

Appendix: Not for publication.

A Additional Results

A.1 P.A.C.E. Program Details

Table A1 presents an overview of the modules included in the P.A.C.E. training program. The program spanned roughly 80 hours of training, but involved additional meetings for review sessions as well as introduction and conclusion sections. The core content sessions covered content regarding communication, problem-solving and decision-making, time and stress management, sanitation and hygiene, financial literacy, general and reproductive health, legal literacy and social entitlements, and execution excellence (focusing on the importance of intrinsic motivation).

The dates spanned by each of the major modules is listed below (note that these dates differed slightly in each factory unit):

- **Communication:** July 7, 2013 to August 23, 2013
- **Problem-solving and decision-making:** August 30, 2013 to November 15, 2013
- **Time and stress management:** November 22, 2013 to January 18, 2014
- **Financial literacy:** February 3, 2014 to February 21, 2014
- **Health:** February 24, 2014 to March 28, 2014
- **Execution excellence:** April 11, 2014 to May 2, 2014
- **Legal literacy and social entitlements:** May 11, 2014 to June 1, 2014
- **Review Sessions:** June 8, 2014 to June 30, 2014
- **Closing Ceremony:** July 7, 2014 to July 31, 2014

A.2 Program Details, Monthly Treatment Impacts, and Additional Results

Tables A2 and A3 present month by month treatment effects on the main outcomes of interest analyzed in the paper. Table A2 present monthly treatment impacts for outcomes presented in Table 2 and and Table A3 for the main outcomes presented in Tables 3 and 4. Table A5 presents estimates of treatment impacts on additional outcomes from the attendance dataset in specifications similar to impacts shown in the main tables. We find no evidence of strong impacts of treatment on presence, unauthorized absence, or tardiness in any of the announcement, during, or after periods. Table A6 presents the monthly treatment effect analogues. We find that there are indeed significant positive impacts on workers being present in the factory and negative impacts on unauthorized absence in the first two months of the training. These effects dissipate quickly though, perhaps reflecting initial enthusiasm for the program more than long-lasting behavioral changes.

Table A1: P.A.C.E. Training Modules and Duration

Module Name	(Non-Exhaustive) Overview of Topics Covered	Aproximate Duration (hours)
Introductory Session	Ice-breaking games, overview of program topics and importance, program background and importance.	5
Communication	Basics and importance of communication, gender dynamics and bairriers in communication, communication in the workplace, home, and community.	9.5
Problem Solving and Decision Making (PSDM)	Basic concepts in PSDM, problem analysis and solution finding, creative thinking for solutions,, problem-solving in groups and accountability, consensus-building at work, home, and in the community.	13
Time and Stress Management	Time management, stress management (including some exercises for stress management), positive thinking	12
Water, Sanitation, and Hygiene (WASH)	Sanitary practices, the importance of clean water to health, rights of access to water	6
Financial Literacy	Importance of savings, financial planning tools, savings options	4.5
General and Reproductive Health	Nutrition, reproductive health, mental and emotional health	10
Legal Literacy and Social Entitlements	Basics of the legal system and structure, womens' legal rights	8.5
Execution Excellence	Important aspects of workplace excellence like attention to quality, teamwork, and timeliness.	5
Two Consolidation Sessions of 90 minutes each	Review sessions	3
Closing Session	Celebratory conclusion of the program	5

Table A2: Monthly Impacts of P.A.C.E. Treatment on Retention, Working, and Person Days

	(1)	(2)	(3)	(4)	(5)	(6)
	Retained 1(Worker Still on <i>Attendance</i> Roster)		Working 1(Worker Retained and Present in Factory Today)		Cumulative Person Days Sum of Days Working for Each Worker to Date	
	<i>Attendance Roster</i>	<i>Payroll Roster</i>	<i>Attendance Roster</i>	<i>Production Data</i>	<i>Attendance Roster</i>	<i>Production Data</i>
Announcement Month X Treatment	0.00416 (0.0136)	0.00476 (0.0153)	0.0136 (0.0138)		0.499 (1.272)	
Treatment Month 1 X Treatment	0.00218 (0.0157)	-0.00171 (0.0171)	0.0244 (0.0157)	0.0936** (0.0383)	0.508 (1.319)	-0.439 (0.820)
Treatment Month 2 X Treatment	0.0224 (0.0174)	0.0182 (0.0184)	0.0365** (0.0176)	0.109*** (0.0339)	0.874 (1.498)	1.215 (1.136)
Treatment Month 3 X Treatment	0.0363* (0.0187)	0.0354* (0.0192)	0.0399** (0.0185)	0.0819** (0.0365)	1.903 (1.725)	2.706** (1.334)
Treatment Month 4 X Treatment	0.0425** (0.0198)	0.0366* (0.0205)	0.0468** (0.0193)	0.0867** (0.0316)	2.586 (2.073)	3.531** (1.578)
Treatment Month 5 X Treatment	0.0630*** (0.0217)	0.0633*** (0.0219)	0.0560** (0.0215)	0.124*** (0.0359)	3.981 (2.485)	4.971** (1.923)
Treatment Month 6 X Treatment	0.0571** (0.0249)	0.0587** (0.0253)	0.0548** (0.0224)	0.110*** (0.0347)	5.415* (2.960)	6.762*** (2.295)
Treatment Month 7 X Treatment	0.0440 (0.0284)	0.0465 (0.0294)	0.0379 (0.0240)	0.111*** (0.0377)	6.921** (3.464)	8.589*** (2.767)
Treatment Month 8 X Treatment	0.0256 (0.0284)	0.0264 (0.0295)	0.0196 (0.0252)	0.0654 (0.0408)	7.666* (4.011)	9.682*** (3.268)
Treatment Month 9 X Treatment	0.0177 (0.0283)	0.0182 (0.0292)	0.0173 (0.0251)	0.0505 (0.0379)	8.028* (4.561)	9.898** (3.781)
Treatment Month 10 X Treatment	0.0104 (0.0286)	0.0123 (0.0295)	0.0127 (0.0237)	0.0779** (0.0372)	8.502 (5.127)	10.58** (4.261)
Treatment Month 11 X Treatment	-0.00244 (0.0287)	-0.00297 (0.0299)	0.00211 (0.0236)	0.0799** (0.0388)	8.621 (5.692)	11.45** (4.655)
Treatment Month 12 X Treatment	-0.00164 (0.0277)	-0.00395 (0.0289)	-0.00260 (0.0242)	0.0577 (0.0369)	8.523 (6.270)	12.16** (5.102)
Post Treatment Month 1 X Treatment	0.00534 (0.0270)	0.00418 (0.0279)	0.00460 (0.0250)	0.0884** (0.0377)	8.403 (6.845)	12.95** (5.570)
Post Treatment Month 2 X Treatment	0.00849 (0.0274)	0.00712 (0.0285)	0.0100 (0.0237)	0.0834** (0.0408)	8.587 (7.383)	14.12** (6.045)
Post Treatment Month 3 X Treatment	0.0105 (0.0269)	0.0101 (0.0277)	0.0142 (0.0239)	0.0691* (0.0388)	8.951 (7.920)	14.89** (6.529)
Post Treatment Month 4 X Treatment	0.00916 (0.0267)	0.00836 (0.0276)	0.00863 (0.0233)	0.0777** (0.0382)	9.105 (8.394)	15.66** (6.995)
Post Treatment Month 5 X Treatment	0.0107 (0.0268)	0.00955 (0.0277)	0.0157 (0.0229)	0.0895** (0.0396)	9.447 (8.905)	16.46** (7.499)
Post Treatment Month 6 X Treatment	0.0103 (0.0266)	0.0125 (0.0274)	0.0130 (0.0226)	0.0872** (0.0395)	9.834 (9.491)	17.86** (7.916)
Post Treatment Month 7 X Treatment	-0.00220 (0.0259)	-0.00220 (0.0259)	-0.00295 (0.0224)	0.0655* (0.0394)	10.03 (9.985)	18.69** (8.392)
Post Treatment Month 8 X Treatment	-0.00333 (0.0210)	-0.00333 (0.0210)	-0.00346 (0.0183)	0.0458 (0.0401)	9.633 (10.72)	19.06** (8.754)
Fixed Effects			Unit X Month X Year, Worker			
Observations	1,433,981	43,141	1,270,871	778,916	1,270,871	778,916
Control Mean of Dependent Variable	0.628	0.656	0.519	0.367	213.7	103.2

Notes: Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1). Standard errors are clustered at the treatment line level. All outcomes are defined for every worker date observation in the data and therefore regressions do not require any weighting.

Table A3: Monthly Impacts of P.A.C.E. Treatment on Productivity, Task Complexity, and Salary

	(1)	(2)	(3)	(4)	(5)
	Efficiency	SAM (Operation Complexity)	Efficiency	SAM (Operation Complexity)	Log(Gross Salary)
	Produced/Target	Standard Allowable Minute	Produced/Target	Standard Allowable Minute	
Announcement Month X Treatment					0.000210 (0.000648)
Treatment Month 1 X Treatment	0.0195 (0.0157)	0.0102 (0.0178)	0.0191 (0.0246)	0.0157 (0.0440)	0.000167 (0.000685)
Treatment Month 2 X Treatment	0.0364 (0.0248)	0.0295 (0.0186)	0.0544 (0.0374)	0.0557 (0.0359)	0.000343 (0.000758)
Treatment Month 3 X Treatment	0.0307 (0.0264)	0.0238 (0.0202)	0.0504 (0.0408)	0.0652** (0.0294)	0.000440 (0.000768)
Treatment Month 4 X Treatment	0.00764 (0.0312)	0.0196 (0.0196)	0.0352 (0.0442)	0.0728** (0.0341)	0.000446 (0.000762)
Treatment Month 5 X Treatment	0.0237 (0.0327)	0.0264 (0.0170)	0.0469 (0.0440)	0.0525* (0.0290)	0.000604 (0.000913)
Treatment Month 6 X Treatment	0.0184 (0.0333)	0.0371** (0.0167)	0.0646 (0.0439)	0.0687*** (0.0261)	0.000572 (0.000930)
Treatment Month 7 X Treatment	0.0446 (0.0353)	0.0420** (0.0186)	0.0902* (0.0496)	0.0586** (0.0272)	0.000780 (0.000903)
Treatment Month 8 X Treatment	0.0225 (0.0322)	0.0444** (0.0192)	0.0806* (0.0441)	0.0781*** (0.0287)	0.000983 (0.000950)
Treatment Month 9 X Treatment	0.0313 (0.0347)	0.0424** (0.0195)	0.101** (0.0471)	0.0797*** (0.0288)	0.000956 (0.000930)
Treatment Month 10 X Treatment	0.0212 (0.0402)	0.0387** (0.0169)	0.0951 (0.0619)	0.0766*** (0.0287)	0.00410 (0.00267)
Treatment Month 11 X Treatment	0.0313 (0.0458)	0.0520*** (0.0168)	0.0903 (0.0609)	0.0884*** (0.0249)	0.00443 (0.00276)
Treatment Month 12 X Treatment	0.0732 (0.0449)	0.0351* (0.0205)	0.105* (0.0564)	0.0583* (0.0303)	0.00466* (0.00279)
Post Treatment Month 1 X Treatment	0.0952* (0.0499)	0.0285 (0.0247)	0.136** (0.0632)	0.0679* (0.0354)	0.00547* (0.00286)
Post Treatment Month 2 X Treatment	0.0985* (0.0519)	0.0499** (0.0208)	0.162** (0.0697)	0.0927*** (0.0267)	0.00495* (0.00289)
Post Treatment Month 3 X Treatment	0.103** (0.0515)	0.0278 (0.0213)	0.137** (0.0687)	0.0845*** (0.0291)	0.00483* (0.00291)
Post Treatment Month 4 X Treatment	0.109** (0.0517)	0.0344 (0.0237)	0.152** (0.0675)	0.0867*** (0.0296)	0.00506* (0.00291)
Post Treatment Month 5 X Treatment	0.118** (0.0568)	0.0472* (0.0244)	0.155** (0.0726)	0.0883*** (0.0289)	0.00554* (0.00296)
Post Treatment Month 6 X Treatment	0.116** (0.0569)	0.0452** (0.0207)	0.153** (0.0713)	0.0877*** (0.0258)	0.00588* (0.00305)
Post Treatment Month 7 X Treatment	0.111* (0.0585)	0.0411* (0.0232)	0.153** (0.0706)	0.0685** (0.0295)	
Post Treatment Month 8 X Treatment	0.111* (0.0607)	0.0333 (0.0224)	0.153** (0.0709)	0.0623** (0.0278)	
Additional Controls	Days on Same Line-Garment, Total Order Size	None	Days on Same Line-Garment, Total Order Size	None	None
Fixed Effects	Unit X Month X Year, Worker X Garment	Unit X Month X Year, Worker	Unit X Month X Year, Worker X Garment	Unit X Month X Year, Worker	Unit X Month X Year, Worker
Weights	Inverse Predicted Probability from Probit of Working on Treatments X Mo-Yr X Baseline Characteristics			None	Inverse Predicted Probability from Probit of Retention
Observations	290,763	290,763	130,187	130,187	28,692
Control Mean of Dependent Variable	0.542	0.565	0.527	0.588	8.771

Notes: Robust standard errors in parentheses (** p<0.01, * p<0.05, + p<0.1). Standard errors are clustered at the treatment line level. Productivity and task complexity are weighted in regressions by the inverse of the predicted probability of working (i.e., not yet attrited and present in the factory with non-missing data) in the sample that day from a probit regression of the working dummy on month by year FE and their interaction with individual and line treatment dummies and baseline variables reported in Table 1. Salary is weighted in the regression analogously but using retained dummy in place of working dummy to construct weights.

Table A4: Impact of P.A.C.E. Treatment on Daily Productivity and Task Complexity at the Production-Line Level

	(1)	(2)
	Efficiency	SAM (Operation Complexity)
	Mean(Produced/Target)	Mean(Standard Allowable Minute)
After X P.A.C.E. Treatment	0.0431* (0.0251)	0.0289* (0.0171)
During X P.A.C.E. Treatment	0.0130 (0.0169)	0.0174 (0.0134)
Additional Controls	Days on Same Garment, Total Order Size	None
Fixed Effects	Unit X Month X Year, Line X Garment	Unit X Month X Year, Line
Observations	81,258	81,258
Control Mean of Dependent Variable	0.513	0.573

Notes: Robust standard errors in parentheses (** p<0.01, * p<0.05, * p<0.1). Standard errors are clustered at the treatment line level.

Table A5: Impacts of P.A.C.E. Treatment on Presence, Unauthorized Absence, and Tardiness

	(1)	(3)	(5)
	Present	Unauthorized Absent	Tardy
	1(Worker Present in Factory Today if Still on Attendance Roster)	1(Worker Absent without Leave Today if Still on Attendance Roster)	1(Worker Arrived Late Today Relative to Other Workers on Line)
After X P.A.C.E. Treatment	0.00545 (0.00833)	-0.00979 (0.00721)	-0.0190 (0.0165)
During X P.A.C.E. Treatment	0.00749 (0.00591)	-0.00712 (0.00581)	-0.00307 (0.0133)
Announced X P.A.C.E.. Treatment	0.00998 (0.0106)	-0.0109 (0.0106)	0.00242 (0.00972)
Fixed Effects	Unit X Month X Year, Worker		
Weights	Inverse Predicted Probability from Probit of Retention on Treatments X Mo-Yr X Baseline Characteristics		
Observations	736,439	736,439	563,624
Control Mean of Dependent Variable	0.893	0.097	0.367

Notes: Robust standard errors in parentheses (** p<0.01, * p<0.05, * p<0.1). Standard errors are clustered at the treatment line level. Observations are weighted in regressions by the inverse of the predicted probability of being retained (i.e., not yet attrited with non-missing data) in the sample that day from a probit regression of the retained dummy on month by year FE and their interaction with individual and line treatment dummies and baseline variables reported in Table 1.

Table A6: Monthly Impacts of P.A.C.E. Treatment on Presence, Unauthorized Absence, and Tardiness

	(1)	(2)	(3)
	Present	Unauthorized Absent	Tardy
	1(Worker Present in Factory Today if Still on Attendance Roster)	1(Worker Absent without Leave Today if Still on Attendance Roster)	1(Worker Arrived Late Today Relative to Other Workers on Line)
Announcement Month X Treatment	0.0101 (0.0106)	-0.0111 (0.0106)	0.00245 (0.00973)
Treatment Month 1 X Treatment	0.0242** (0.0109)	-0.0216* (0.0113)	-0.00792 (0.0121)
Treatment Month 2 X Treatment	0.0179** (0.00871)	-0.0197** (0.00832)	0.00569 (0.0129)
Treatment Month 3 X Treatment	0.00915 (0.00825)	-0.00535 (0.00818)	0.00897 (0.0137)
Treatment Month 4 X Treatment	0.0145 (0.0108)	-0.0158 (0.0109)	-0.00212 (0.0151)
Treatment Month 5 X Treatment	-0.00160 (0.0110)	0.00210 (0.0112)	-0.00106 (0.0172)
Treatment Month 6 X Treatment	0.0143 (0.0138)	-0.0132 (0.0139)	-0.00205 (0.0165)
Treatment Month 7 X Treatment	-0.000614 (0.0156)	-0.00145 (0.0140)	-0.0144 (0.0179)
Treatment Month 8 X Treatment	-0.0142 (0.0130)	0.0197 (0.0119)	-0.00922 (0.0196)
Treatment Month 9 X Treatment	0.00128 (0.0135)	0.00402 (0.0115)	-0.00602 (0.0197)
Treatment Month 10 X Treatment	0.00175 (0.0124)	-0.00753 (0.0104)	0.00261 (0.0213)
Treatment Month 11 X Treatment	0.00755 (0.0121)	-0.00695 (0.0113)	-0.00588 (0.0228)
Treatment Month 12 X Treatment	8.24e-05 (0.0161)	-0.00491 (0.0147)	-0.00954 (0.0190)
Post Treatment Month 1 X Treatment	-0.00298 (0.0151)	-0.00281 (0.0130)	-0.0181 (0.0175)
Post Treatment Month 2 X Treatment	0.00724 (0.0109)	-0.00863 (0.0104)	-0.0242 (0.0193)
Post Treatment Month 3 X Treatment	0.00868 (0.00983)	-0.0129 (0.00797)	-0.0194 (0.0204)
Post Treatment Month 4 X Treatment	0.00656 (0.0146)	-0.00533 (0.0127)	-0.00664 (0.0217)
Post Treatment Month 5 X Treatment	0.0212 (0.0155)	-0.0251 (0.0153)	-0.0174 (0.0175)
Post Treatment Month 6 X Treatment	0.000388 (0.0135)	-0.00403 (0.0116)	-0.0304 (0.0214)
Post Treatment Month 7 X Treatment	-0.0119 (0.0161)	-0.00420 (0.0116)	-0.0286 (0.0230)
Post Treatment Month 8 X Treatment	-9.74e-05 (0.0175)	-0.00233 (0.0144)	-0.0119 (0.0249)
Fixed Effects		Unit X Month X Year, Worker	
Weights	Inverse Predicted Probability from Probit of Retention on Treatments X Mo-Yr X Baseline Characteristics		
Observations	736,439	736,439	563,624
Control Mean of Dependent Variable	0.893	0.0966	0.367

Notes: Robust standard errors in parentheses (***) p<0.01, ** p<0.05, * p<0.1). Standard errors are clustered at the treatment line level. Observations are weighted in regressions by the inverse of the predicted probability of being retained (i.e., not yet attrited with non-missing data) in the sample that day from a probit regression of the retained dummy on month by year FE and their interaction with individual and line treatment dummies and baseline variables reported in Table 1.

Table A7: Robustness to Corrections for Multiple Hypothesis Testing (Anderson, 2008)

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Retention and Worker Presence						
	Retained		Working		Cumulative Person Days	
	<i>Attendance Roster</i>	<i>Payroll Roster</i>	<i>Attendance Roster</i>	<i>Production Data</i>	<i>Attendance Roster</i>	<i>Production Data</i>
After X P.A.C.E. Treatment	0.0062 (0.81)	0.00865 (0.75)	0.00743 (0.81)	0.0761* (0.07)	9.25 (0.81)	16.20* (0.07)
During X P.A.C.E. Treatment	0.0264 (0.22)	0.0256 (0.25)	0.0285 (0.21)	0.0870** (0.02)	5.360 (0.21)	6.833** (0.02)
Announced X P.A.C.E. Treatment	0.00416 (0.76)	0.00476 (0.75)	0.0136 (0.76)		0.501 (0.76)	
Panel B: Productivity						
	Efficiency	SAM (Operation Complexity)				
After X P.A.C.E. Treatment	0.108** (0.049)	0.0384** (0.049)				
During X P.A.C.E. Treatment	0.03 (0.27)	0.0334** (0.05)				
Panel C: Workplace Survey Outcomes						
	Expect Promotion Next 6 Mos	Skill Development Training	Production Award or Incentive	Peer Self-Assessment	Line Co-Worker Self-Assessment	
P.A.C.E. Treatment	0.0871* (0.095)	0.158*** (0.006)	0.0293 (0.15)	0.122 (0.105)	0.0645 (0.37)	
Panel D: Financial Behaviors and Attitudes						
	Saving for Education	Saving for Other Reasons	Risk and Time Preference Index	Insurance	Informal Borrow or Lend	
P.A.C.E. Treatment	0.0804* (0.06)	-0.0465 (0.21)	0.166 (0.12)	-0.0984 (0.30)	0.0637 (0.12)	
Panel E: Government and Firm Entitlements						
	Gov. Pension	Gov. Subsidized Healthcare	Other Gov. Subsidy	Firm Entitlements	Community Self Help Group	
P.A.C.E. Treatment	0.0248 (0.20)	0.0226* (0.09)	0.0119 (0.70)	-0.0257 (0.58)	-0.0270 (0.58)	
Panel F: Personality						
	Conscientiousness	Locus of Control	Perserverance	Extraversion	Self-Sufficiency	
P.A.C.E. Treatment	0.0210 (0.76)	0.0307 (0.78)	-0.123 (0.29)	0.164 (0.108)	0.0445 (0.78)	
Panel G: Mental Health and Aspirations						
	Self-Esteem	Hope/Optimism	Moderate Distress	Child's Expected Age at Marriage	Child Educated Beyond College	
P.A.C.E. Treatment	-0.172 (0.27)	-0.0621 (0.56)	-0.0422 (0.47)	0.0456 (0.78)	0.0885** (0.01)	

Notes: p-values adjusted for multiple hypothesis testing, q-values (false discovery rates) in parentheses (** q<0.01, * q<0.05, * q<0.1). Standard errors are clustered at the treatment line level. The methodology from Anderson (2008) was used to correct for multiple hypothesis testing. Specifications are otherwise identical to analogous regressions in main results tables. For conciseness, weights, fixed effects, and controls are not mentioned here, but are included in regressions where noted in analogous main tables. Similarly, observations and control means of dependent variables are omitted as well, but identical to those from main tables. For the first panel, all three outcomes (retention, working, and cumulative man days) from the attendance data is treated as one set of outcomes, and the retention information from the salary data and working and cumulative person days information from the production data together as another set of outcomes.

A.3 Correction for Multiple Hypothesis Testing

In Table A7, we re-estimate the direct impacts of the P.A.C.E program on the main outcomes, correcting for multiple hypothesis testing. The regression specifications are identical to the analogous regressions in the main tables; however, in place of standard errors, we report (corrected) q-values (false discovery rates) in parentheses in this table. Each panel of the table corresponds to a set of hypothesis - for instance, we test all the productivity outcomes (efficiency and operation complexity) as one set of hypotheses, all workplace survey outcomes as another set of hypotheses, and so on. To correct the p-values for multiple hypothesis testing, we follow Anderson (2008) who recommends using the methodology of Benjamini and Hochberg (1995). This method controls the False Discovery Rate (FDR) at level q when there are M hypothesis to be tested (say H_1, \dots, H_M), by sorting the corresponding p-values in increasing order ($p_1 < \dots < p_M$), and rejecting c hypotheses such that c is the largest w where $p_w < (qw/M)$.²⁵

Overall, the significance of the main results is preserved for the set of workplace outcomes, albeit less so with the non-workplace survey outcomes. The retention and productivity impacts exhibit almost no differences in significance in Panels A and B, respectively, when the corrections for multiple hypothesis are done.²⁶ Workplace survey outcomes in Panel C and government and firm entitlements in Panel E also show very similar significance to the main results. Outcomes in Panels D, E and F show small increases in p-values (or q-values). For example, in the set of measures related to financial behaviors and attitudes, the positive impact on savings for children's education is significant at the 10% level in Table A7, and at the 5% level in Table 5; while, the set of personality outcomes produces a marginally insignificant positive impact of P.A.C.E. on extraversion with p-value of .108 after the correction is applied, as compared to an estimate that was significant at the 5% level in the main results. As in the uncorrected regressions, there are no statistically significant impacts on mental health, but the impact on aspirations for one's childrens' education remains positive and strongly statistically significant.

²⁵To implement this procedure, we use the Stata code available here: https://are.berkeley.edu/~mlanderson/ARE_Website/Research.html

²⁶We report working and person day outcomes from the attendance dataset only for brevity, but similar equivalence is obtained when analyzing production data analogues.

Table A8: Spillovers on Co-Workers (Financial Behaviors, Personality, and Mental Health)

	(1)	(2)	(3)	(4)	(5)
Panel A: Financial Behaviors and Attitudes	Saving for Education	Saving for Other Reasons	Risk Preference Index	Time Preference Index	Insurance or Informal Risk-Sharing
Spillover	0.102** (0.0390)	-0.0256 (0.0423)	0.104 (0.106)	-0.0822 (0.0998)	0.0542 (0.0453)
Control Group Mean of Dependent Variable	0.265	0.272	-0.052	0.019	0.628
Panel B: Government and Firm Entitlements	Gov. Pension	Gov. Subsidized Healthcare	Other Gov. Subsidy	Firm Entitlements	Community Self Help Group
Spillover	0.00358 (0.0155)	0.0328** (0.0145)	0.00780 (0.0339)	-0.00137 (0.0265)	0.0402 (0.0301)
Control Group Mean of Dependent Variable	0.039	0.006	0.120	0.142	0.152
Panel C: Personality	Conscientiousness	Locus of Control	Perserverance	Extraversion	Self-Sufficiency
Spillover	-0.0248 (0.0882)	0.0745 (0.0884)	-0.223** (0.0915)	0.101 (0.0862)	0.0566 (0.0978)
Control Group Mean of Dependent Variable	-0.047	-0.040	0.020	-0.071	-0.063
Panel D: Mental Health and Aspirations	Self-Esteem	Hope/Optimism	Moderate Distress	Child's Expected Age at Marriage	Child Educated Beyond College
Spillover	-0.211** (0.102)	-0.120 (0.100)	0.00666 (0.0321)	-0.00430 (0.210)	0.0338 (0.0373)
Control Group Mean of Dependent Variable	0.048	0.015	0.094	23.427	0.117
Fixed Effects	Unit, Education, Age, Tenure				
Weighted	Inverse Predicted Probability from Probit of Retention on Treatments X Baseline Characteristics				
Observations	527	527	527	527	527

Notes: Robust standard errors in parentheses (** p<0.01, * p<0.05, * p<0.1). Standard errors are clustered at the treatment line level. Observations are weighted in regressions by the inverse of the predicted probability of being retained (i.e., not yet attrited with non-missing data) in the sample that day from a probit regression in the attendance roster of the retained dummy on month by year FE and their interaction with individual and line treatment dummies and baseline variables reported in Table 1. Controls include demographic baseline variables from Table 1 (i.e., dummies for education levels, dummies for deciles of age distribution, and dummies for tenure in integer years).

A.4 Balance Tests by Baseline Characteristics at Different Points During and Post-Treatment

Table A9: Summary Statistics: Balance Checks for Baseline Characteristics at Different Points in Time

	(1)		(2)		(3)	
	One Month Post Treatment (July 2014)					
	Control		Treated		Difference	
<i>P.A.C.E. Treatment</i>	Control Workers in Control Lines		Treated Workers in Treatment Lines			
Number of workers	344		494			
	Mean	SD	Mean	SD	Mean Difference	p value
Attendance Rate (Jan-May 2013)	0.915	0.075	0.918	0.074	-0.003	0.56
1(High Education)	0.573	0.517	0.580	0.506	-0.007	0.84
Years of Tenure	1.760	2.115	1.569	1.738	0.191	0.17
Age	30.006	12.341	28.788	10.748	1.218	0.14
1(Speaks Kannada)	0.721	1.045	0.691	0.799	0.030	0.65
High Skill Grade	0.581	0.696	0.640	0.598	-0.059	0.20
log(Salary) (May 2013)	8.770	0.160	8.756	0.140	0.014	0.19
Efficiency (Announcement Month)	0.593	0.418	0.562	0.312	0.031	0.27
SAM (Announcement Month)	0.641	0.531	0.630	0.412	0.011	0.75
	Last Month of Data Collection (February 2015)					
	Control		Treated		Difference	
<i>P.A.C.E. Treatment</i>	Control Workers in Control Lines		Treated Workers in Treatment Lines			
Number of workers	263		373			
	Mean	SD	Mean	SD	Mean Difference	p value
Attendance Rate (Jan-May 2013)	0.914	0.071	0.918	0.071	-0.004	0.49
1(High Education)	0.540	0.559	0.552	0.529	-0.012	0.78
Years of Tenure	1.694	1.860	1.652	1.564	0.042	0.76
Age	30.156	8.634	29.402	8.594	0.754	0.28
1(Speaks Kannada)	0.738	0.896	0.713	0.704	0.025	0.71
High Skill Grade	0.570	0.645	0.614	0.571	-0.044	0.38
log(Salary) (May 2013)	8.775	0.170	8.763	0.148	0.013	0.34
Efficiency (Announcement Month)	0.598	0.362	0.565	0.276	0.033	0.23
SAM (Announcement Month)	0.653	0.493	0.631	0.394	0.022	0.57

Notes: Tests of differences calculated using errors clustered at the line level according to the experimental design.

A.5 Heterogeneous Retention by Distributions of Baseline Characteristics

Figures A1 through A6 plot estimates and standard errors of treatment effects on retention for each period (i.e., announced, during, after) at equally spaced points along the distribution of baseline balance variables. These plots are meant to explore the possibility that retention, and therefore sample composition for subsequent outcomes such as productivity, are heterogeneous across the distribution of baseline characteristics of workers. If this were the case, we might be concerned that the current weighting procedure used in the empirical analysis in this paper is insufficient in addressing sample selection bias over time in the sample in that these weights correct only for differences in mean values of these variables across retained treatment and control workers for each month of observation. We find no evidence at all of differential retention along the distribution of any of these baseline characteristics at any point in the observation period. This provides strong support of the sufficiency (at a maximum) of the current weighting procedure used in the analysis.

Figure A1: Retention Impacts by Baseline Attendance

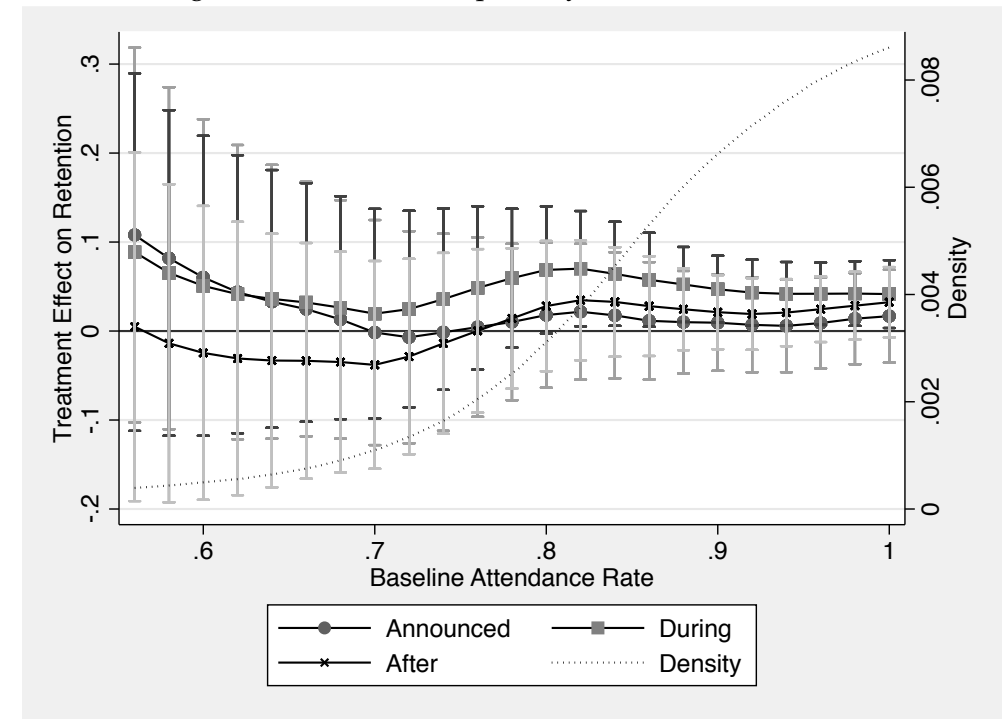


Figure A1 depicts impacts of P.A.C.E. treatment on retention along the distribution of baseline attendance.

Figure A2: Retention Impacts by Baseline Tenure

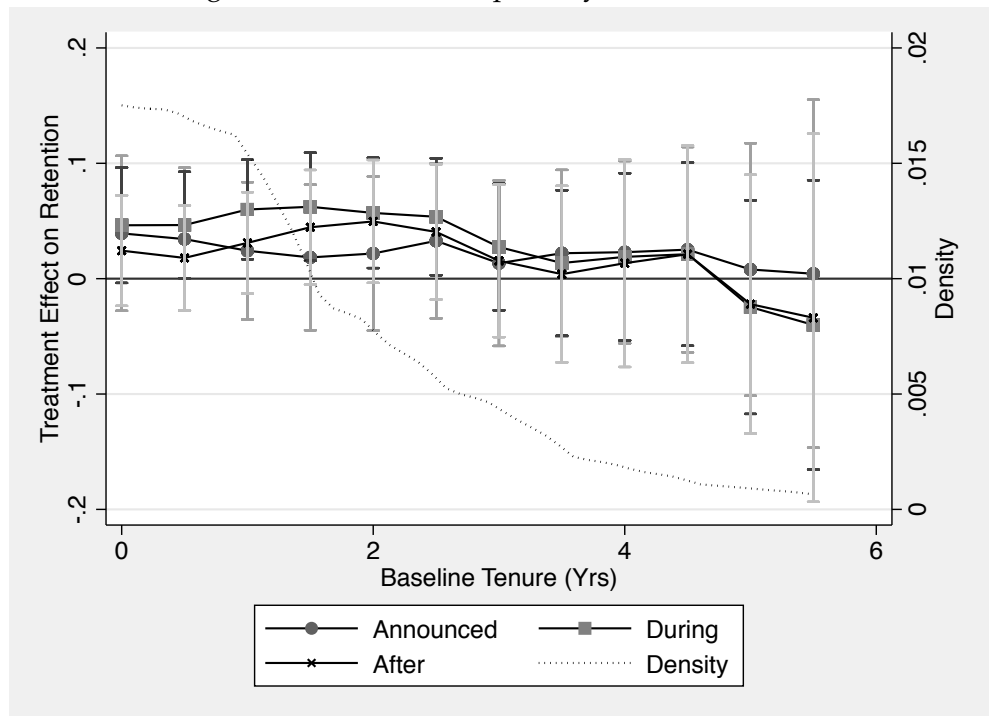


Figure A2 depicts impacts of P.A.C.E. treatment on retention along the distribution of tenure at baseline.

Figure A3: Retention Impacts by Baseline Skill Level

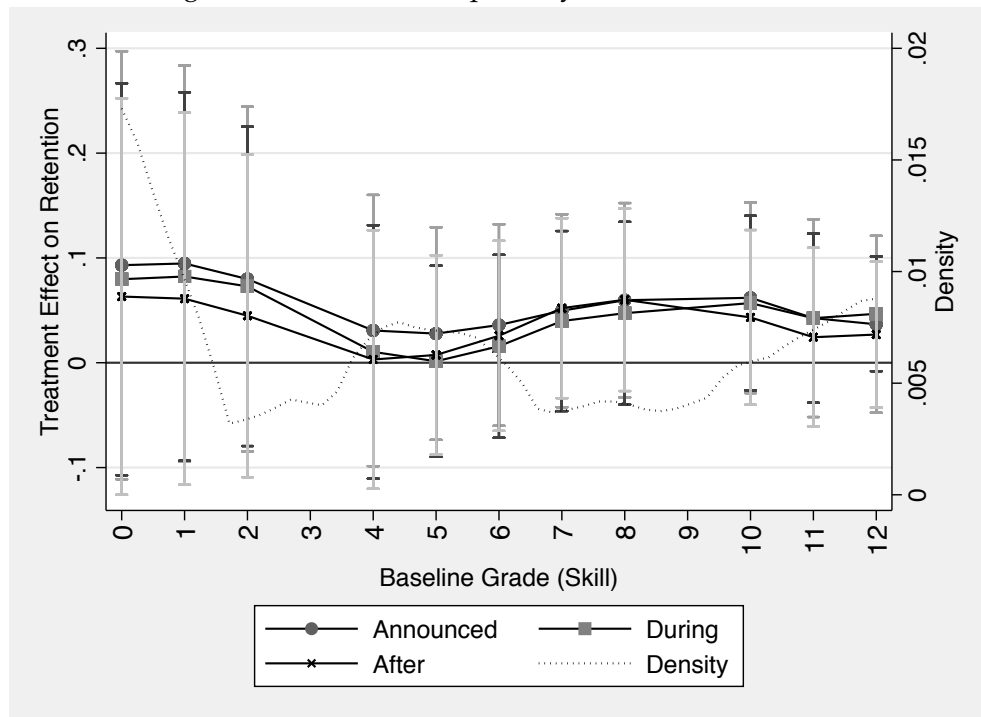


Figure A3 depicts impacts of P.A.C.E. treatment on retention along the distribution of skill grade at baseline.

Figure A4: Retention Impacts by Baseline Education

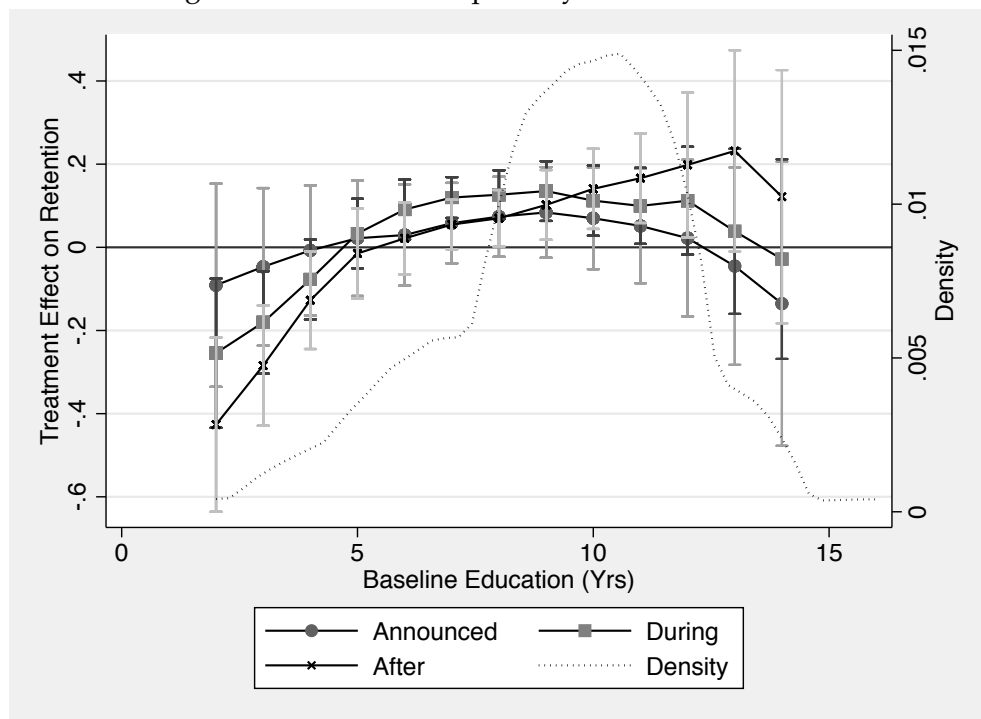


Figure A4 depicts impacts of P.A.C.E. treatment on retention along the distribution of education at baseline.

Figure A5: Retention Impacts by Baseline Age

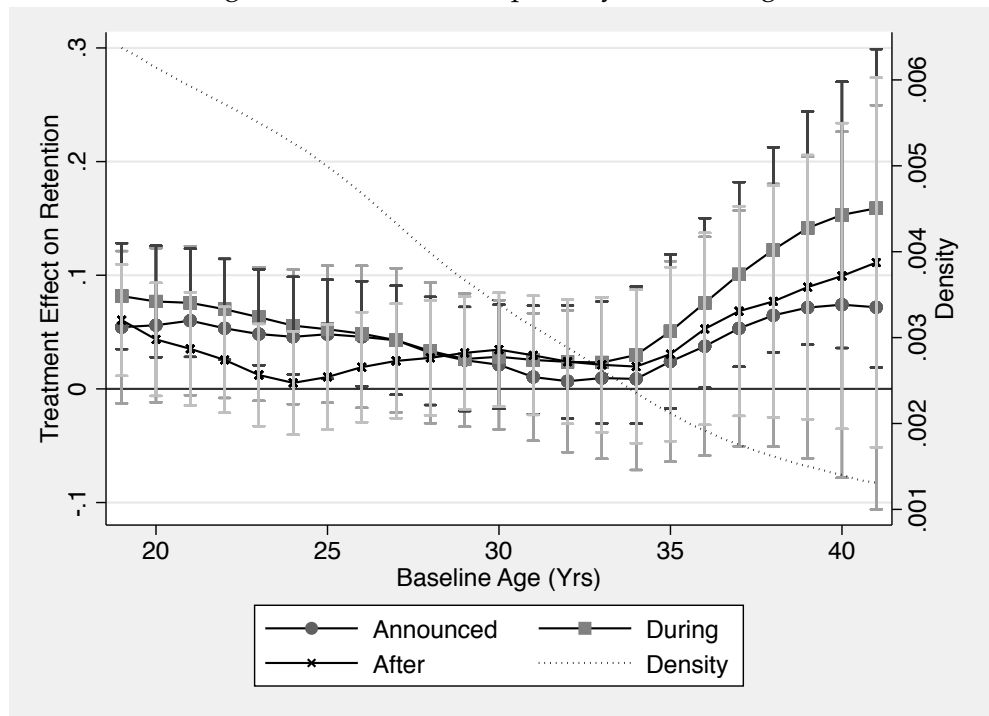


Figure A5 depicts impacts of P.A.C.E. treatment on retention along the distribution of age at baseline.

Figure A6: Retention Impacts by Baseline Efficiency

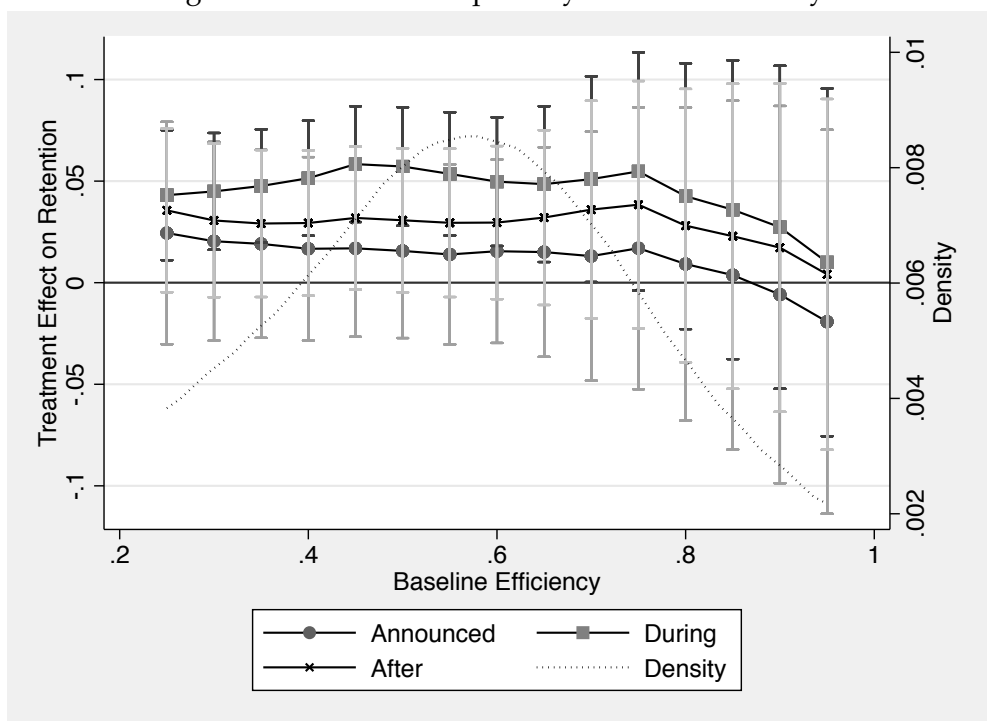


Figure A6 depicts impacts of P.A.C.E. treatment on retention along the distribution of efficiency at baseline.

A.6 Additional Figures of Raw Data

Figure A7: Raw Retention

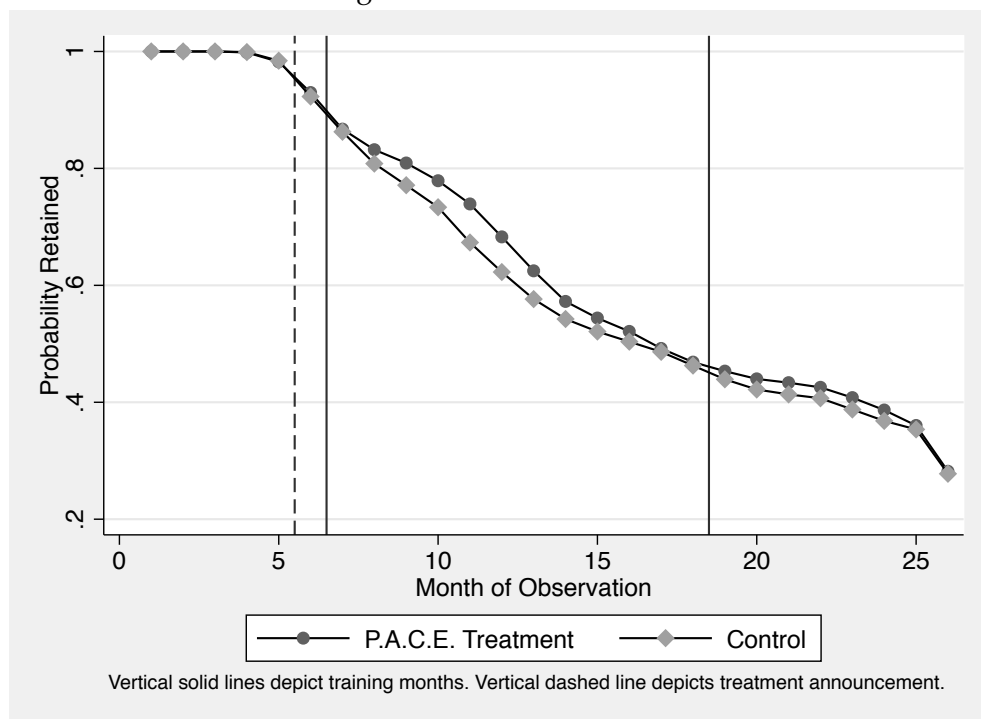


Figure A7 in the Appendix depicts raw retention data from the attendance roster across P.A.C.E treatment and control groups over the full observation period. Figures using payroll roster data instead of attendance data look nearly identical. Accordingly, these are not presented, but are also available upon request. Table 2, however, does present analogous regression results from all of these alternative samples. Figure 2 in the main results depicts coefficients of monthly impacts from the corresponding preferred regression specification.

Figure A7 shows raw retention data for both treatment and control groups over the observation period with training months denoted. The dashed vertical line in the Figure denotes the announcement of assignment to treatment and the vertical solid lines depict the program window. Since the sampling of retention data started in month 4 of the denoted timeline, retention is mechanically equal to 1 in the first four months.

Figure A8 shows raw data on the binary variable for working for both treatment and control groups over the observation period (with the treatment announcement period indicated again by the vertical dashed line and the program training window by vertical solid lines). Figure A9 shows raw data for person days which is the cumulative running sum of the working variable for both treatment and control.

Figure A10 depicts the comparison of monthly impact coefficients between the full sample of workers (from a weighted regression) and the subsample of only retained workers. We cannot reject that each of the monthly coefficients is the same across the two regressions. Note we do not present raw data figures for production since raw data comparisons do not depict clear, easily interpreted patterns without properly accounting for style and operation complexity. However, we do present figures of

Figure A8: Raw Working

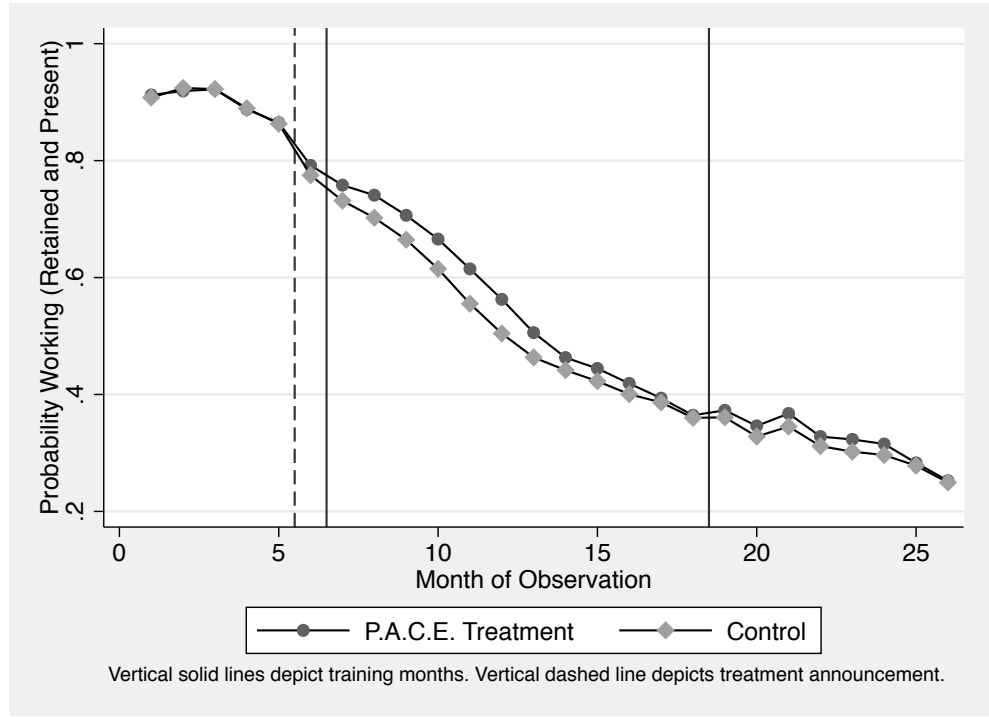


Figure A8 depicts raw presence data from the attendance roster across P.A.C.E treatment and control groups over the full observation period. Figure 3 in the main results of the paper plots coefficients of monthly impacts from the preferred regression specification. The corresponding full results are reported in Table A2 in the Appendix.

raw data on operation complexity (SAM) over time in Figure A11. Figure A12 plots average attendance in the training sessions, conditional on retention. Attendance is quite high, consistent with the large changes in stock of skills shown in Figures 8A and 8B.

Figure A9: Raw Person Days

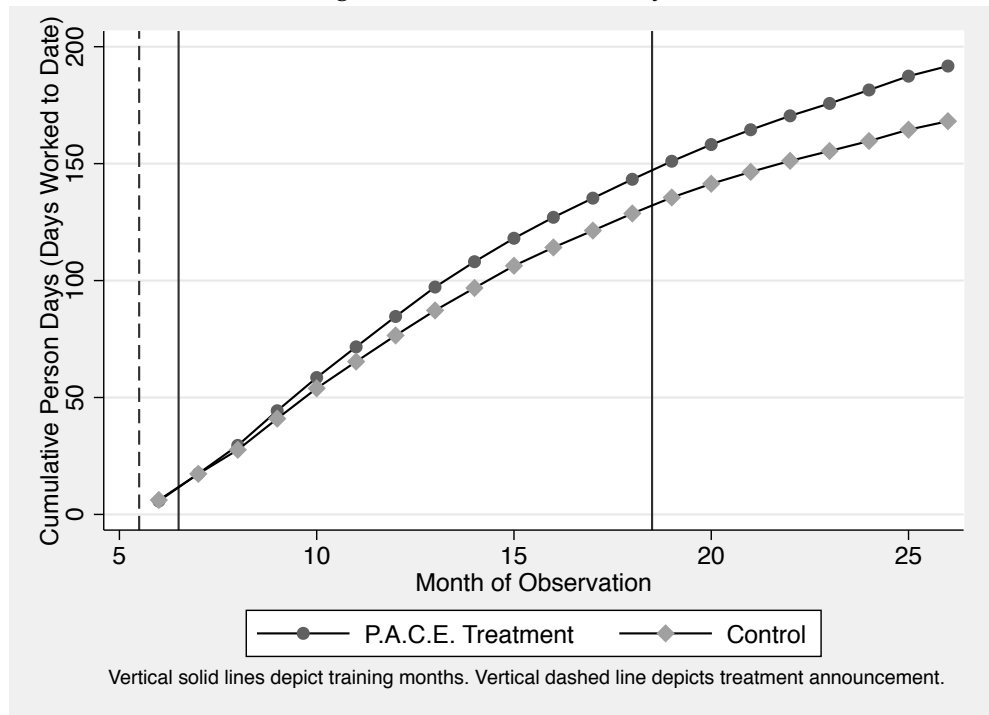


Figure A9 depicts raw person days data from the production data across P.A.C.E treatment and control groups over the full observation period. Figure 4 in the main results plots coefficients of monthly impacts from the preferred regression specification on the production data.

Figure A10: Efficiency (All vs. Retained Comparison)

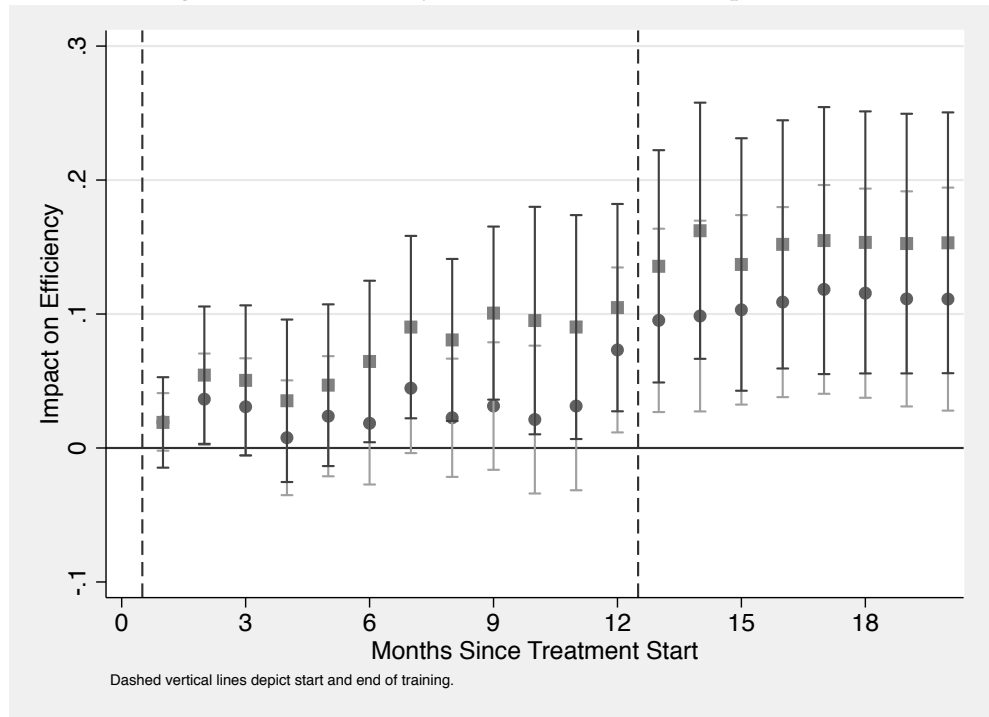


Figure A10 depicts the comparison between monthly impacts on efficiency for all workers (depicted in Figure 5A in the main results above) and the subsample of retained workers only (depicted in Figure 5B in the main results above). The intervals depicted are for 83% confidence, such that overlap in the intervals represents an inability to reject that the coefficients are the same at the 5% level of significance.

Figure A11: Raw SAM

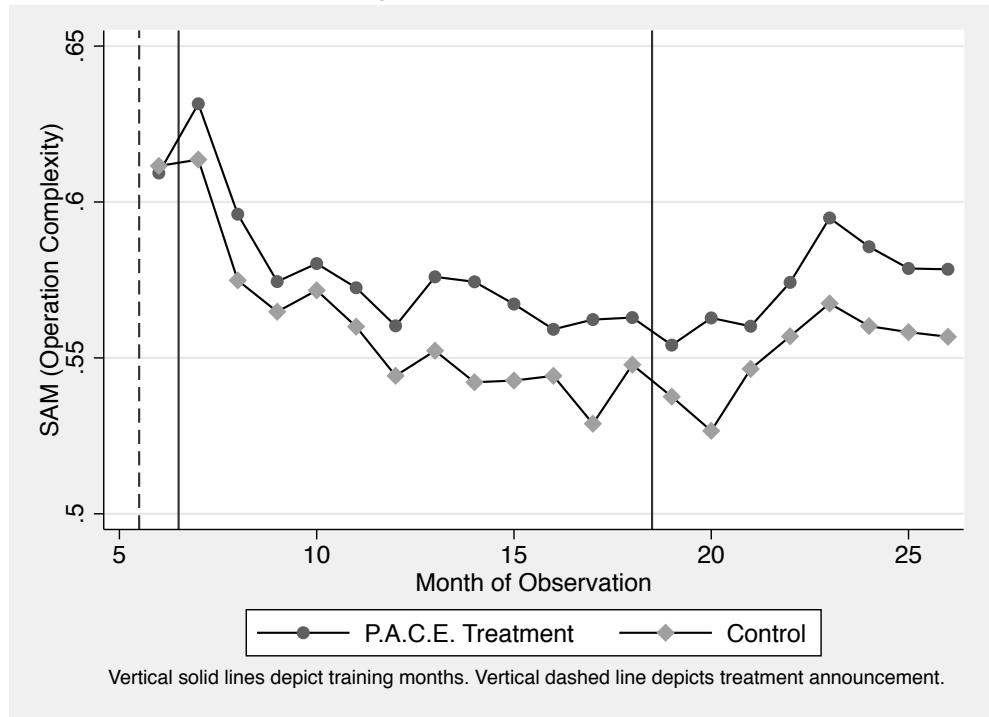


Figure A11 depicts raw SAM (or standard allowable minute per operation-piece) from the production data across P.A.C.E treatment and control groups over the full observation period (June 1, 2013 onwards in the production data). Figure 6A in the main results depicts coefficients of monthly impacts from the preferred regression specification for all workers.

Figure A12: Training Attendance Rates

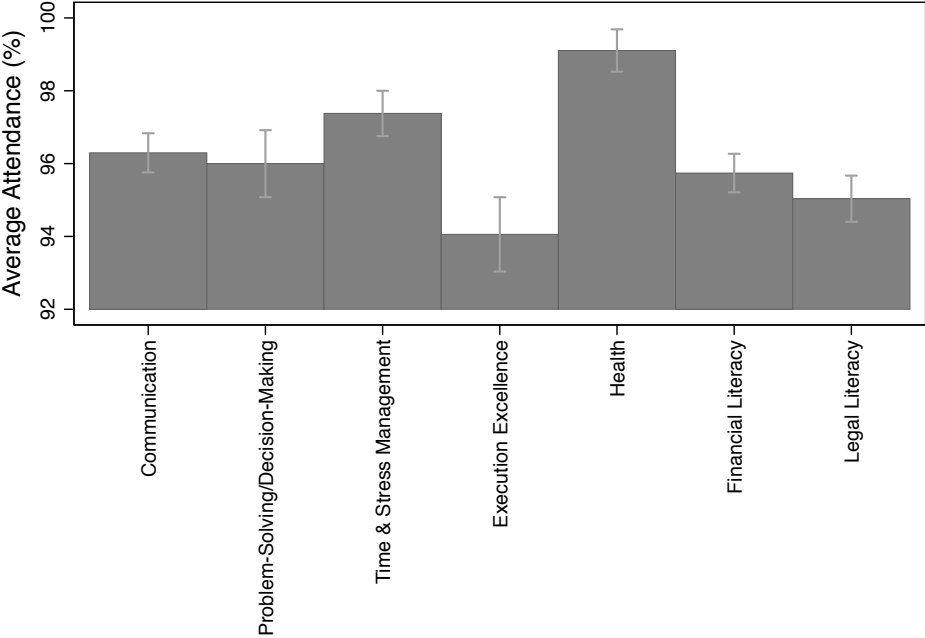


Figure A12 shows average session attendance rates by training module.

B Data Appendix

B.1 Retention

- *1(Worker Still on Attendance Roster)*: This variable is defined for each worker i for day d of month m and year y . It is an indicator variable that is 1 if the worker i is either present in the attendance data on day d of month m and year y , or is present at a future date, and 0 if the worker stopped being observed in the attendance data beginning day d of month m and year y , or any date before.
- *1(Worker Still on Payroll Roster)*: This variable is defined for each worker i for month m and year y . An indicator variable that is 1 if the worker i is either present in the payroll data of month m and year y , or is present at a future date, and 0 if the worker stopped being observed in the payroll data beginning month m and year y , or any date before.

B.2 Presence, Unauthorized Absence and Tardiness

- *Presence*: An indicator variable that is 1 if the worker i is present at work on day d of month m and year y , and 0 otherwise. It is missing if the worker has left the factory i.e. it is conditional on retention.
- *Unauthorized Absence*: An indicator variable that is 1 if the worker i is absent at work, and the absence is not authorized on day d of month m and year y , and 0 if either the worker is present at work or has taken authorized leave. It is missing if the worker has left the factory i.e. it is conditional on retention.
- *Tardy*: An indicator variable that is 1 if the worker i came to the factory later than the modal worker on their production line, and 0 if they came on time. It is missing if the worker has left the factory or is not present at work that day.

B.3 Working and Cumulative Man Days

- *Working*: An indicator variable that is 1 if the worker is retained and present in the factory on day d of month m and year y , and 0 otherwise (if the worker has left the factory, or is not present that day). It is thus a combination of retention and attendance, and is not conditional on retention i.e. it is not missing for workers who have left the factory.
- *Cumulative Man Days*: This measures cumulative man days that accrue to the factory from a particular worker, as measured by the cumulative sum of the variable Working. As with Working, it is not conditional on retention.

B.4 Productivity and other Production Variables

- *Standard Allowable Minutes (SAM)*: This is a measure of how many minutes a particular garment style should be completed in. For instance, a garment style with a SAM of .5 is deemed to take a half minute to produce one complete garment. It is a standardized measure across the global

garment industry and is drawn from an industrial engineering database, although it might be amended to account for stylistic variations from the representative garment style in the database.

- *Target Quantity*: The target quantity for a given unit of time for a line producing a particular style is calculated as the unit of time in minutes divided by the SAM. That is, the target quantity to be produced by a line in an hour for a style with a SAM of .5 will be $\frac{60}{0.5} = 120$ garments per hour.
- *Efficiency*: $\left(\frac{\text{Number of garments produced}}{\text{Number of target garments}} \right) * 100$ at the hourly level (per worker or per line depending on the regression specification). Line-level number efficiency in a given hour is the mean of worker-level efficiency in that hour.

B.5 Career Advancement

B.5.1 Firm's Administrative Data

This variable varies at the monthly level for each worker.

- *Log(Gross Salary)*: Denotes the natural log of all salaried components of wages (excluding production bonuses which are earned at the line level and paid out through a separate system). Computed from the firm's payroll data.

B.5.2 Worker Survey Data

These are self-reported measures by the worker during the worker survey implemented after treatment. They vary cross-sectionally at the worker-level.

- *Expect Promotion Next 6 Months*: An indicator variable that is 1 if the worker reported that they expect to be promoted in the next 6 months, and 0 otherwise.
- *Skill Development Training*: An indicator variable that is 1 if the worker reported that they requested skill development training some time in the previous 6 months, and 0 otherwise.
- *Production Award Or Incentive*: An indicator variable that is 1 if the worker reports that they received a production incentive bonus any time in the previous 6 months, and 0 otherwise.
- *Peer Self-Assessment*: Workers were requested to imagine a 6-step ladder on which workers on their production line that were the same skill-level as them stood according to their ability, where the worst workers were on the first rung, and the best on the 6th rung. Workers were then asked which rung they believed they should be on.
- *Line Co-Worker Self-Assessment*: Workers were requested to imagine a 6-step ladder on which all the workers on their production line stood according to their ability, where the worst workers were on the first rung, and the best on the 6th rung. Workers were then asked which rung they believed they should be on.

B.6 Other Survey Variables

Like the other variables that were collected during the worker survey implemented after treatment, these variables are self-reported (by the worker), and vary cross-sectionally at the worker-level.

B.6.1 Financial Behaviors and Attitudes

- *1(Any Saving)*: An indicator variable that takes the value 1 if the worker reports having any savings, and 0 otherwise.
- *Saving for Children's Education*: An indicator variable that takes the value 1 if the worker reports having saved any money for children's education, and 0 otherwise.
- *Risk Aversion Index*: Risk aversion was measured from a set of proposed choices between a deterministic amount and a gamble. The questions content is the same as those in the Indonesian Family Life Survey (IFLS), with the amounts under consideration changed to reflect the local context and currency. For instance, a representative question was:

"Suppose you are given two options of receiving income. In the first option you are guaranteed Rs. X per month. In the second option you are guaranteed Rs. Y or Rs. Z, each with equal chance. Which option would you choose?"

The coefficient of risk-aversion assuming CRRA preferences was then computed using the pay-offs, and solving for the constant of coefficient of risk-aversion. For a detailed description of an identical computation using the IFLS data, readers are referred to Ng (2013).

B.6.2 Government and Firm Entitlements

- *1(Government Pension)*: An indicator variable that takes the value 1 if the worker reports having availed of a government pension program in the last 6 months, and 0 otherwise.
- *Government Subsidized Housing*: An indicator variable that takes the value 1 if the worker reports having availed of a government pension program in the last 6 months, and 0 otherwise.
- *Firm Subsidized Housing*: An indicator variable that takes the value 1 if the worker reports intending to avail of the employer's subsidized housing program in the next 6 months, and 0 otherwise.
- *Firm Subsidized Schooling*: An indicator variable that takes the value 1 if the worker reports intending to avail of the employer's subsidized schooling program in the next 6 months, and 0 otherwise.

B.6.3 Personality

- *Contentiousness (ME)*: This measure captures the net number of behaviors workers identify with that are predictive of contentiousness. Workers were asked about the extent (measured on a 5-point scale of agreement ranging from Strongly Agree to Strongly Disagree) to which they engaged in 5 positive and 5 negative behaviors. The score from each variable was added up for

positive and negative behaviors and the score from the negative behaviors was then subtracted from the score for positive behaviors.

The positive behaviors were the following:

- I am always prepared
- I pay attention to details
- I get chores done right away
- I carry out my plans
- I make plans and stick to them

The negative behaviors were the following:

- I procrastinate and waste my time
- I find it difficult to get down to work
- I do just enough work to get by
- I don't see things through
- I shirk my duties

The final measure was computed as the mean effect normalization of the above variables.

- *Locus of Control (ME)*: This measure captures the net number of beliefs workers identify with that are predictive of locus of control. Workers were asked about the extent (measured on a 5-point scale of agreement ranging from Strongly Agree to Strongly Disagree) to which they believed 5 statements, one of which are positively related to locus of control and four of which are negatively related. The score from each variable was added up for the negative statements and the score from the negative statements was then subtracted from the score for positive statement.

The positive statement was the following:

- I believe that my success depends on ability rather than luck

The negative statements were the following:

- I believe that unfortunate events occur because of bad luck
- I believe that the world is controlled by a few powerful people
- I believe some people are born lucky
- I believe in the power of fate

The final measure was computed as the mean effect normalization of the above variables.

- *Perseverance (ME)*: This measure captures the net number of behaviors workers engage in that are predictive of perseverance. Workers were asked about the extent (measured on a 5-point scale of agreement ranging from Strongly Agree to Strongly Disagree) to which they engaged in 8

behaviors, five of which are positively related to perseverance and three of which are negatively related. The score from each variable was added up for the negative statements and the score from the negative behaviors was then subtracted from the score for positive behaviors.

The positive behaviors were the following:

- I don't quit a task before it is finished
- I am a goal-oriented person
- I finish things despite obstacles in the way
- I am a hard worker
- I don't get sidetracked when I work

The negative behaviors were the following:

- I don't finish what I start
- I give up easily
- I do not tend to stick with what I decide to do

The final measure was computed as the mean effect normalization of the above variables.

- *Extraversion (ME)*: This measure captures the net number of beliefs workers identify with that are predictive of extraversion. Workers were asked about the extent (measured on a 5-point scale of agreement ranging from Strongly Agree to Strongly Disagree) to which they believed 10 statements, five of which are positively related to extraversion and five of which are negatively related. The score from each variable was added up for the negative statements and the score from the negative statements was then subtracted from the score for positive statements.

The positive statements were the following:

- Am open about my feelings
- Take charge
- Talk to a lot of different people at parties
- Make friends easily
- Never at a loss for words

The negative statements were the following:

- Don't talk a lot
- Keep in the background
- Speak softly
- Have difficulty expressing my feelings
- Hold back my opinions

The final measure was computed as the mean effect normalization of the above variables.

- *Self-Sufficiency (ME)*: This measure captures the net number of beliefs workers identify with that are predictive of self-sufficiency. Workers were asked about the extent (measured on a 5-point scale of agreement ranging from Strongly Agree to Strongly Disagree) to which they believed 10 statements, five of which are positively related to self-sufficiency and five of which are negatively related. The score from each variable was added up for the negative statements and the score from the negative statements was then subtracted from the score for positive statements.

The positive statements were the following:

- Act without consulting others
- Do things men traditionally do
- Do things my own way
- Make decisions quickly.
- Believe that events in my life are determined only by me

The negative statements were the following:

- Need protection
- Often need help.
- Talk about my worries.
- Let myself be directed by others.
- Am easily moved to tears.

The final measure was computed as the mean effect normalization of the above variables.

B.6.4 Mental Health

- *Self-Esteem (ME)*: This measure captures the net number of beliefs workers identify with that are predictive of self-esteem. Workers were asked about the extent (measured on a 5-point scale of agreement ranging from Strongly Agree to Strongly Disagree) to which they believed 10 statements, five of which are positively related to self-esteem and four of which are negatively related. The score from each variable was added up for the negative statements and the score from the negative statements was then subtracted from the score for positive statements.

The positive statements were the following:

- On the whole, I am satisfied with myself
- I feel that I have a number of good qualities
- I am able to do things as well as most other people
- I feel that I am person of worth, at least on an equal plane with others
- I take a positive attitude toward myself

The negative statements were the following:

- I feel I do not have much to be proud of
- At times, I think I am no good at all
- I certainly feel useless at times
- I wish I could have more respect for myself
- All in all, I am inclined to feel that I am a failure

The final measure was computed as the mean effect normalization of the above variables.

- *Hope or Optimism (ME)*: This measure captures the net number of beliefs workers identify with that are predictive of hope or optimism. Workers were asked about the extent (measured on a 5-point scale of agreement ranging from Strongly Agree to Strongly Disagree) to which they believed 10 statements, five of which are positively related to hope or optimism and three which are negatively related. The score from each variable was added up for the negative statements and the score from the negative statements was then subtracted from the score for positive statements.

The positive statements were the following:

- Look on the bright side.
- Can find the positive in what seems negative to others.
- Remain hopeful despite challenges.
- Will succeed with the goals I set for myself.
- Think about what is good in my life when I feel down.

The negative statements were the following:

- Expect the worst.
- Have no plan for my life five years from now.
- Am not confident that my way of doing things will work out for the best

The final measure was computed as the mean effect normalization of the above variables.

- *Mental Distress*: The two measures of mental health are computed using the 10-question Kessler Psychological Distress Scale, or K10. The K10 was developed by Ron Kessler and Dan Mroczek in 1992 as a measure of mental distress (Kessler et al., 2003). The questionnaire consists of 10 questions about negative emotional states experienced during the past 4 weeks. Respondents give 5-point answers ranging from “none of the time” (scored as a 1) to “all of the time” (scored as a 5), with the intermediate responses scored correspondingly (i.e. “a little of the time” scored as 2, “some of the time” scored as 3, and “most of the time” scored as 4). In particular, respondents are asked:

- About how often did you feel tired out for no good reason?

- About how often did you feel nervous?
- About how often did you feel so nervous that nothing could calm you down?
- About how often did you feel hopeless?
- About how often did you feel restless or fidgety?
- About how often did you feel so restless you could not sit still?
- About how often did you feel depressed?
- About how often did you feel that everything was an effort?
- About how often did you feel so sad that nothing could cheer you up?
- About how often did you feel worthless?

The survey methodology was developed and first validated in the United States. It has since been administered in a variety of contexts around the world, including in low-income populations in South Africa (Myer et al., 2008). Moderate mental distress is indicated by a score of 24 or higher on the scale.

Figure A12: Training Attendance Rates

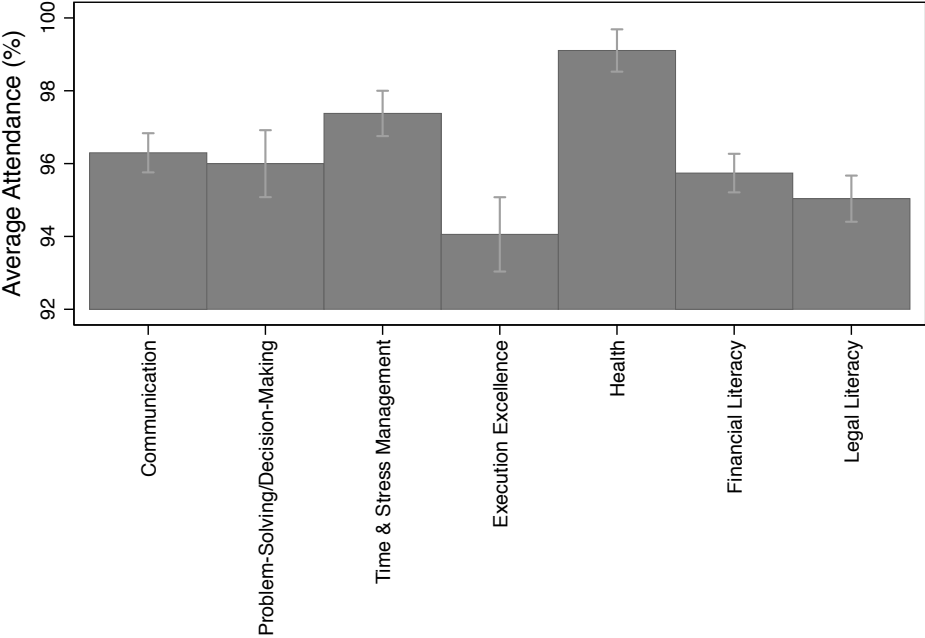


Figure A12 shows average session attendance rates by training module.

Figure A12: Training Attendance Rates

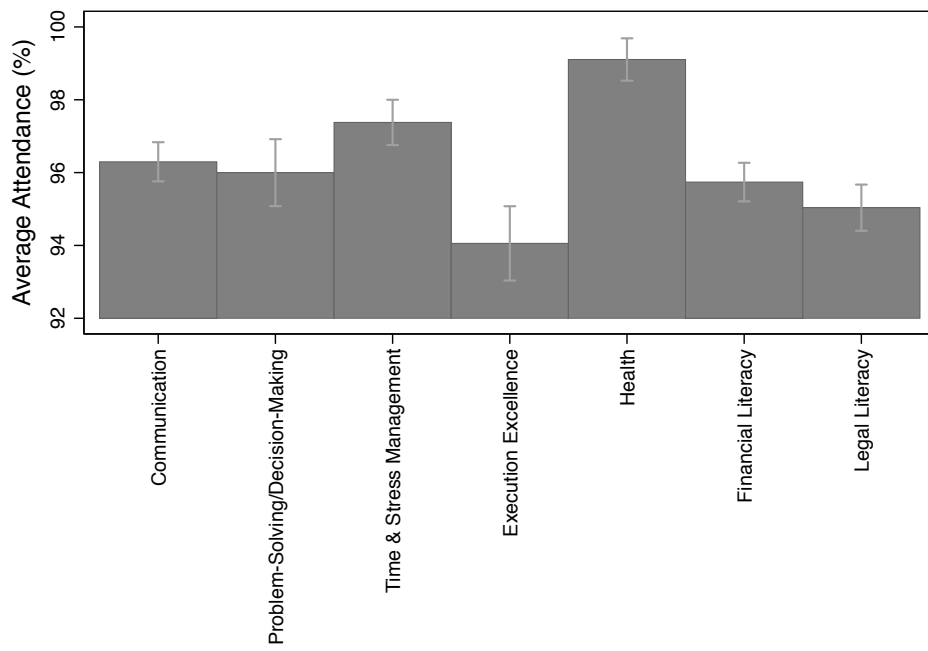


Figure A12 shows average session attendance rates by training module.

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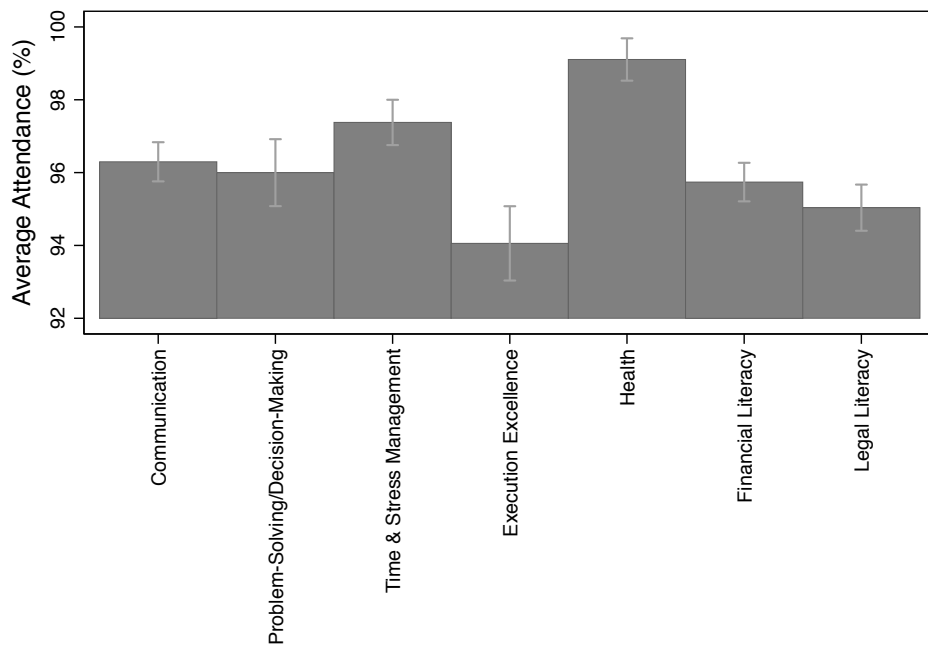


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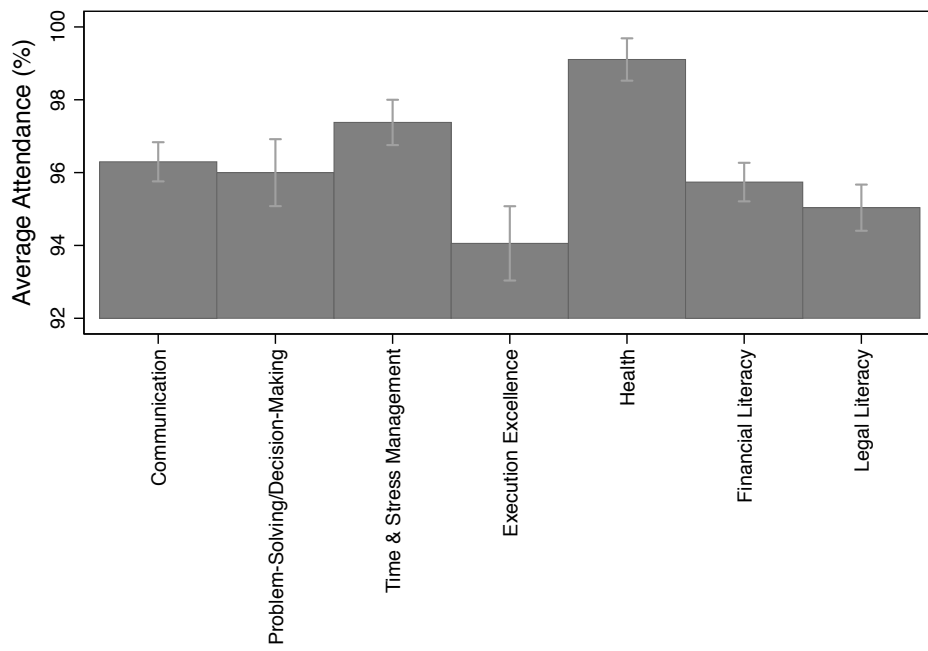


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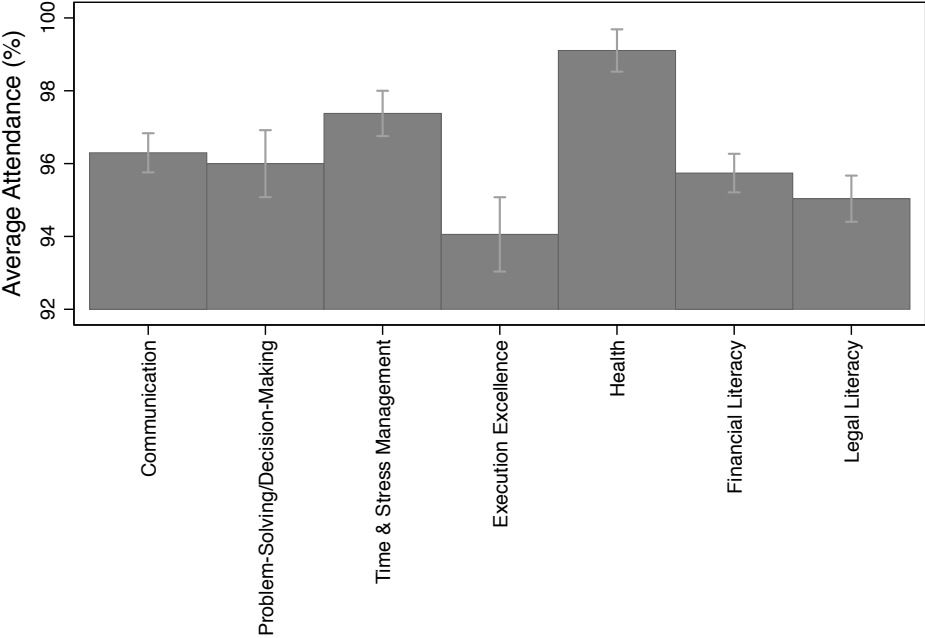


Figure A12 shows average session attendance rates by training module.

Figure A12: Training Attendance Rates

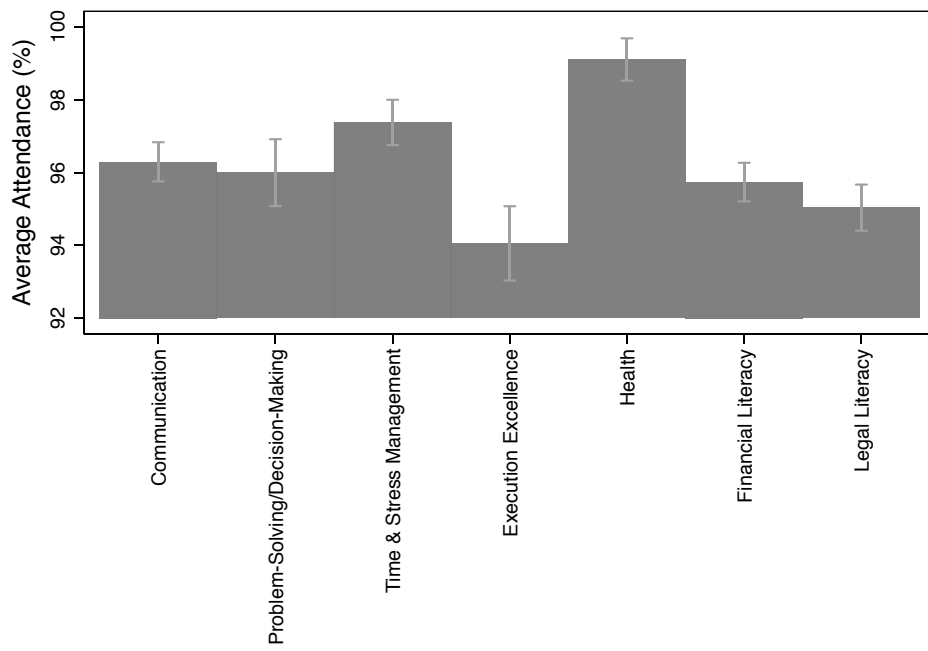


Figure A12 shows average session attendance rates by training module.