Brief: Financial Literacy, Life Goals, and Sexual Harassment

Negin R Toosi
Elyse N. Voegeli
Ana Antolin
Laura G. Babbitt
Drusilla K. Brown

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Women in Factories is an empowerment training program funded by the Walmart Foundation. Within this program is a personal finance module to teach women financial literacy. The module included scenarios, games and practice calculations.

The Tufts University Labor Lab was asked to conduct an impact evaluation of the program involving enrolled factories[1], seven in Bangladesh and seven in India, that had not yet started training. The study was a random control trial (RCT) that took place between January 2015 and January 2017, with four data collections: a baseline, midline, endline and second endline.

This is a summary of findings from the first study in Toosi et. al (2020).

Main Conclusion

Financial literacy training was successful in increasing workers and their families' financial planning through providing skills in budgeting and banking that lasted over time. This, in turn, increased savings behavior. Since this was done without increasing the income of workers, it shows that the training was effective at increasing knowledge that then influenced behavior.

Workers also benefited from training because it reduces the level of pay that is attributable to bonuses, which increases worker's pay certainty, and it increases the extent to which workers understand how to receive a promotion.

The SEM revealed that workers who make plans to reach their life goals are less susceptible to sexual harassment. Training, however, did not move this metric. Ultimately, training did not reduce sexual harassment. There were areas in which training could have been effective, by increasing financial literacy or worker independence, but the causal link broke down.

These findings provide insight into how financial literacy training is effective at improving workers' financial practices outside of work, but that other than improving clarity on pay and promotions in the factory, it has a limited effect on abusive behavior at work.

Reduced Form

Reduced form regressions show us the relationships between training and the variables of interest before considering the channels through which those relationships happen. Treatment immediately increased the extent that workers believe they understand how to be promoted, the likelihood of using a bank (9 percent increase) and the likelihood that the workers' families saved money (16 percent increase). Additionally, immediately following training, the value of productivity bonuses decreased.

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[1] All factories were medium large-sized and privately owned by either Bangladeshi or Indian nationals. Nearly all of the factories were in the apparel sector.

Over time, training continued to increase promotion understanding, use of banks and saving money. Training also eventually increased the frequency workers use a budget. Productivity bonuses also continued to decrease.

There are no observed treatment effects on sexual harassment, total pay, or working hours. It is important to note that while total pay did not change, the that the value of productivity bonus declined means that a smaller fraction of a worker's pay was attributed to a productivity bonus. This improved workers' pay certainty.

Simultaneous Equation Model (SEM)

SEM allows us to look not only at what outcomes financial literacy training effects, but also *how*, or through what channels training is effective. We do so by comparing the estimated relationships with treatment in the reduced form and the SEM to see if the values and significance change. If there is a change of significance or value, the treatment effect on a variable may have been mediated, or partially mediated by another variable.

More broadly, we are also able to look at how variables relate to each other outside of treatment effects. Statistically significant relationships from the SEM are represented in Figure 1.

First, we will focus on the relationship between variables related to financial literacy. We find that understanding how to get a promotion increased the extent to which workers were making a plan to realize life goals. Promotion understanding and plans for life goals together increased the extent to which workers made a budget. Having a budget increased the likelihood that the worker used a bank. Ultimately, the effect on savings was primarily driven by having a budget and using a bank.

Next, we will look at the effect of worker compensation on the system. Having a larger fraction of total pay attributable to a productivity bonus lowered the extent to which a worker's family uses a budget and directly reduces the likelihood of saving. These findings suggest that incentivized pays schemes such as a production bonus may be disruptive to financial practices for workers. The actual amount that workers were paid only affected the extent to which their families used a bank. The higher their income was, the more likely they used a bank.

Interestingly, neither savings nor pay practices affected reports of sexual harassment and sexual talking. Instead, the extent to which workers have a plan to reach life goals reduces sexual harassment.

Now, moving beyond the structure of the system, we discuss the treatment effects of financial literacy training. As in the reduced forms, the degree to which workers understood how to earn a promotion and have a budget improved both immediately and many months after training. The effects on productivity bonuses are not significant in the SEM.

The value of the treatment effect on family use of a budget was relatively unchanged in the SEM which suggests that training had a direct effect on the practice. Neither understanding how to earn and promotion nor having a plan to reach life goals mediated treatment. The variables increased the extent workers believed that having a budget was important but providing direct budgeting skills through training to workers was what actually drove workers to start using a budget.

Similarly, the treatment effect on the likelihood of using a bank was not fully mediated by other variables in the system. The use of a bank increased immediately following training, suggesting that training directly encourages bank usage in the short-run. Interestingly, the long-term treatment effect of using a bank is mediated by workers' families continuing to use a budget. This means that, in the long run, by increasing budgeting, training increased the use of a bank.

Treatment's effect on saving money is fully mediated by the likelihood that workers' families use a budget and use a bank.

Finally, we examine where treatment had the potential to drive down change in sexual harassment, but the causal link broke down. There are two instances in which the causal link broke down, but in different places in the system. (1) While initially theorized that increased financial security through increased savings would reduce sexual harassment by making workers less vulnerable to coercion, the empirical evidence showed no relationship between savings and sexual harassment. Training increased savings, but in a way that did not affect levels of sexual harassment. (2) Making plans to reach life goals did reduce sexual harassment, but treatment was unable to affect planning. Its effect on promotion understanding was not strong enough to in turn affect life goal planning or sexual harassment.

Work Cited

Toosi, N.R., Voegeli, E.N., Antolin, A., Babbitt, L.G. and Brown, D.K. (2020), Do Financial Literacy Training and Clarifying Pay Calculations Reduce Abuse at Work?. Journal of Social Issues. doi:10.1111/josi.12388

Figure 1: *Estimated SEM Financial Literacy*
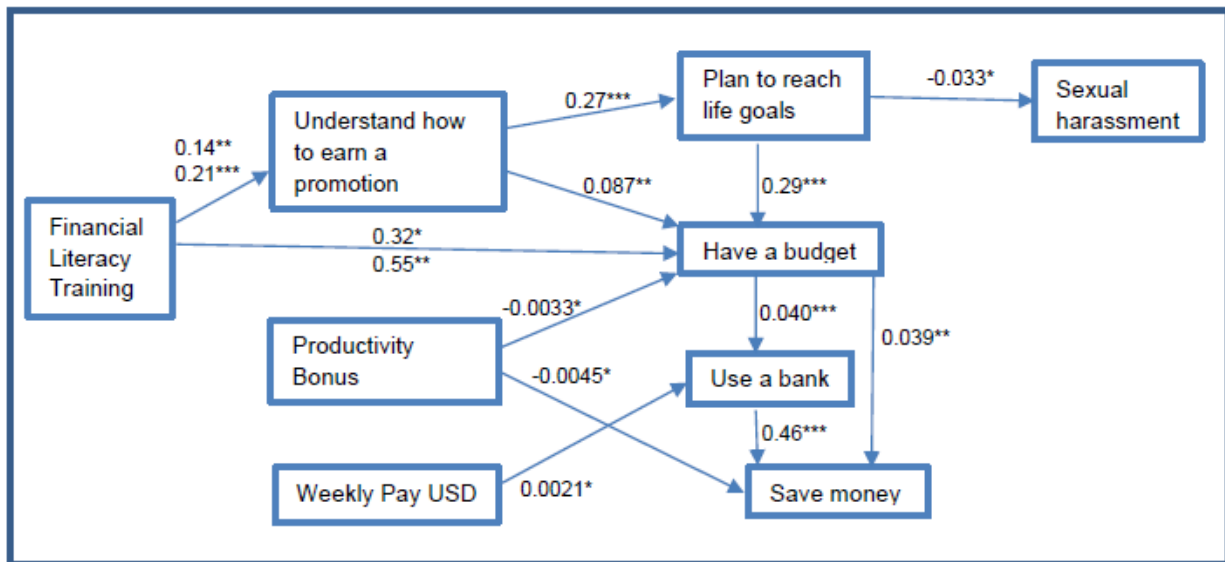
Note. Numbers along the directional arrows are the estimated coefficients. Financial Literacy is the exogenous treatment variable and has two estimated treatment effects, the first for just after treatment and the second for months after treatment.

Variables of Interest

Understand promotion - "I understand how to earn a promotion" [1 (*strongly disagree*) to 5 (*strongly agree*)]
Life goals - "I have a plan for reaching specific life goals," [1 (*strongly disagree*) to 5 (*strongly agree*)]

Financial Literacy Skills
Budget- *"*Do you ever use a budget to plan how to spend your money?" [1 (*never*) to 5 (*always*)]
Use bank - "Do you save any of your money in a bank?" [1 (*yes)* or 0 (*no)*].

Save money- Binary of option 1 for: "During the past month, did your family" [1 (*saved money*), 2 *(spent everything they earned*), 3 (*spent some savings*), or 4 (*had to borrow money*)],
Sexual harassment- "Do any of the supervisors, managers, or other workers ever talk to you or touch you in a sexual way?" [1 (*no, never*) to 4 (*yes, often*)]

Weekly pay USD - Participants were asked how often they were paid, how much money they received the last time they were paid, the days of the week they usually worked and start and stop times on regular workdays. The responses on work hours were used to calculate the number of hours usually worked per week which were used to standardize the questions concerning pay.
Productivity bonus USD- "Did you receive a productivity bonus the last time you were paid?" [0 (*No, I did not receive a productivity bonus*) to 11 (*Yes, more than 3600 INR*)]

Training Measures
Just Trained- dummy variable for workers whose factories had received training just before the current data collection
Trained Long Ago- dummy variable for workers whose factories had had at least one data collection elapse between training and the current data collection

Demographic Controls
Worker marital status
Status as head of household
Work experience
Age
Level of education
Country (Bangladesh or India)

Time Controls
Midline
Endline