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| Labor
Lab

Working Conditions Related to Health and Life Satisfaction

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Key Findings

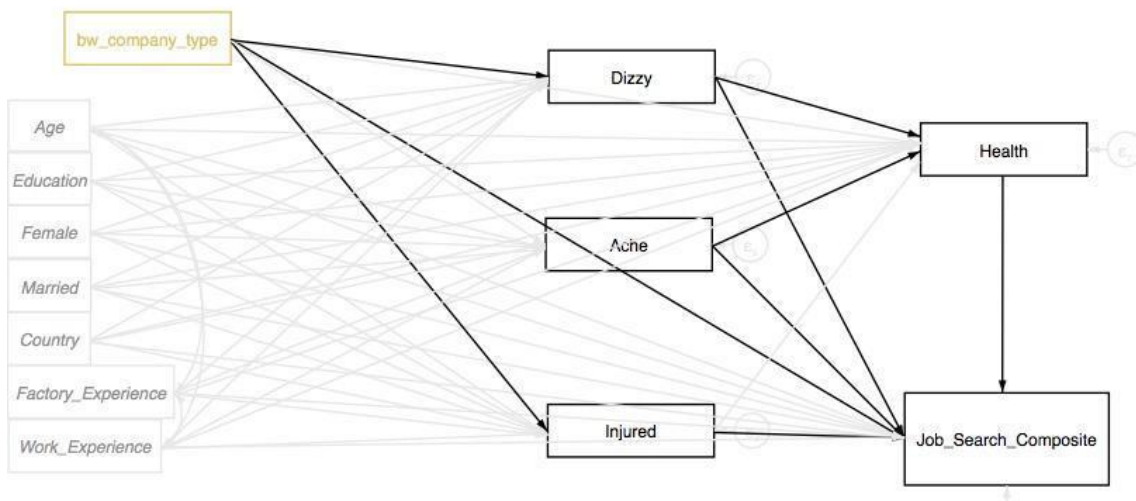
- Workers saw decreasing hunger, thirst, dizziness, and uncomfortable temperatures at Better Work factories. These improved working conditions, may in turn, affect the health of the worker, and ultimately lead to decreased turnover intention.
- While training does not directly affect job and life satisfaction, it has a negative relationship with *Fatigue*, showing that workers in Better Work factories are less fatigued.

Working conditions cover a broad range of topics and issues, from working time (hours of work, rest periods, and work schedules) to remuneration, as well as the physical conditions and mental demands that exist in the workplace (International Labor Organization, “Working Conditions”). This study examines working conditions such as work hours, compensation, verbal abuse, thirst and hunger, stereotype threat or discrimination, and physical condition. Along with adversely impacting individual worker outcomes, harsh working conditions have also been shown to decrease firm productivity (Petreanu, Iordache, and Seracin 2013). The models featured in this section will map out the impact of Better Work training on these working conditions and the subsequent effects on longer-term outcomes for workers.

Working Conditions and Health

The following two models map out systems related to short-term health indicators, including physical and mental work conditions and how they affect the health of the worker. These systems have been created based on previous evidence that manual labor can deteriorate physical health by causing overuse and injury of the musculoskeletal system (Lee and Krause 2002). Decreased physical health may consequently lead to turnover intention if the worker believes that their job is not worth their injuries and deteriorating health. Therefore, working conditions may be linked with turnover intention through their effect on worker health. The following models put these theories to the test:

Model 1:



Variables of interest:

bw_company_type: Is the worker a member of a Better Work factory? (binary)

Dizzy: In the last three months, how often have you felt dizzy or fainted at work? (commonscales)

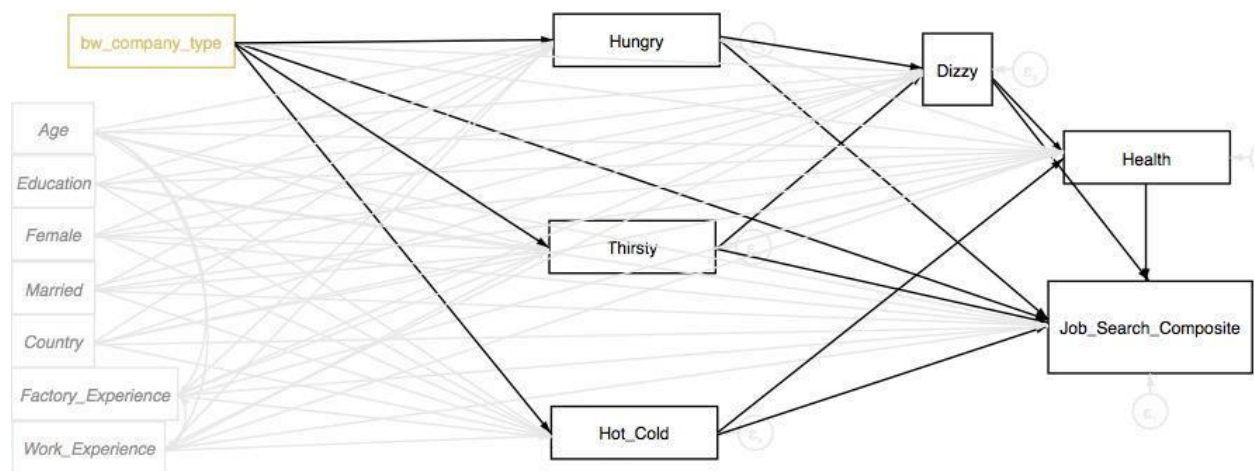
Ache: In the last three months, how often are you bothered by headache, backache or suffered from muscle stiffness? (commonscales)

Injured: In the last three months, how often have you been injured because of your work? (commonscales)

Health: How is your overall health? (1-Very poor, 2-Poor, 3-Fair, 4-Good, 5-Very good, 6-Excellent)

Job_Search_Composite: A composite measure of a worker's intention to leave their current job (also known as turnover intention), consisting of thoughts about quitting, moving sectors, or devoting effort to looking for a new job.

Model 2:



Variables of Interest:

bw_company_type: Is the worker a member of a Better Work factory? (binary)

Hungry: You are hungry at work. (commonscales)

Thirsty: You are thirsty at work. (commonscales)

Hot_Cold: Your factory is uncomfortably hot or cold. (commonscales)

Dizzy: In the last three months, how often have you felt dizzy or fainted at work? (commonscales)

Health: How is your overall health? (1-Very poor, 2-Poor, 3-Fair, 4-Good, 5-Very good, 6-Excellent)

Job_Search_Composite: A composite measure of a worker's intention to leave their current job (also known as turnover intention), consisting of thoughts about quitting, moving sectors, or devoting effort to looking for a new job.

Model 1 examines the relationship between *bw_company_type*, *Dizzy*, *Ache*, *Injured*, *Health*, and *Job_Search_Composite*. Model 2 examines the relationship between *Hungry*, *Thirsty*, *Hot_Cold*, *Dizzy*, *Health*, and *Job_Search_Composite*. In both models, *bw_company_type* is the treatment variable, reported working conditions (*Dizzy*, *Ache*, *Injured*, *Hungry*, *Hot_Cold*, and *Thirsty*) are mediating variables, and *Health* and *Job_Search_Composite* are the short and long-term outcome variables, respectively.

In the first model, we found significant negative effects between *bw_company_type* and *Dizzy* as well as between *bw_company_type* and *Injured*. Workers in Better Work factories suffered from dizziness and

injuries with less frequency than workers in non-Better Work factories. There appeared to be no effect of *bw_company_type* on *Ache*, showing that those in Better Work factories suffered from aches with comparable frequency to those in non-Better Work factories. Additionally, *Dizzy* and *Ache* both have significant negative relationships with *Health*. Workers who are dizzier and suffer from more aches tend to have decreased health. There appears to be no relationship between *Injury* and *Health*. Finally, there is a negative significant relationship between *Health* and *Job_Search_Composite*. Workers who are healthy are also less likely to think about leaving their jobs.

In the second model, we found significant negative effects between *bw_company_type* and *Hungry*, *Thirsty*, and *Hot_Cold*. Better Work factory workers were less likely to experience hunger, thirst, or uncomfortable temperatures in the workplace. *Hunger* and *Thirst* both had positive significant relationships with *Dizzy*, meaning that dizziness on the job was likely caused by hunger and thirst. There is a strong negative significant relationship between *Dizzy* and *Health*, as well as between *Hot_Cold* and *Health*, showing that those who were dizzy as a result of hunger and thirst and those who were uncomfortably hot or cold also seemed to suffer detrimental effects on their health. Finally, there is a strong significant negative effect of *Health* on *Job_Search_Composite*, showing that those who were healthy were less likely to have turnover intentions. Combining the two models above, it is possible to identify a potential system that impacts turnover intention through health within Better Work and non-Better Work factories:

bw_company_type → *Hungry/Thirsty* → *Dizzy* → *Health* → *Job_Search_Composite*
bw_company_type → *Hot_Cold* → *Health* → *Job_Search_Composite*

In this way, there is an effect of *bw_company_type* on different physical working conditions by decreasing hunger, thirst, dizziness, and uncomfortable temperatures. These improved working conditions, may in turn, affect the health of the worker, and ultimately lead to decreased turnover intention.

It should be noted that although *Ache* has a negative effect on *Health*, *bw_company_type* has no effect on *Ache*. Better Work workers may experience achiness to the same degree as non-Better Work workers simply due to the nature of the job, which often requires repetitive motion, physical labor, and may promote bad posture. However, both Better Work and non-Better Work factories already report low levels of achiness, with the average reported level being 2.12 and 2.14, which is between rarely and sometimes. Nonetheless, it should be further investigated to determine how Better Work factories can decrease achiness for their workers.

It should also be noted that although there is a significant negative effect of *bw_company_type* on *Injured*, *Injured* does not affect *Health*. This could be due to the relatively small instance of injury (almost 75% of all workers reported never getting injured). Workers may also not take injury into account when thinking about their health as a whole, as injuries are often external and temporary.

There are also direct relationships between numerous variables. *Bw_company_type*, *Dizzy*, *Ache*, *Injured*, *Hungry*, *Thirsty*, and *Hot_Cold* all have significant relationships with *Job_Search_Composite*. Membership in a Better Work factory has a direct effect on decreased turnover intention. Dizziness, achiness, injury, hunger, thirst, and uncomfortable temperatures all have direct relationships with increased turnover intention. There are many pathways, both direct and indirect, through which Better Work factories improve the working conditions of their factories, and may ultimately improve health and decrease turnover intention of their employees.

The coefficients of all significant relationships are highlighted in the tables below, with dependent variables across the top row and independent variables in the leftmost column. All highlighted relationships have a p-value of less than .01, except for *Dizzy* → *Health*, which has a p-value less than .05.

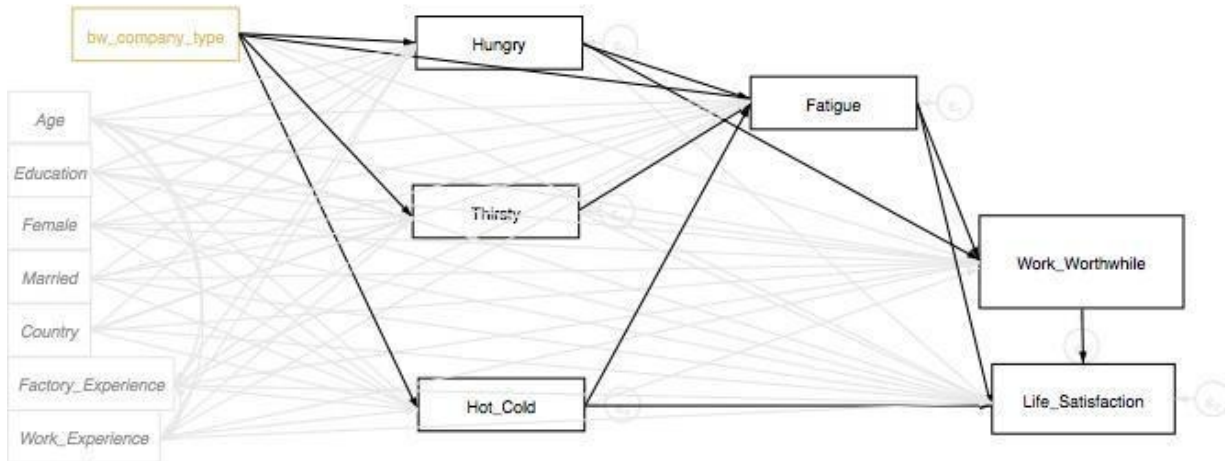
Model 1:

VARIABLES	1 Dizzy	2 Ache	3 Injured	4 Health	5 Job_Search_Composite
<i>bw_company_type</i>	-0.0507** (0.0210)	-0.0299 (0.0268)	-0.0563*** (0.0161)	-0.0316* (0.0171)	-0.135*** (0.0197)
<i>Dizzy</i>				-0.0268** (0.0118)	0.0784*** (0.0138)
<i>Ache</i>				-0.0627*** (0.00916)	0.0738*** (0.0105)
<i>Injured</i>				-0.00843 (0.0145)	0.193*** (0.0174)
<i>Health</i>					-0.0590*** (0.0147)
<i>Age</i>	0.00626*** (0.00199)	0.00347 (0.00254)	0.00423*** (0.00153)	-0.00279* (0.00162)	-0.0112*** (0.00186)
<i>Country</i>	-0.345*** (0.0217)	0.00449 (0.0277)	-0.165*** (0.0166)	-0.649*** (0.0182)	-0.0147 (0.0229)
<i>Factory_Experience</i>	0.0164*** (0.00291)	0.0113*** (0.00372)	0.0119*** (0.00223)	-0.00284 (0.00237)	0.00219 (0.00278)
<i>Education</i>	-0.0137 (0.0116)	0.00325 (0.0148)	-0.0244*** (0.00883)	-0.00190 (0.00942)	0.0830*** (0.0108)
<i>Female</i>	0.0590** (0.0272)	0.165*** (0.0347)	-0.0604*** (0.0208)	-0.0561** (0.0222)	-0.141*** (0.0262)
<i>Married</i>	-0.0661** (0.0272)	0.00801 (0.0347)	-0.0430** (0.0209)	0.0394* (0.0222)	-0.0636** (0.0257)
<i>Work_Experience</i>	-0.0155*** (0.00276)	-0.00530 (0.00352)	-0.0134*** (0.00212)	0.00205 (0.00225)	-0.00398 (0.00259)
<i>Constant</i>	1.987*** (0.0834)	1.848*** (0.106)	1.661*** (0.0638)	5.084*** (0.0732)	1.941*** (0.113)
<i>Observations</i>	6,521	6,521	6,521	6,521	6,521
Standard errors in parentheses					
*** p<0.01, ** p<0.05, * p<0.1					

Model 2:

VARIABLES	1	2	3	4	5	6
	Hungry	Thirsty	Hot_Cold	Dizzy	Health	Job_Search_Composite
bw_company_type	-0.198*** (0.0277)	-0.144*** (0.0305)	-0.171*** (0.0305)	-0.0157 (0.0205)	-0.0306* (0.0172)	-0.115*** (0.0195)
Hungry				0.135*** (0.0126)	0.0193* (0.0109)	0.0381*** (0.0126)
Thirsty				0.0625*** (0.0114)	0.00632 (0.00967)	0.0515*** (0.0111)
Hot_Cold					-0.0254*** (0.00806)	0.115*** (0.00917)
Dizzy					-0.0640*** (0.0109)	0.106*** (0.0125)
Health						-0.0677*** (0.0145)
Age	-0.0117*** (0.00263)	-0.00886*** (0.00289)	-0.00848*** (0.00288)	0.00834*** (0.00193)	-0.00274* (0.00163)	-0.00864*** (0.00184)
Country	-0.956*** (0.0287)	-0.956*** (0.0315)	-0.771*** (0.0315)	-0.156*** (0.0231)	-0.655*** (0.0197)	0.130*** (0.0240)
Factory_Experience	0.0102*** (0.00385)	0.0178*** (0.00423)	0.0204*** (0.00422)	0.0139*** (0.00283)	-0.00280 (0.00238)	0.00167 (0.00274)
Education	-0.0375** (0.0152)	-0.0513*** (0.0168)	-0.00108 (0.0168)	-0.00547 (0.0112)	-0.00143 (0.00945)	0.0825*** (0.0106)
Female	0.0466 (0.0359)	-0.0138 (0.0395)	-0.0525 (0.0397)	0.0537** (0.0264)	-0.0659*** (0.0222)	-0.138*** (0.0258)
Married	0.104*** (0.0359)	0.00211 (0.0395)	0.0139 (0.0395)	-0.0789*** (0.0264)	0.0353 (0.0223)	-0.0723*** (0.0254)
Work_Experience	-0.000724 (0.00364)	-0.00297 (0.00401)	-0.00168 (0.00399)	-0.0152*** (0.00268)	0.00186 (0.00225)	-0.00640** (0.00254)
Constant	3.967*** (0.110)	4.133*** (0.121)	3.665*** (0.121)	1.194*** (0.0903)	5.019*** (0.0781)	1.606*** (0.114)
Observations	6,521	6,521	6,521	6,521	6,521	6,521
Standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						

Working Conditions and Life Satisfaction



Variables of interest:

bw_company_type: Is the worker a member of a Better Work factory? (binary)

Hungry: You are hungry at work. (commonscales)

Thirsty: You are thirsty at work. (commonscales)

Hot_Cold: Your factory is uncomfortably hot or cold. (commonscales)

Fatigue: I feel fatigued when I get up in the morning and have to face another day on the job. (frequencyscales)

Work_Worthwhile: The work I do on this job is worthwhile. (agreescales)

Life_Satisfaction: I am satisfied with my life. (satisfyscales)

Physical working conditions not only impact worker health but may also have an impact on long-term outcomes related to a worker's emotional well-being. The above model builds upon Model 2 to evaluate the impact of working conditions on worker fatigue, job satisfaction, and life satisfaction, where *Hungry*, *Thirsty*, and *Hot_Cold* are mediating variables, *Fatigue* is the short-term outcome, *Work_Worthwhile* is the middle-term outcome, and *Life_Satisfaction* is the long-term outcome variable. Better Work training may affect fatigue, job satisfaction, and life satisfaction through the following pathway:

bw_company_type → *Hungry*, *Thirsty*, *Hot_Cold* → *Fatigue* → *Work_Worthwhile* → *Life_Satisfaction*

In this model, *Hungry*, *Thirsty*, and *Hot_Cold* are indicators of poor working conditions. *Fatigue* is a short-term outcome that measures the weight of these working conditions on a worker's daily life. Our analysis shows that Better Work training led to better working conditions, as *bw_company_type* has a significant negative effect on *Hungry*, *Thirsty*, and *Hot_Cold*. Additionally, *Hungry*, *Thirsty*, and *Hot_Cold* all have significant positive relationships with *Fatigue*, showing that those who experience poor working conditions may suffer from increased levels of fatigue. While these working conditions mostly have non-significant relationships with the outcome variables, they appear to have indirect effects through their impact on fatigue. *Fatigue* has a negative relationship with *Work_Worthwhile*, showing that those fatigued from work are less likely to believe their job is worthwhile, which we use throughout this report as a proxy for job satisfaction levels. Finally, *Work_Worthwhile* has a positive significant relationship with *Life_Satisfaction*, meaning that those who believe their work is worthwhile are also more likely to be satisfied with their lives.

There are also direct relationships between variables. While training does not directly affect job and life satisfaction, it has a negative relationship with *Fatigue*, showing that workers in Better Work factories are less fatigued. Being more hungry in the workplace also has a direct negative relationship with *Work_Worthwhile*. Finally, *Hot_Cold* and *Fatigue* both have negative relationships with *Life_Satisfaction*. These direct relationships, coupled with the system above, build upon the previous health models to show how improved working conditions have implications at several stages.

All significant relationships are highlighted in the table below. All relationships have a p-value less than .01.

VARIABLES	1 Hungry	2 Thirsty	3 Hot_Cold	4 Fatigue	5 Work_Worthwhile	6 Life_Satisfaction
bw_company_type	-0.198*** (0.0277)	-0.144*** (0.0305)	-0.170*** (0.0305)	-0.215*** (0.0419)	0.0163 (0.0161)	0.0138 (0.0227)
Hungry				0.279*** (0.0262)	-0.0510*** (0.0102)	0.0179 (0.0144)
Thirsty				0.101*** (0.0234)	-0.00451 (0.00906)	-0.0115 (0.0127)
Hot_Cold				0.247*** (0.0195)	-0.0139* (0.00765)	-0.0753*** (0.0107)
Fatigue					-0.0220*** (0.00503)	-0.0827*** (0.00706)
Work_Worthwhile						0.181*** (0.0184)
Age	-0.0116*** (0.00263)	-0.00880*** (0.00289)	-0.00852*** (0.00288)	-0.0116*** (0.00395)	-0.000572 (0.00153)	0.000469 (0.00214)
Country	-0.956*** (0.0287)	-0.956*** (0.0315)	-0.770*** (0.0315)	0.370*** (0.0475)	0.0410** (0.0184)	0.242*** (0.0259)
Factory_Experience	0.0102*** (0.00385)	0.0179*** (0.00423)	0.0206*** (0.00422)	0.0225*** (0.00578)	0.00735*** (0.00222)	0.00276 (0.00314)
Education	-0.0371** (0.0152)	-0.0507*** (0.0168)	-0.000348 (0.0168)	0.0700*** (0.0229)	-0.0103 (0.00879)	-0.0355*** (0.0124)
Female	0.0472 (0.0359)	-0.0142 (0.0395)	-0.0536 (0.0397)	0.128** (0.0540)	-0.0268 (0.0208)	0.0701** (0.0292)
Married	0.104*** (0.0359)	0.00208 (0.0395)	0.0160 (0.0395)	-0.0533 (0.0539)	0.0339 (0.0208)	0.0755*** (0.0292)
Work_Experience	-0.000726 (0.00364)	-0.00307 (0.00400)	-0.00172 (0.00399)	-0.0116** (0.00545)	0.000227 (0.00210)	0.000642 (0.00296)
Constant	3.964*** (0.110)	4.130*** (0.121)	3.659*** (0.121)	0.734*** (0.188)	3.995*** (0.0723)	3.117*** (0.125)
Observations	6,521	6,521	6,521	6,521	6,521	6,521
Standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						

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