help when the need it from their co-workers, supervisors, HR, the union and the worker committee (column 8). Workers in Better Work factories also feel better represented at work through the presence of a union, participation in union activities, having a factory committee and having a collective bargaining agreement (column 7).

#### 4. Simultaneous Equation Modeling

So, which working conditions most affect a sense of empowerment? To answer this question, we employ simultaneous equation modeling (SEM) to estimate a mediation model. A SEM model is successful when the BW treatment variable is not significant once the mediators are included in the regression equation. Results are depicted in Figure 1.1.

In the SEM, workers in Better Work factories have a shorter work week, are more likely to have formal representation within the factory, feel comfortable seeking help, have reduced work-related stress (emotional and physical), perceive a norm deterring organizational tolerance for verbal abuse and have access to maternity leave. Among these, all but work hours predict increased empowerment. These results importantly tell us which factory characteristics promoted by Better Work translate into a greater sense of empowerment.

Empowerment is also promoted by reducing abuse at work, dehumanization and discrimination in promotions. However, Better Work does not act on these channels in the SEM. Data

Construction

**Empowerment** (a=0.7328) 5-point common scale

*Management\_Listen* Management always listens to my ideas and complaints.

*Supervisor\_HR\_Information* I can easily get all information related to work from my supervisor or HR.

*Job\_Confident* I am confident about my ability to do my job.

*Mastered\_Skills* I have mastered the skills necessary for my job.

*Conflict\_Resolve* I am confident that I can effectively resolve conflicts at work.

*Work\_Worthwhile* The work I do on this job is worthwhile

*Express\_Thoughts* I can express my thoughts and opinions at work

**Personality Characteristics** 5-point agree scale

*IntelligenceR* You can learn new things, but you can't really change your basic intelligence.

*ResilienceR* (a=0.7198)

*Stressful\_Events* I have a hard time making it through stressful events.

*Setbacks* I tend to take a long time to get over set-backs in my life.

*Change\_Behavior* I can change my life by changing my behavior.

*Manage\_Challenges* I am able to successfully manage the challenges in my life.

*Develop\_Ability* You can always greatly develop your ability

*Bounce\_Back* I tend to bounce back quickly after hard times.

*ControlR* In the last month, how often have you felt that you were unable to control the important things in your life?

**Dehumanization** (a= 0.7523) 5-point common scale

*Unimportant* How often do you feel small or unimportant after talking to your supervisor?

*Angry* How often do you feel angry or frustrated after talking to your supervisor?

*Unappreciated* How often do you feel unimportant or unappreciated in the factory?

*Embarrassed* How often do you feel embarrassed or humiliated at work?

**Representation** (a= 0.6703) Binary

*Union* Are you a member of union?

*Factory\_Union* Which of the following do you have in your factory? Union

*Factory\_Bargaining* Which of the following do you have in your factory? A collective bargaining agreement

*Factory\_Committee* Which of the following do you have in your factory? Worker-manager committee

**Help** (a= 0.8239) 5-point comfort scale

*Supervisor\_Help* If you have a complaint or concern about work, how comfortable would you feel seeking help from Your supervisor

*Coworker\_Help* If you have a complaint or concern about work, how comfortable would you feel seeking help from A co-worker

*HR\_Help* If you have a complaint or concern about work, how comfortable would you feel seeking help from HR

*Trade\_Union\_Help* If you have a complaint or concern about work, how comfortable would you feel seeking help from The trade union

*Committee\_Help* If you have a complaint or concern about work, how comfortable would you feel seeking help from A worker-manager committee

*ComplaintBox\_Help* If you have a complaint or concern about work, how comfortable would you feel seeking help from Suggestion/Complaint box

**Work Stress** (a= 0.6676) 5-point common scale

*Dizzy* In the last three months, how often have you felt dizzy or fainted at work?

*Ache* In the last three months, how often are you bothered by headache; backache or suffered from muscle stiffness?

*Injured* In the last three months, how often have you been injured because of your work?

*Worry* I often worry about finishing everything I have to do.

*Fatigue* I feel fatigued when I get up in the morning and have to face another day on the job.

*Frustrated* I feel frustrated by my job.

**Work Abuse** (a= 0.7634) 5-point agree scale

*Supervisor\_Yell* A supervisor yells at a worker to work faster or for making a mistake.

*Thirsty* You are thirsty at work

*Hungry* You are hungry at work

*Obstacle\_Promotion* You faced an unfair obstacle getting promoted

*Unfair* You were unfairly assigned to a particular job

*Hot\_Cold* Your factory is uncomfortably hot or cold

**Verbal Abuse Norm** 5-point agree scale

*Acceptable\_Yell* In this factory, it's seen as acceptable for supervisors or managers to yell at workers who make mistakes or need to work faster.

**Promotion Nondiscrimination** 5-point agree scale

*Promotion\_Performance* Promotions in my work unit are based on performance.

### **Health Support Binary**

*Maternity\_Leave* Does your factory provide paid maternity leave?

*Maternity\_Accommodation* Are pregnant women offered accommodation such as a sitting, being away from strong chemical smells, shorter work hours.

*Vaccination\_Help* My Factory helps me to get vaccinations for my children.

### **Demographic Controls**

*Age*

*Factory\_Experience*

*i.Position*

*i.Education*

*Female*

*i.Married*

*Work\_Experience*

*changed\_jobs*

### **Factory Characteristics**

*Factories\_Nearby* Are there other factories nearby where you could get another job?

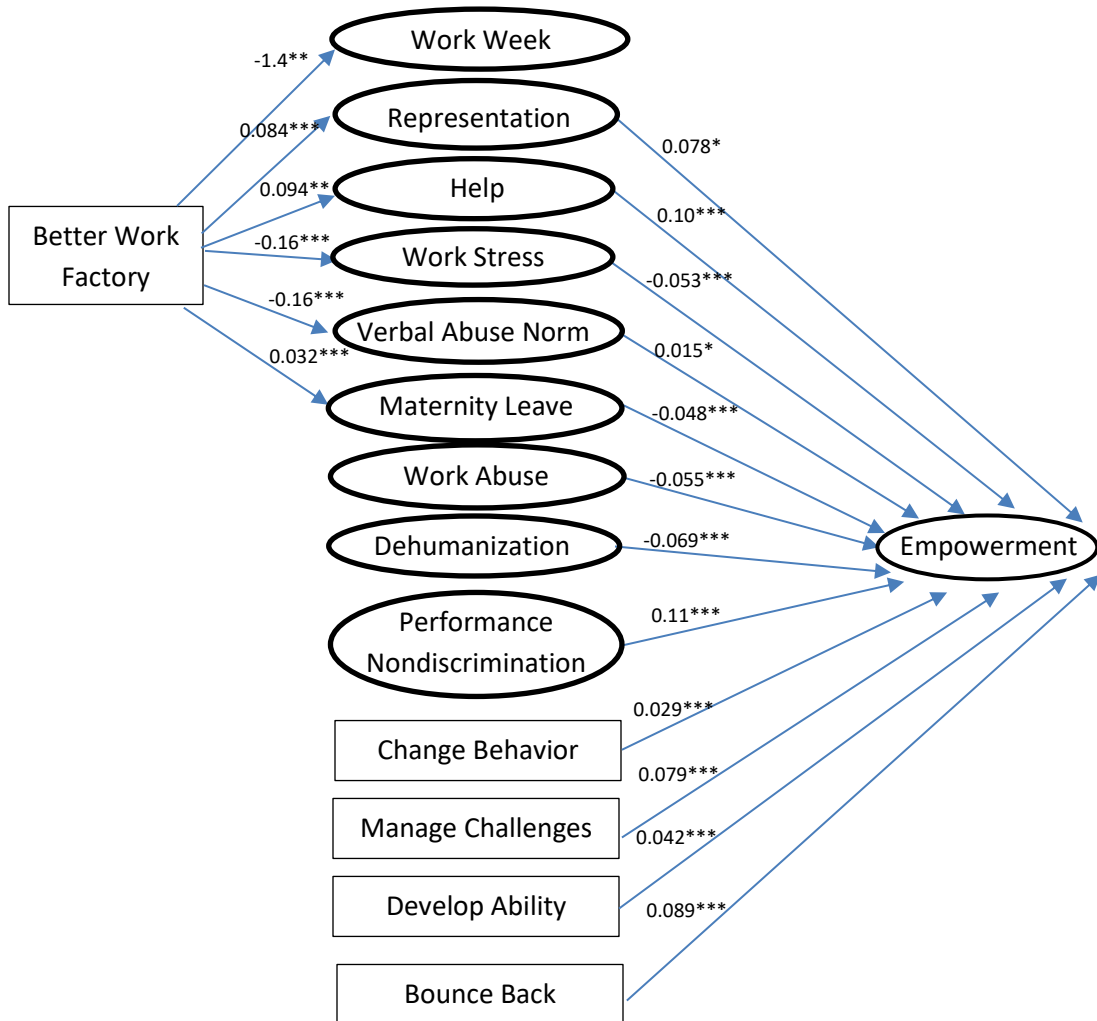
*Vietnam*

*bw\_factory*

### **Time Control**

*endline*

Figure 1.1 Empowerment SEM



*Table 1.1 Personality Characteristics*

VARIABLES	(1) ResilienceR	(2) Change Behavior	(3) Manage Challenges	(4) IntelligenceR	(5) Develop Ability	(6) Bounce Back	(7) ControlR
Better Work Factory	0.135*** (0.0277)	0.0600** (0.0264)	0.0139 (0.0219)	-0.0210 (0.0314)	-0.00577 (0.0231)	0.0184 (0.0217)	0.121*** (0.0310)
Constant	2.951*** (0.260)	4.300*** (0.257)	3.341*** (0.202)	3.314*** (0.304)	3.466*** (0.225)	3.640*** (0.203)	3.224*** (0.279)
Observations	5,945	5,998	6,006	5,882	5,970	6,018	5,987
Number of uniqueID	3,526	3,560	3,553	3,503	3,540	3,559	3,543

Random Effects Panel Estimator

Demographic, Country, Time Controls

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1



Table 1.2 Reduced Form Working Conditions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	Empowerment	Work Abuse	Monthly wage USD	Bonus Pay USD	Work Week	Dehumanization	Representation
bw_factory	0.0617*** (0.0137)	-0.0935*** (0.0245)	15.17*** (3.898)	3.391*** (0.727)	-1.392*** (0.357)	-0.0490** (0.0221)	0.0929*** (0.0116)
Constant	3.682*** (0.125)	2.424*** (0.216)	104.4*** (36.64)	-2.010 (6.961)	61.77*** (3.354)	1.955*** (0.191)	0.562*** (0.106)
Observations	5,759	5,704	5,935	5,652	6,037	5,893	4,440
Number of uniqueID	3,433	3,410	3,496	3,433	3,577	3,503	2,771

	(8)	(9)	(10)	(11)	(12)	(13)	(14)
VARIABLES	Help	Acceptable Yell	Promotion Performance	Work Stress	Maternity Leave	Maternity Accommodation	Vaccination Help
bw_factory	0.0931*** (0.0286)	-0.166*** (0.0380)	0.0545** (0.0248)	-0.159*** (0.0244)	0.0282*** (0.00831)	0.0356*** (0.0116)	0.0924** (0.0370)
Constant	3.276*** (0.263)	2.724*** (0.344)	3.882*** (0.230)	2.127*** (0.224)	0.738*** (0.0654)	0.840*** (0.0946)	2.804*** (0.334)
Observations	4,441	6,003	5,847	5,939	5,917	5,695	5,494
Number of uniqueID	2,918	3,552	3,463	3,515	3,498	3,366	3,351

Random Effects Panel Estimator  
Demographic, Country, Time Controls  
Standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1