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Know Your Truth In Real-Time

SEM Brief 12: Life Satisfaction

Ana Antolin
Laura Babbitt
Drusilla Brown
Le Dang Trung

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Main Findings: Workers in Better Work factories have greater life satisfaction than their non-Better Work counterparts. Better Work increases life satisfaction by reducing the use of piece rates to calculate workers' pay and workplace stress while increasing workers' overall health and the level of open communication within the factory, including workers' level of comfort speaking up at work.

The amount a worker is paid is not a mediator for life satisfaction, but when holding total pay constant, we find that the greater amount of a worker's pay determined by production bonus, the less satisfied workers are with their life.

These results suggest that workers would prefer better working conditions in the factory than premium pay and pay incentives.

1. Reduced Form

Table 12.1 shows the reduced form treatment effect of Better Work on life satisfaction and its possible explanatory variables. Column 1 suggests that at the baseline, BW workers are more satisfied with their life ($b=0.086$ on a 5-point scale), an effect that more than doubles at the endline ($b=0.189$).

Better Work increases the value of workers' production bonus at the endline. BW workers receive 33% more in bonus pay than other workers.

BW also influences how base pay is calculated. The results in columns 3 and 4 show that BW factories are less likely (14% at the baseline and 16% at the endline) to have workers' pay completely dependent on a piece rate and instead more likely (5% at the baseline and 12% at the endline) to have pay calculated by a combination of a piece rate and hourly pay.

The overall health of workers is higher in BW factories at both the baseline and the endline. In addition, *Work Stress* is a composite variable that captures aspects of worker's physical health, such as dizziness, aches and how often they are injured at worker, and their mental health, including the degree to which they are frustrated at their job and worried about finishing all of their tasks. BW workers have less work stress at the baseline, $b=-0.17$, and the endline, $b=-0.155$.

Open communication is a composite variable measuring the degree to which workers feel that they can receive all necessary information from their supervisors, are comfortable they are

speaking up and resolving conflicts at work and believe that their managers listen to them. BW workers believe that their factories have more open communication, $b=0.088$ at the baseline and $b=0.094$ at the endline.

2. Simultaneous Equation Modeling (SEM)

We consider aspects of pay and other working conditions as predictors of a workers' life satisfaction. The results from the SEM are visually represented in Figure 12.1. Blue arrows represent a significant relationship at the baseline or with a baseline variable. Orange arrows represent a significant relationship between endline variables. Solid lines show a positive relationship while dashed lines represent a negative relationship. Result coefficients are shown in Table 12.2.

A worker's life satisfaction at the baseline is affected by the value of their bonus pay, having a piece rate exclusively determining pay, work stress, and open communication in the factory. Endline satisfaction is increased by having high baseline life satisfaction as well as improved health and lower worker stress.

In our SEM, the treatment effects on life satisfaction are reduced to zero through these mediators. By lowering the use of piece rate and work stress and increasing open communication. Better Work improves life baseline satisfaction, which then affects endline satisfaction. Better Work increases worker health and lowers work stress at the endline, which further increases satisfaction.

Work stress has a compounding effect on life satisfaction. Having low baseline work stress increases baseline satisfaction, which in turn increases endline satisfaction. Additional declines in work stress over time further increase endline satisfaction beyond the effects at the baseline. While there is a compounding effect, the long-term effects diminish over time. The coefficient of endline work stress on endline life satisfaction is the opposite sign, but lower in magnitude, compared to the coefficient of baseline work stress on baseline life satisfaction. This means that the effects of work stress at the baseline are in part counteracted at the endline. This could suggest that workers get used to the level of work stress and over time it has less of an impact on their life satisfaction. However, the statistically significant relationship between endline work

stress and endline satisfaction shows that if there are additional improvements in work stress, life satisfaction will continue to improve.

Workers' pay also affects life satisfaction, but in an unexpected way. A worker's total pay does not affect life satisfaction, instead how pay is determined is important. Interestingly, when controlling for a worker's total take home pay, having a higher bonus reduces life satisfaction. Total pay is determined by the value of the bonus, so when holding pay equal, a higher bonus pay means that a greater amount of a worker's pay is attributed to having a bonus. When letting bonuses vary with total pay, shown in Table 12.3, all significant relationships remain significant except for bonus pay, which suggests that the value of the bonus is not inherently important. Instead having a high proportion of pay coming from bonuses worsens life satisfaction.

Having a piece rate also lowers a worker's satisfaction. The findings on piece rate and bonuses suggest that workers prefer not to have productivity-based pay when holding working conditions constant.

The SEM results give evidence that workers assign a higher value to having good working conditions compared to premium pay. Their life satisfaction is undetermined by total pay and workers do not like incentivized pay. This could be because incentivized pay is a less reliable form of pay where if a worker is for some reason unable to work, they cannot pay. Additionally, we have seen in Brief 9 that incentivized pay reduces work-life balance, which could also hurt life satisfaction. Instead, feeling low stress at work and having open communication increases life satisfaction.

Data Construction

Life Satisfaction 5-point satisfaction scale, 1- Very Unsatisfied to 5- Very Satisfied

I am satisfied with my life.

Work_Week

What days of the week do you usually work?

What time do you begin and end each day you usually work?

monthlywageUSD (natural log)

How often are you paid?

How much did you receive the last time you were paid?

Bonus_Pay_USD (natural log)

Did you receive a production bonus the last time you were paid?

If yes on production bonus: How much was your bonus the last time you were paid?

Piece_Rate, Piece_Time_Combo

Do you get paid by the piece or by time?

Health 6-point scale, 1-Very poor to 6- Excellent

How is your overall health?

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.

Open Communication ($a = 0.6938$) 5-point agree 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.

Express_Thoughts I can express my thoughts and opinions at work.

Conflict_Resolve I am confident that I can effectively resolve conflicts at work.

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

Figure 12.1 SEM Model 1

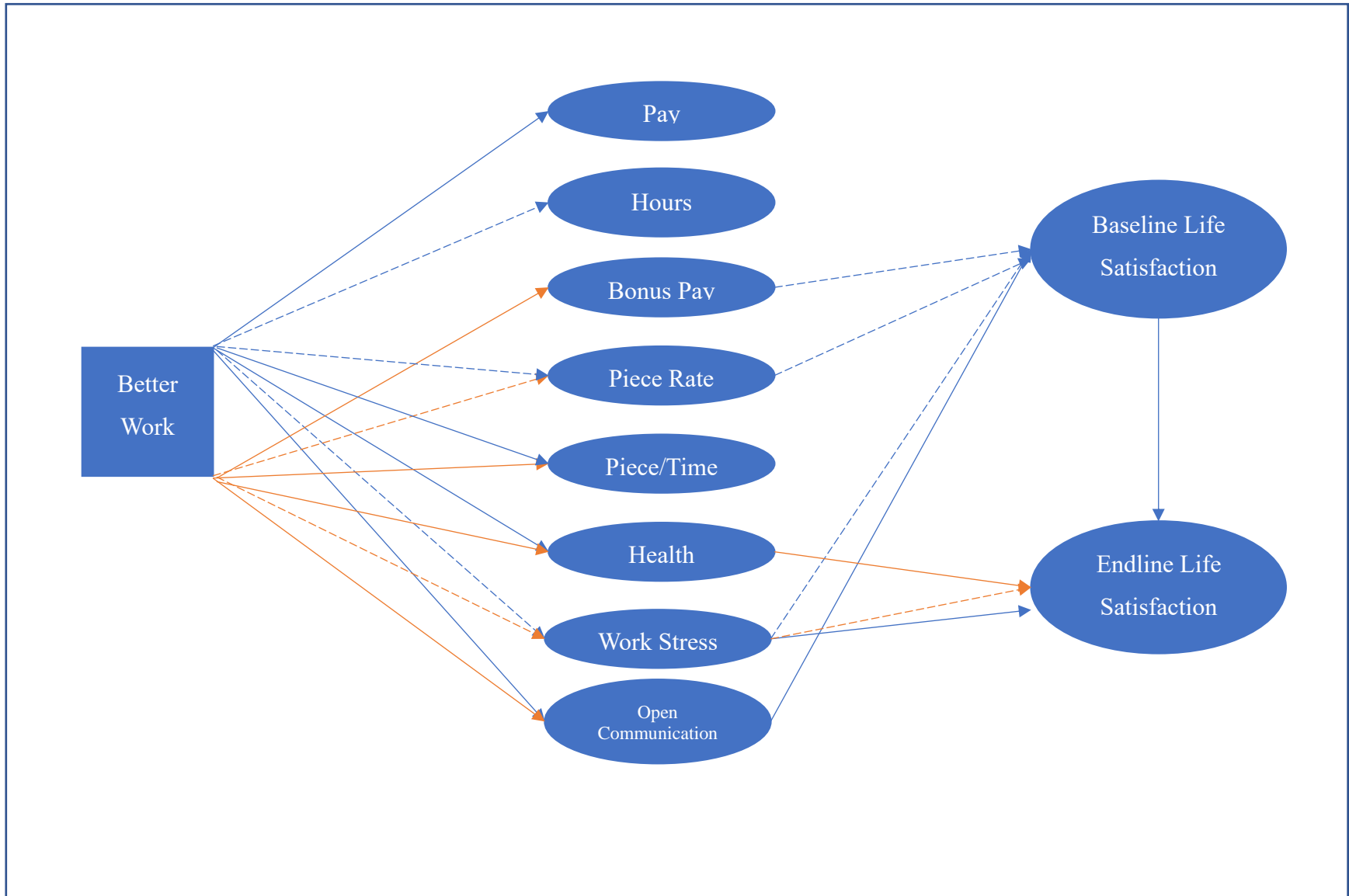


Table 12.1 Reduced Forms

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Life_Satisfaction	lnBonus_PayUSD	Piece_Only	PieceTime_Combo	Health	Work_Stress	Open_communication
<u>Baseline</u>							
bw_factory	0.0860**	0.237	-0.139***	0.0539***	0.0957***	-0.171***	0.0877***
	(0.0417)	(0.227)	(0.0210)	(0.0189)	(0.0350)	(0.0346)	(0.0241)
Constant	3.745***	4.878***	0.311***	0.515***	4.325***	2.026***	3.657***
	(0.165)	(0.968)	(0.0831)	(0.0748)	(0.139)	(0.138)	(0.0959)
Observations	1,660	520	1,662	1,662	1,661	1,631	1,580
R-squared	0.044	0.067	0.143	0.171	0.152	0.043	0.145
<u>Endline</u>							
bw_factory	0.189***	0.329***	-0.155***	0.119***	0.0936**	-0.155***	0.0946***
	(0.0398)	(0.0794)	(0.0205)	(0.0183)	(0.0383)	(0.0355)	(0.0224)
Constant	3.696***	2.722***	0.479***	0.172**	4.086***	1.967***	3.552***
	(0.158)	(0.337)	(0.0813)	(0.0727)	(0.152)	(0.141)	(0.0891)
Observations	1,661	615	1,662	1,662	1,662	1,649	1,643
R-squared	0.102	0.113	0.149	0.142	0.088	0.033	0.125

Demographic and factory controls

Standard errors in parentheses

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

Table 12.2 SEM Model 1

VARIABLES	(1) B_Life_Satisfaction	(2) E_Life_Satisfaction
B_InmonthlywageUSD	0.0660 (0.105)	0.125 (0.157)
E_InmonthlywageUSD		-0.116 (0.135)
B_Work_Week	-0.00229 (0.00579)	0.00259 (0.00731)
E_Work_Week		-0.000550 (0.00239)
B_InBonus_PayUSD	-0.0225* (0.0135)	-0.00411 (0.0181)
E_InBonus_PayUSD		0.0178 (0.0614)
B_Piece_Only	-0.163* (0.0851)	0.0128 (0.135)
E_Piece_Only		-0.0660 (0.136)
B_PieceTime_Combo	-0.100 (0.0901)	-0.0897 (0.127)
E_PieceTime_Combo		-0.0250 (0.124)
B_Health	0.0765 (0.0500)	-0.0318 (0.0713)
E_Health		0.113* (0.0616)
B_Work_Stress	-0.397*** (0.0545)	0.140* (0.0776)
E_Work_Stress		-0.194** (0.0766)
B_Open_communication	0.202** (0.0805)	0.135 (0.118)
E_Open_communication		0.173 (0.117)
B_Life_Satisfaction		0.225*** (0.0590)
bw_factory	0.000631 (0.0693)	0.0207 (0.101)
Constant	3.805*** (0.785)	1.121 (1.287)
Observations	1,662	1,662

Demographic and factory controls

Standard errors in parentheses

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

Table 12.3 SEM Model 2

VARIABLES	(1)	(2)
	B_Life_Satisfaction	E_Life_Satisfaction
B_Work_Week	-0.00232 (0.00579)	0.00250 (0.00732)
E_Work_Week		-0.000258 (0.00237)
B_InBonus_PayUSD	-0.0211 (0.0133)	-0.000653 (0.0178)
E_InBonus_PayUSD		0.0125 (0.0584)
B_Piece_Only	-0.165* (0.0850)	0.0206 (0.135)
E_Piece_Only		-0.0717 (0.135)
B_PieceTime_Combo	-0.0984 (0.0901)	-0.0886 (0.127)
E_PieceTime_Combo		-0.0385 (0.124)
B_Health	0.0737 (0.0498)	-0.0410 (0.0709)
E_Health		0.117* (0.0616)
B_Work_Stress	-0.397*** (0.0545)	0.139* (0.0777)
E_Work_Stress		-0.191** (0.0764)
B_Open_comm2	0.203** (0.0805)	0.136 (0.119)
E_Open_comm2		0.174 (0.118)
B_Life_Satisfaction		0.224*** (0.0590)
bw_factory	0.00788 (0.0684)	0.0467 (0.0982)
Constant	4.137*** (0.582)	1.179 (0.936)
Observations	1,662	1,662

Demographic and factory controls

Standard errors in parentheses

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