How Hybrid Work From Home Works Out

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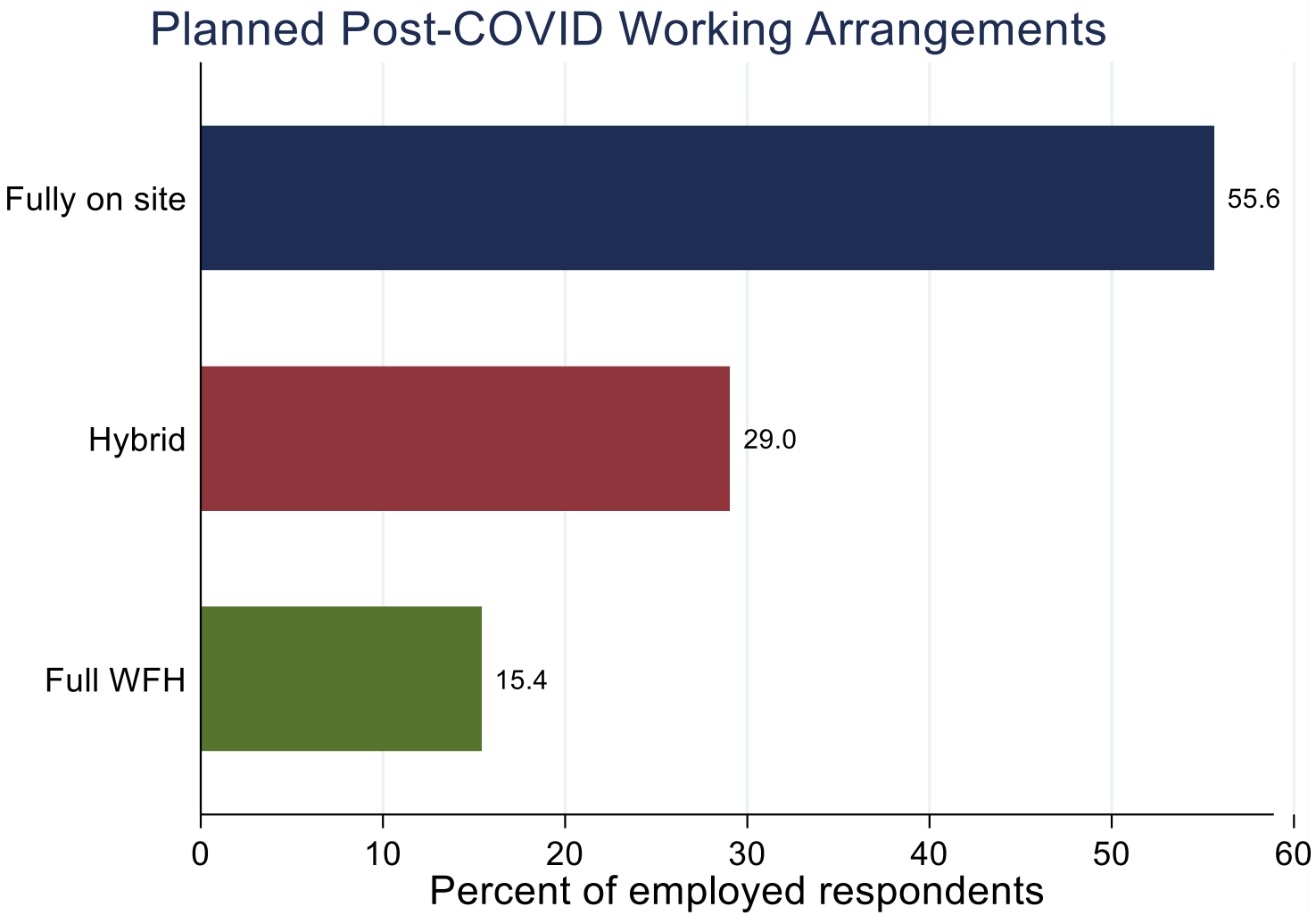
August 2022

Post-pandemic most US graduates will return to the office on a hybrid schedule (e.g. 3-2)



Most front-line non-graduates

Most graduates (higher paid managers and professionals)

Mostly technical: IT support, HR, payroll, programming etc

Source: Data from 16,575 US responses in August through December 2021, reweighted to match the US population Data from the Survey of Workforce Attitudes and Arrangements (SWAA) Details on https://wfhresearch.com/

Our paper runs a randomized control trial on Hybrid WFH

Extends prior well identified impact of WFH literature by:

A. Looking at graduates in creative jobs
B. Looking at 3-2 hybrid WFH (rather than fully remote)
C. Investigating mechanism (time use, messages etc & teamwork)

Preview:

1. Huge reductions in quit rates and job-satisfaction scores improved
2. Employees shift work from WFH days to other evenings and weekends – “flextime”
3. Employees increased messaging and video calls, even when in the office
4. Lines of code and self-assessed productivity improved

Firm so happy with the results rolled out to the entire firm

Experimental design

WFH Take-Up

Communication

Hours

Performance

Working with trip.com on a hybrid WFH randomized control trial

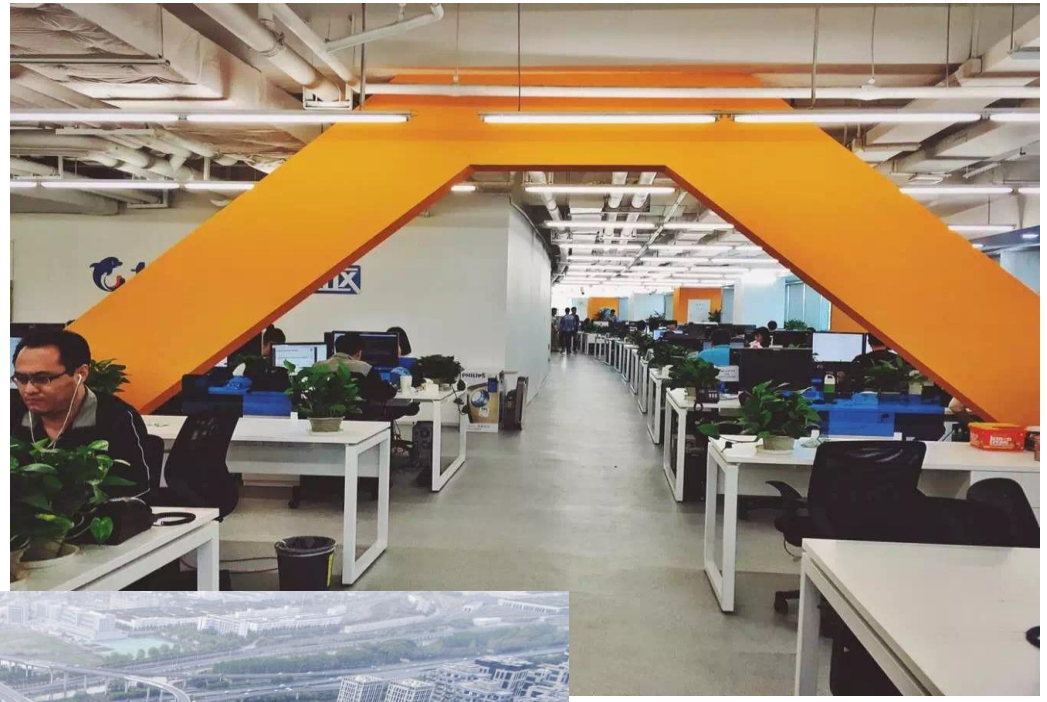
Headquartered in Shanghai

Employs about 35,000 people

NASDAQ listed

Provides flights, hotel bookings, package and corporate travel

Pre-experiment employees in the office every day (Lucky timing)



Trip.com

tripadvisor

The firm decided to run an RCT on the Apple hybrid WFH plan

THE WALL STREET JOURNAL.

SHARE

TECH

Apple Prepares Office Staff for Hybrid Workweek

iPhone maker wants staff to come to the office three days a week starting in September

Apple Chief Executive Tim Cook, in an email to staff, notified office employees of the company's back-to-office plans.

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MOST POPULAR OPINION

1. Opinion: Florida Is Living With Covid—and Freedom

Apple Inc. AAPL 0.51% ▲ is telling office staff to prepare to return to the workplace at least most of the time, joining the growing pool of companies adopting hybrid work.

Apple Chief Executive Tim Cook, in an email to staff, told office employees that they are expected to return to their workspace three days a week starting in September. The iPhone maker said it wants most office workers to show up Mondays, Tuesdays and Thursdays, with the option to work remotely on Wednesdays and Fridays.

The firm ran a two-stage roll-out of hybrid WFH

On July 27 surveyed all 1612 engineers, marketing and finance employees in two divisions (Airfare and IT) asking if they wanted to WFH on Wednesday and Friday.

July 27th email to solicit WFH volunteers (English translation)

Subject: WFH Trials Invite Your Participation!

Dear Airline/Technology Center partners: In order to improve employee satisfaction and happiness, and to attract and retain outstanding talents, the company is currently researching the feasibility of working from home policy. We hope that "working from home freely" can become company's corporate culture in the future. and employee benefits. In order to verify the feasibility of the policy more scientifically and rigorously, the Air-Ticket Business Department / Technology Center became one of the first batch of experimental departments.

We are very supportive and welcome our Airline/Tech Center mates to join the work from home experiment! During the trial period, I experienced first-hand whether working from home was beneficial to personal output, team management, and my own living conditions. Your real feelings and every feedback will help the company to better think and design policies, so that working from home can become a "good office form, good culture and good welfare" that employees like to hear and hear. Please click this link to fill in the "Home Office Test Willingness Questionnaire" before July 31, express your participation and click this link to fill in your willingness and ideas. We invite you to join and try again, let us create a different working scene together!

For more details, please refer to the FAQ below. If you have any other questions, please consult the Organization and talents Development Center for details.

FAQ:

1. How long will the trial last?
The official trial period is from August 9, 2021, to January 30, 2022.
2. Can I start working from home if I choose to participate?
The project team will conduct scientific sampling from the employees who have chosen "willing" to participate, and there will be half of the employees were selected as the "experimental group" and the other half were selected as the "control group".
3. When will I know if I have been selected as the "experimental group"?
The project team will officially announce the sampling results from August 4th to 6th. The "experimental group", will sign the corresponding documents to ensure that you are in the experimental period. If there are no special circumstances, please participate in the whole process of the experiment.
4. How is the attendance calculated during the home office period?
During the test period, the employees of the "experimental group" will be uniformly set. For special classes, workdays that cannot be clocked in due to working from home are counted as normal attendance. In case of taking sick leave or annual leave, please log in to the attendance system normally submit a leave application within .
5. Will working from home affect my assessment?
No, the work goals of working from home are the same as working in the company, but you can arrange the office space more flexibly, the goals will not change, and the assessment method will not change. Participate in year-end assessments.
6. I have a desktop but no laptop, can I still apply for working from home?
Yes. You only need a home computer and network at home.

The firm ran a two-stage roll-out of hybrid WFH

On July 27 surveyed all 1612 engineers, marketing and finance employees in two divisions (Airfare and IT) asking if they wanted to WFH on Wednesday and Friday.

Stage 1:

518 volunteered - odd birthdays randomized into hybrid WFH starting on 9th Aug

Stage 2:

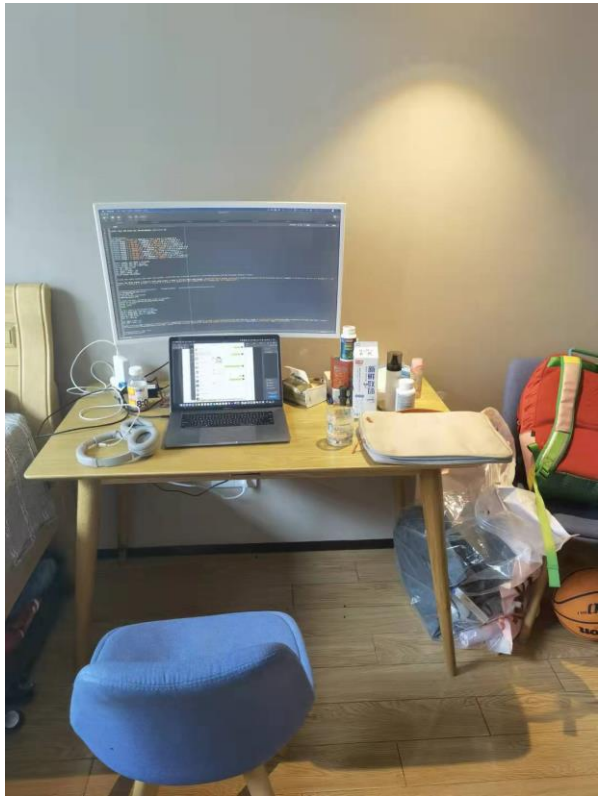
1094 non-volunteers - odd birthdays randomized into hybrid starting 13th September

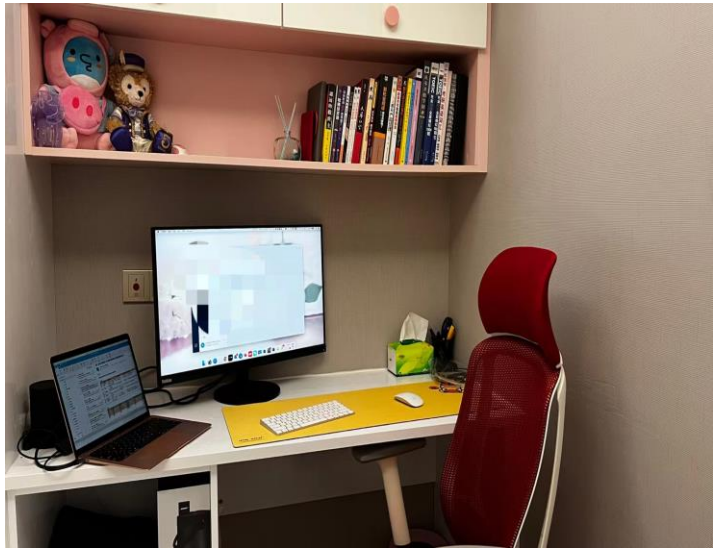
Note the hybrid scheme was optional – nobody required to WFH on Weds/Friday

But odd birthday employees signed a contract allowing them to WFH on Wed/Fri

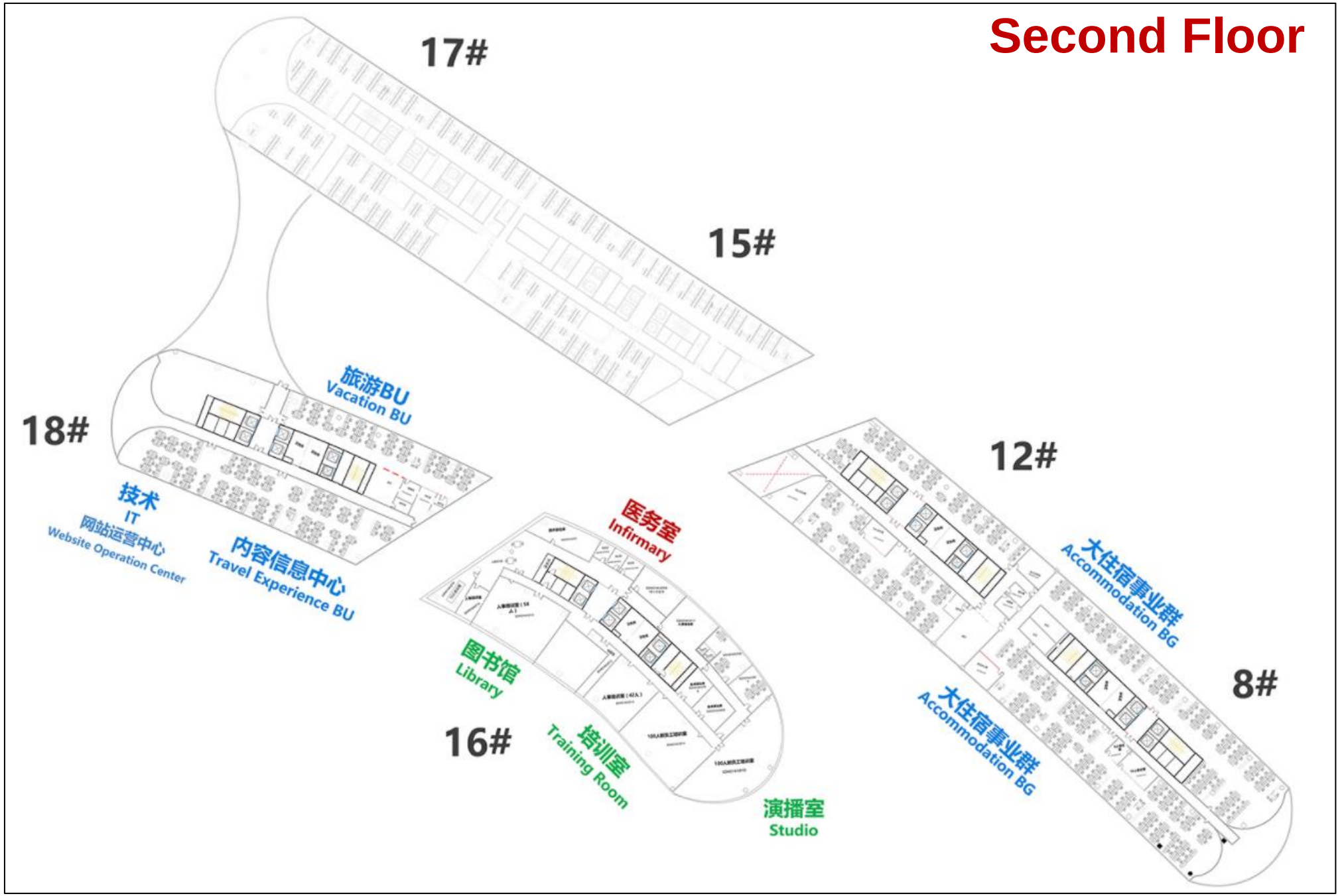
Office vs Home

Office: employees sit with team members on 4 or 6 person desks





Teams generally located together



Volunteers no different on prior performance, but less likely to be managers (managers expressed most ex-ante concern)

	Volunteer	Non-volunteer	p-value of the difference
Number	518	1094	
Prior performance (1-5)	3.76	3.73	0.534
Age	32.0	32.9	0.001
Male	.681	.630	0.040
Tenure (months)	63.7	82.1	0.000
Married	.488	.518	0.263
Children	.459	.485	0.331
Level (1-7)	4.71	4.80	0.114
Grad School	.336	.318	0.478
Managerial Role	.167	.281	0.000
Commute Time (mins)	107	95.7	0.000

Notes: Sample of 1612 employees

Experimental design

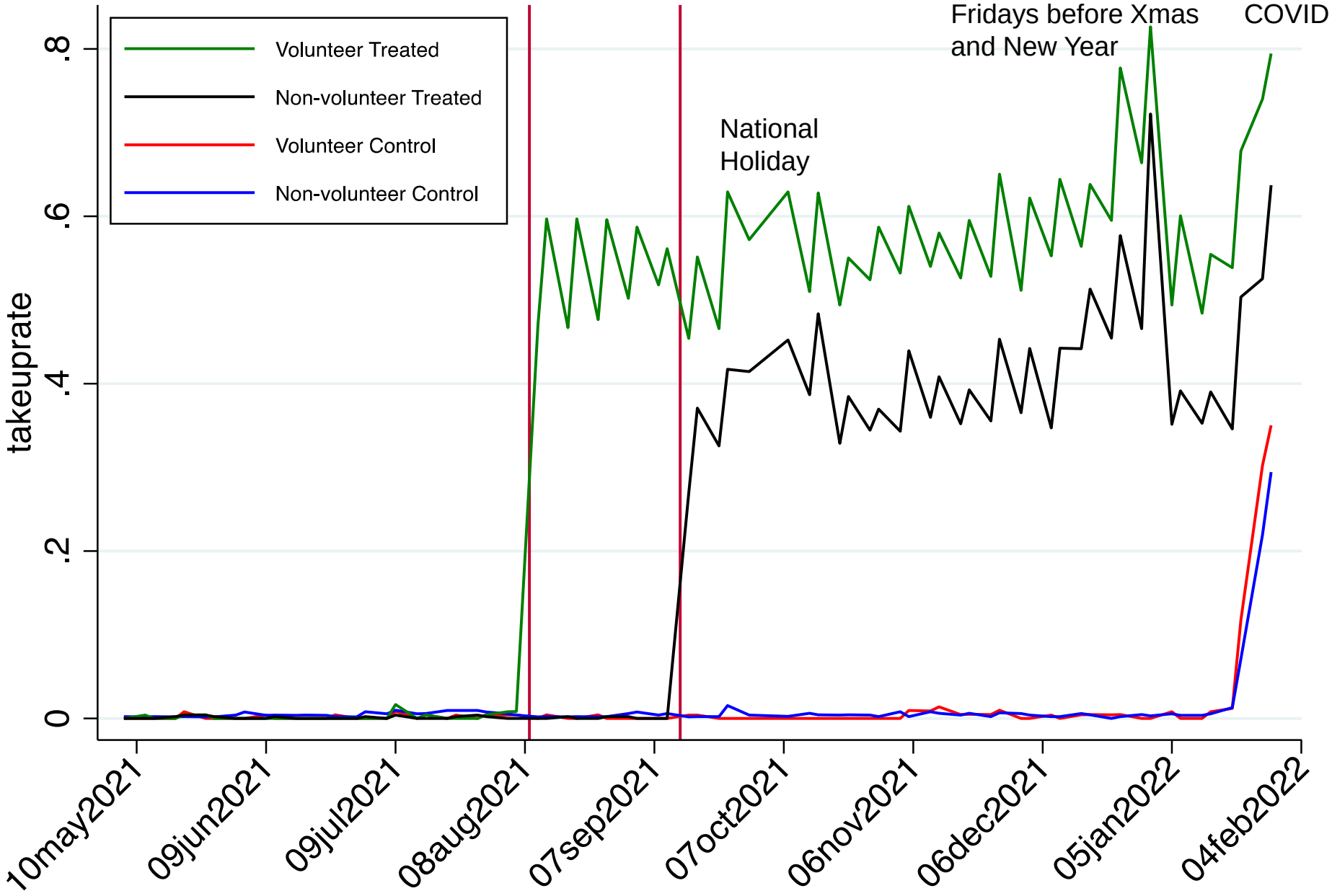
WFH Take-Up

Communication

Hours

Performance

Take-up of WFH 55% for the volunteers and 38% for non-volunteers



Employees mostly chose to WFH on Friday and come in Wednesday (hence ≈50% take-up rate)

Notes: Sample of 1612 employees. Public holidays, personal holidays and excused absence (e.g. sick leave) excluded. Take-up rate is percentage of Wednesday & Friday each week they WFH

WFH take-up highest for those with kids and long commutes

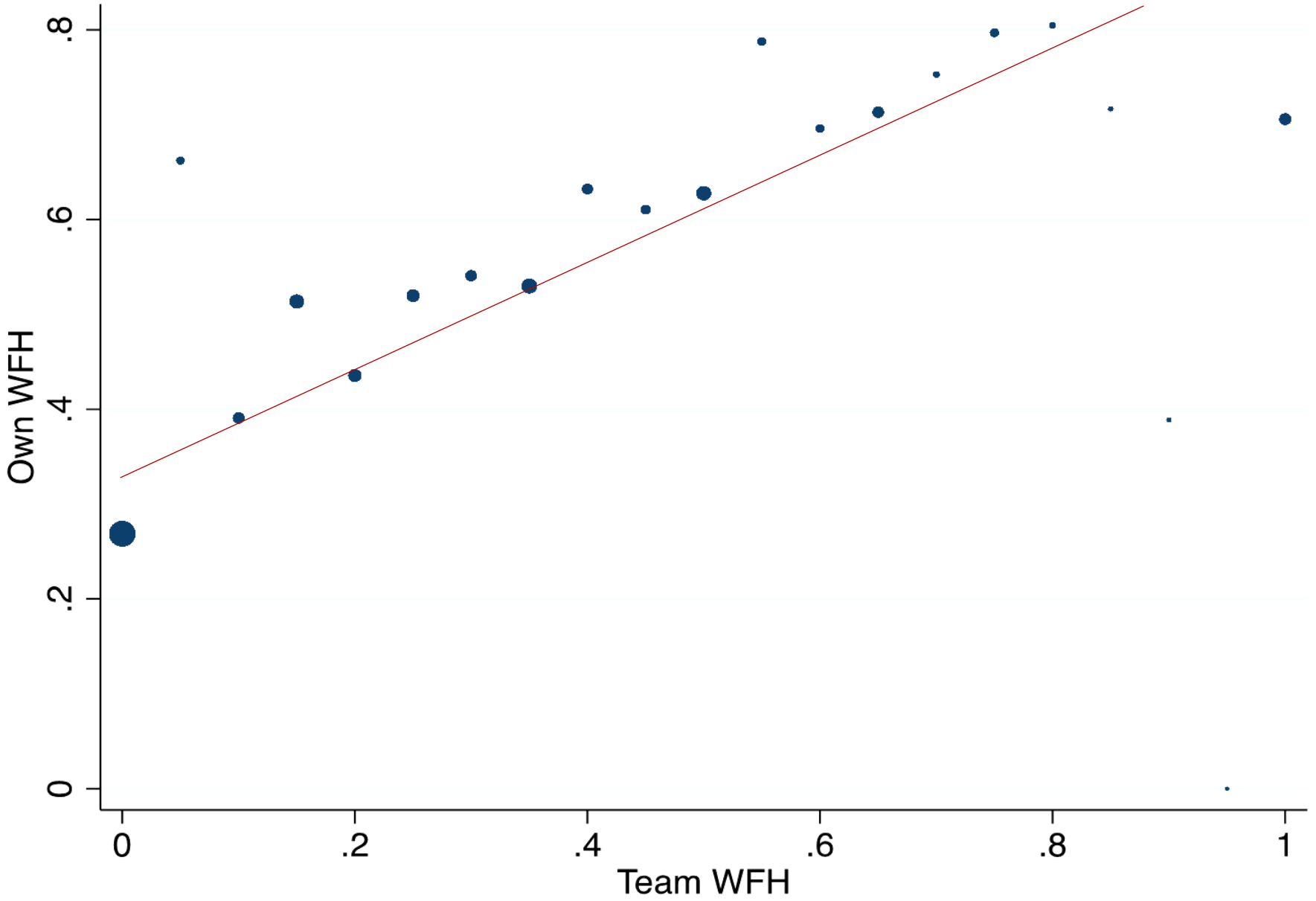
Also, for those send many messages (pre-experiment daily average/100)

Notable no significant difference in take-up by:

- Gender
- Age
- Marital status
- Seniority (level)
- Tenure (year)
- Manager treated

Y:Daily WFH Take-up	(1)	(2)	(3)	(4)	(5)	(6)
Treat	0.456***	0.460***	0.457***	0.457***	0.457***	0.461***
	(0.0116)	(0.0115)	(0.0114)	(0.0114)	(0.0114)	(0.0115)
Male		-0.00164	0.000151	0.00216	0.00197	-0.00000744
		(0.0132)	(0.0131)	(0.0134)	(0.0134)	(0.0134)
Age		0.00141	0.00155	0.00128	0.00128	0.000921
		(0.00141)	(0.00140)	(0.00193)	(0.00193)	(0.00192)
Married		-0.0314	-0.0339*	-0.0333	-0.0331	-0.0286
		(0.0212)	(0.0203)	(0.0203)	(0.0203)	(0.0202)
Children		0.0565***	0.0491**	0.0487**	0.0486**	0.0466**
		(0.0207)	(0.0200)	(0.0200)	(0.0200)	(0.0199)
Commute			0.0361***	0.0358***	0.0358***	0.0356***
			(0.00773)	(0.00778)	(0.00777)	(0.00774)
Level				-0.00267	-0.00293	-0.00449
				(0.00650)	(0.00651)	(0.00650)
Tenure				0.00106	0.00107	0.00121
				(0.00185)	(0.00185)	(0.00184)
Team Treated Share					0.0106	0.0106
					(0.0209)	(0.0210)
Treat Manager					-0.00116	-0.000195
					(0.0118)	(0.0118)
Messages						-0.0135***
						(0.00505)

We find strong coordination by team members on WFH take-up days



Going from none to all of your team WFH on any day increases your probability of WFH by 55% - this is very large and highly significant.

Suggests (treated) employees deliberately choose to WFH on the same day their colleagues do

Note: Sample 25,638 person days. WFH% calculated using colleagues in the experiment, leave oneself out. Team size has mean=5.87, sd=3.19

Coordination is not due to particular events (e.g. holidays) or team differences – present with day and person fixed-effects

Y: WFH	(1)	(2)	(3)	(4)	(5)
Team WFH Share	.551***	.526***	.439***	.423***	.327***
	(.0333)	(.0362)	(.0388)	(.0390)	(.0302)
Manager WFH				.0858***	.0677***
				(.0193)	(.0107)
Date FE		Y	Y	Y	Y
Building*Floor FE			Y	Y	.
Individual FE					Y
Mean WFH	0.478	0.478	0.478	0.478	0.478
N(person*day)	25638	25638	25638	25638	25638

Note in columns (3) and (4) that the team coordination effects are 4x the manager coordination effects – employees come in on the days their coworkers are in the office (not so much when their managers are in the office). Again, this table is on the treated employees.

Footnote: Team WFH% are calculated using colleagues who participants the experiment, leave oneself out.

Experimental design

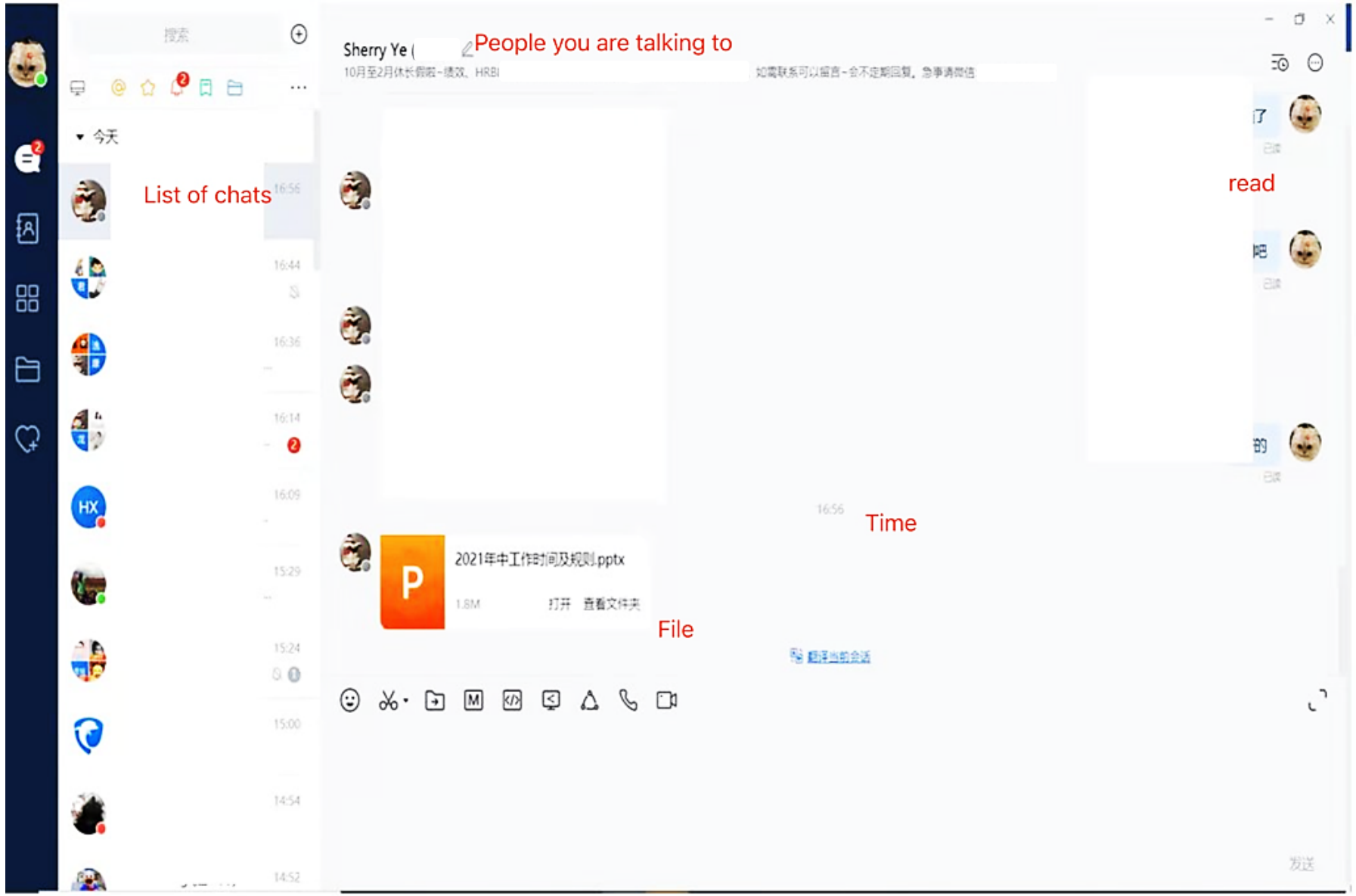
WFH Take-Up

Communication

Hours

Performance

The firm relies heavily on a messaging system

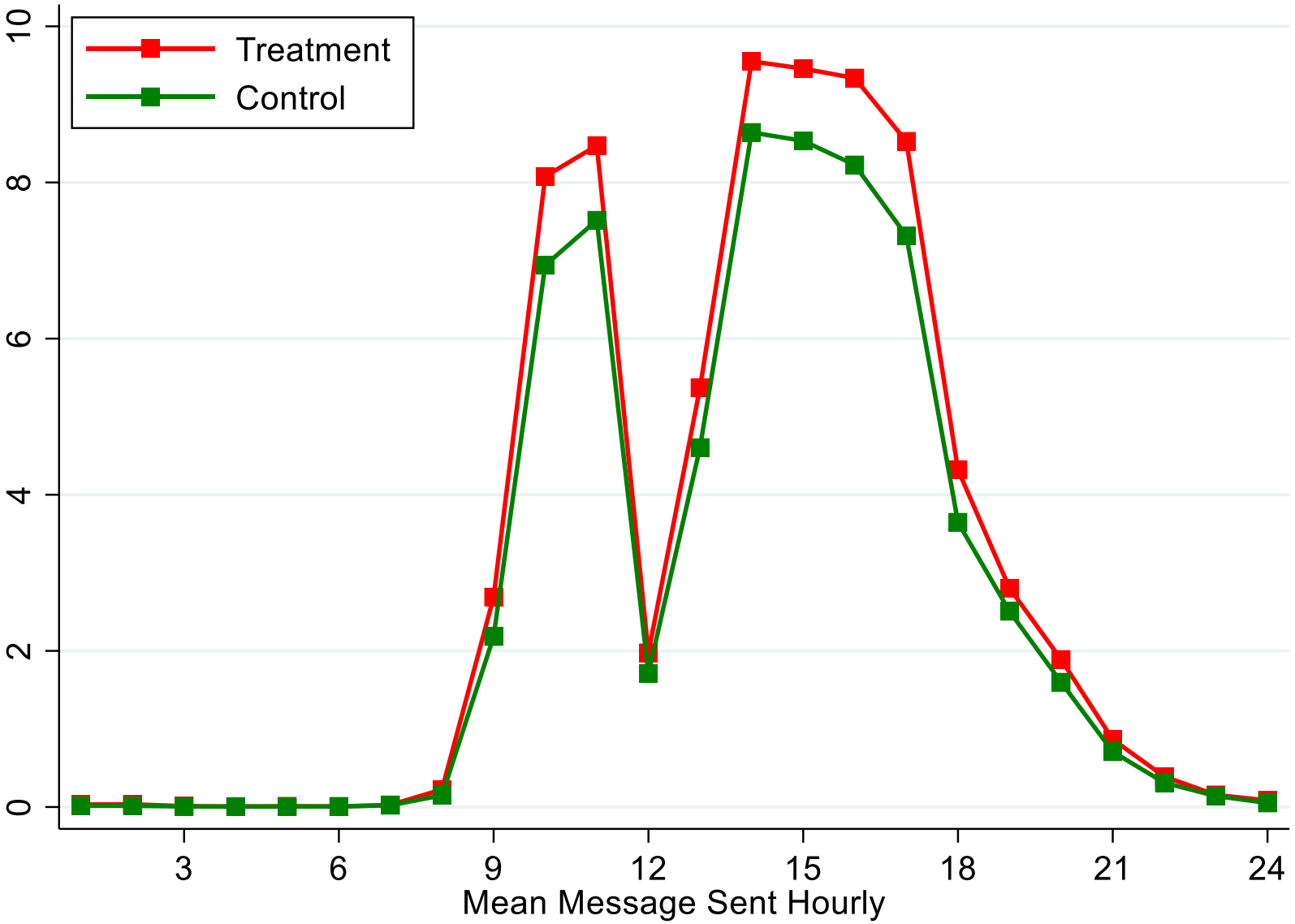


Used for work messaging and “chatting”

WeChat used for social messaging

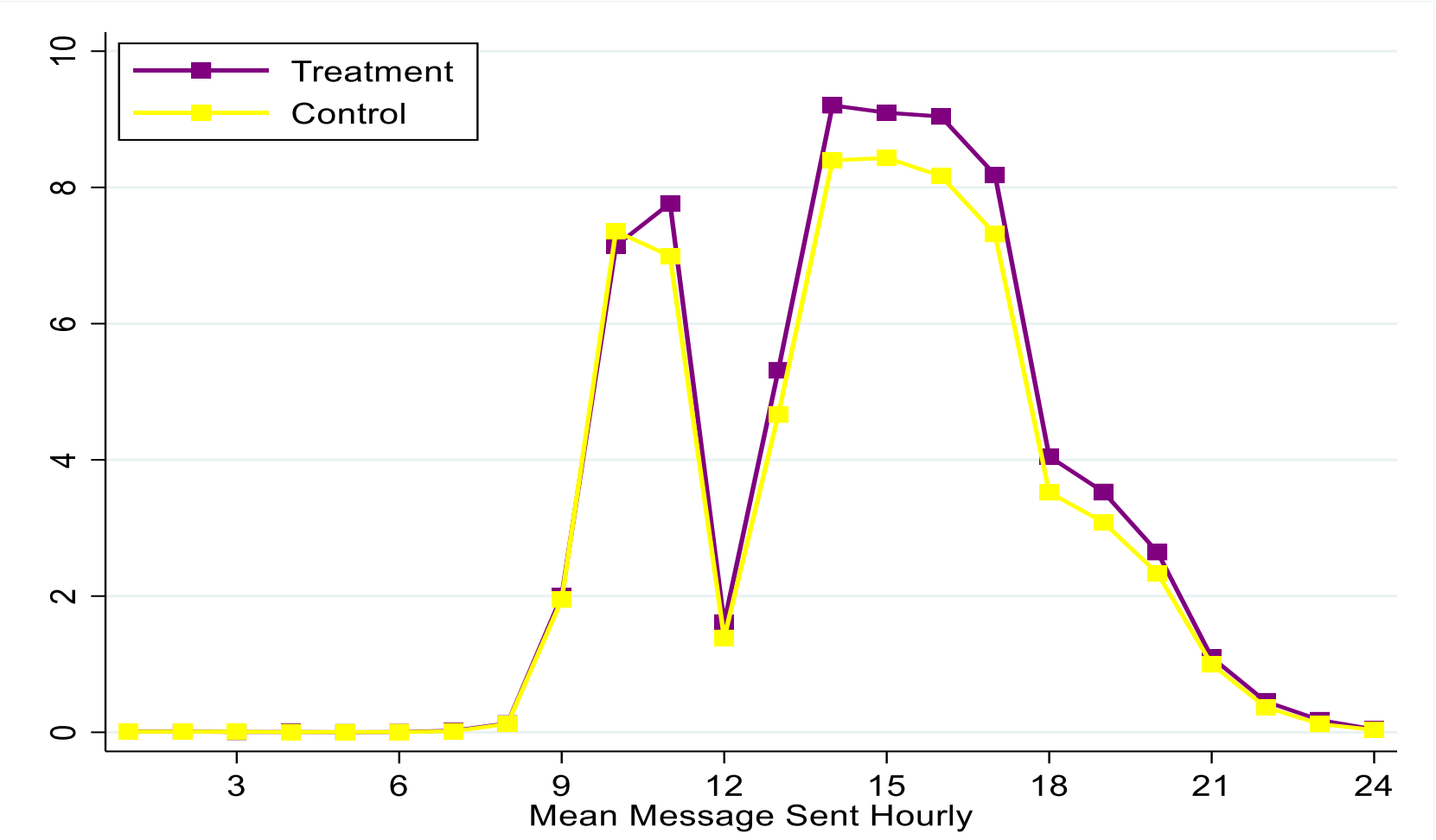
Email used for formal work communication

Find treatment (WFH) employees sent 16% more messages during Wednesday and Friday than control (not-WFH) employees



Consistent with findings from Yang et al. (2021) that WFH increases asynchronous communications (email, and messaging)

Surprisingly, treatment employees also sent 9% more messages during Monday, Tuesday and Thursday than control employees



Increase in asynchronous communications spilling over onto office days (increases 11%, 8% and 7% on Monday, Tuesday and Thursday respectively)

The fact that this occurs on Tuesday is particularly telling – this is 4 days from the last WFH day unlikely to be from conservations spanning multiple days.

Looks like WFH leads workers to message more even in the office

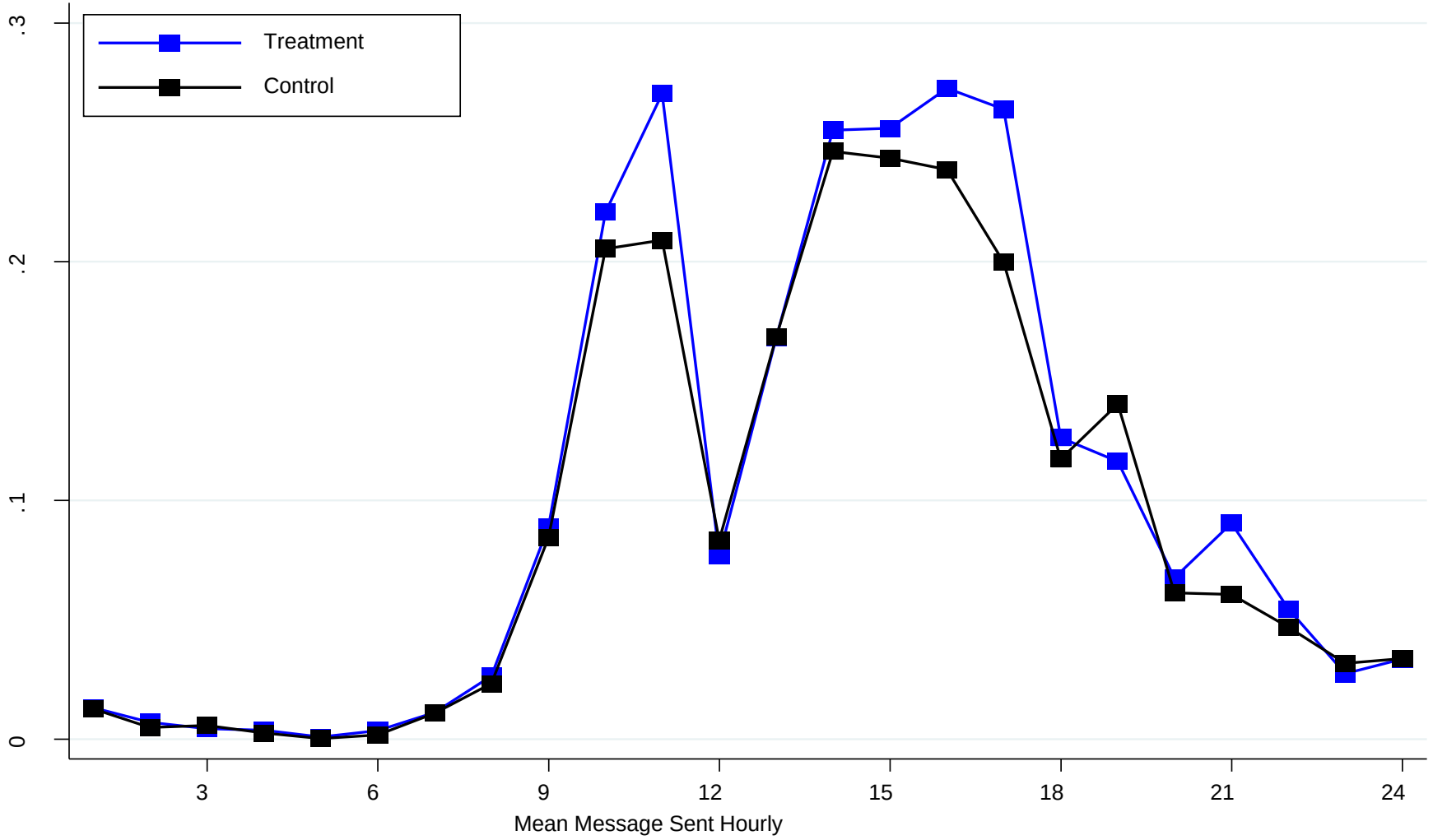
Weekend

Messages sent by treatment vs control employees

	Overall	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
dependent variable				Individual daily message				
Treat	4.959***	6.336***	5.967***	7.693***	4.914**	8.962***	0.345*	0.115
	(1.548)	(2.169)	(2.218)	(2.336)	(2.071)	(2.027)	(0.180)	(0.0771)
_cons	35.20***	48.10***	49.52***	52.37***	47.83***	43.04***	2.771***	0.604***
	(1.022)	(1.442)	(1.472)	(1.525)	(1.393)	(1.298)	(0.120)	(0.0506)
Coef/Means	0.141	0.132	0.121	0.147	0.103	0.208	0.124	0.190
N (days)	150	22	21	22	22	21	21	21

Notes: 1612 participants, from August 9th 2021 (1st wave) and September 13th (2nd wave) to January 23rd, 2022.

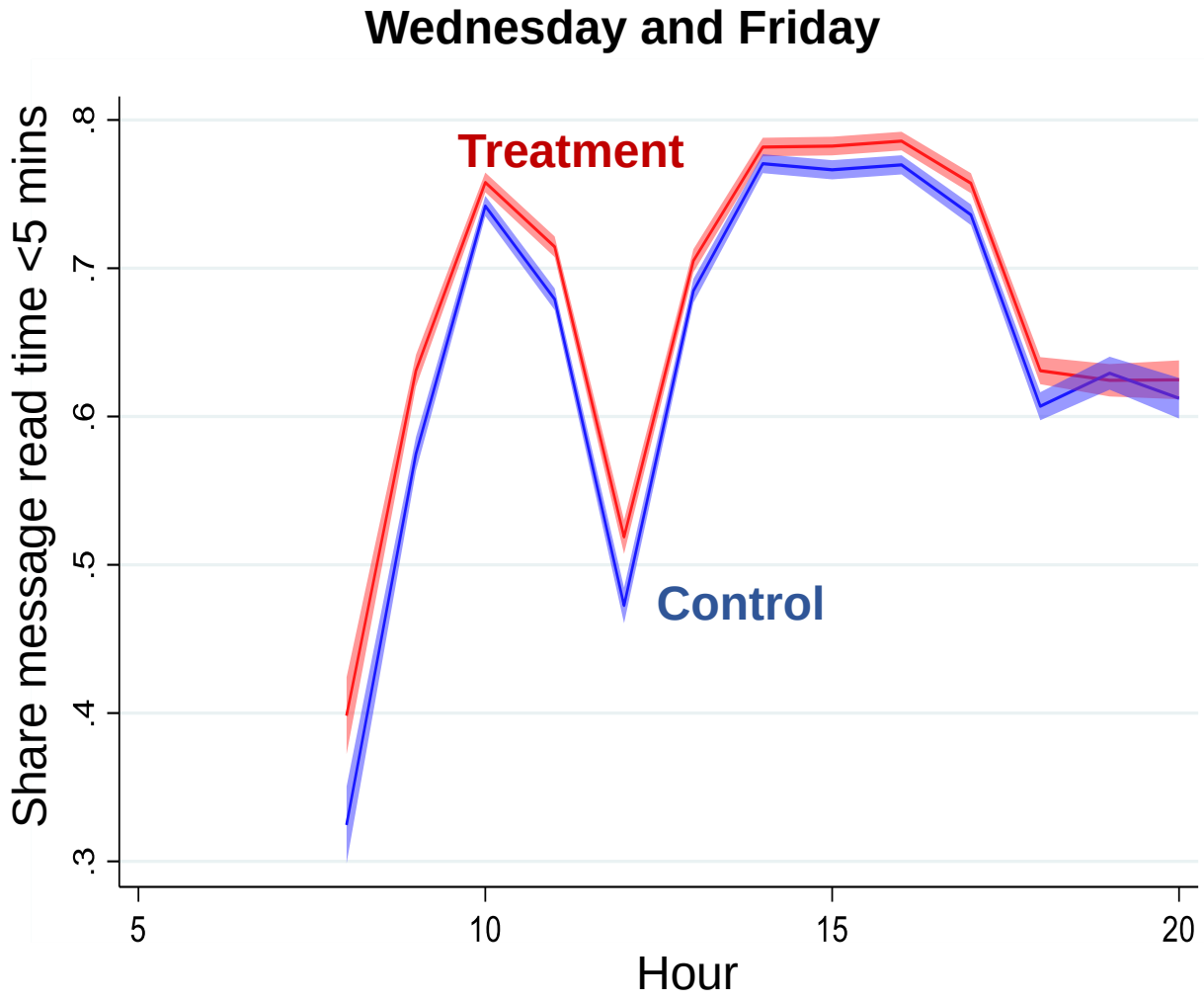
Treatment also sent more messages on Saturday and Sunday

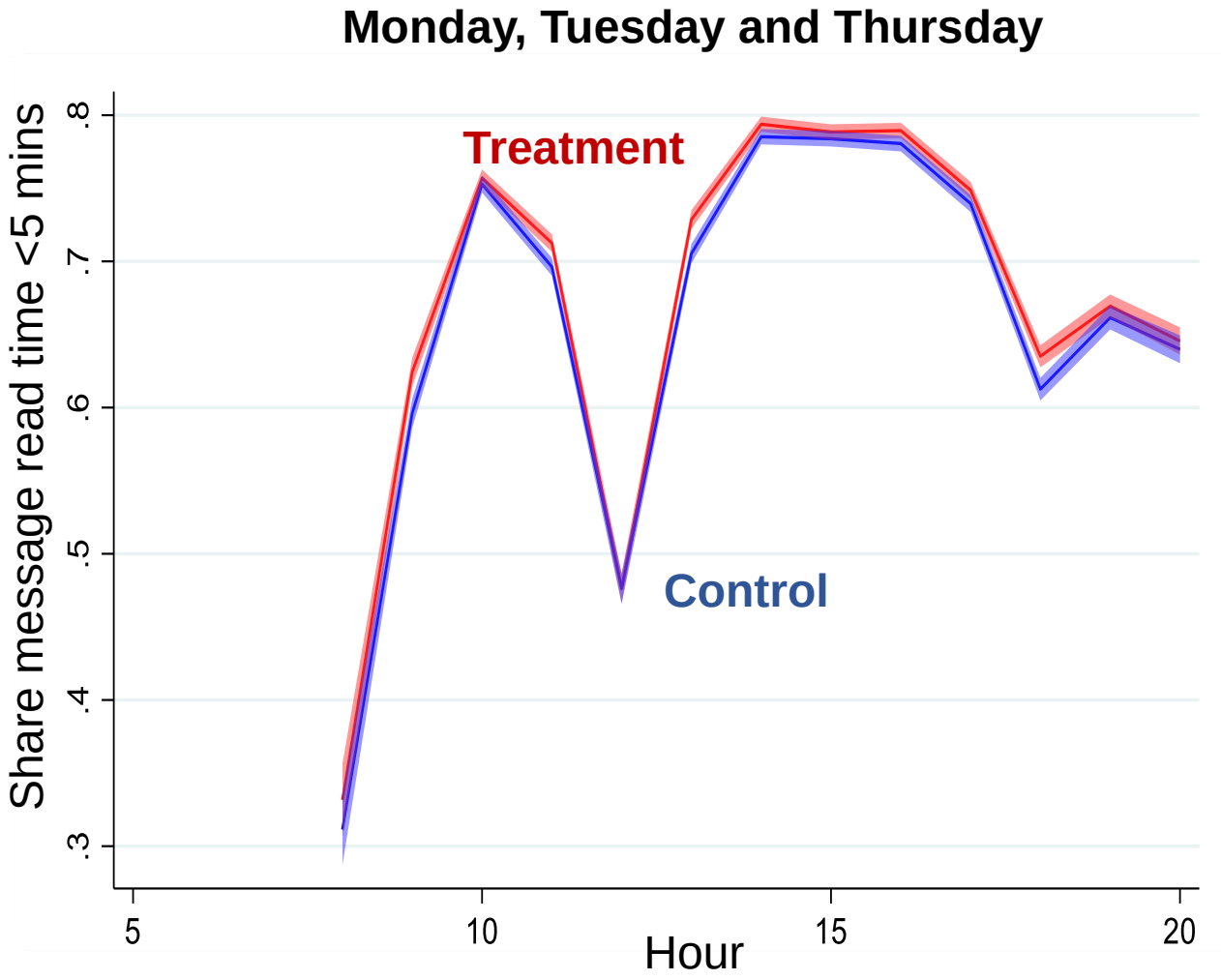


Consistent with treatment employees sending more messages, but the size of the increase on weekends is particularly large (20% higher) so also indicates WFH employees more likely to work on the weekend too (more data on this later)

Back

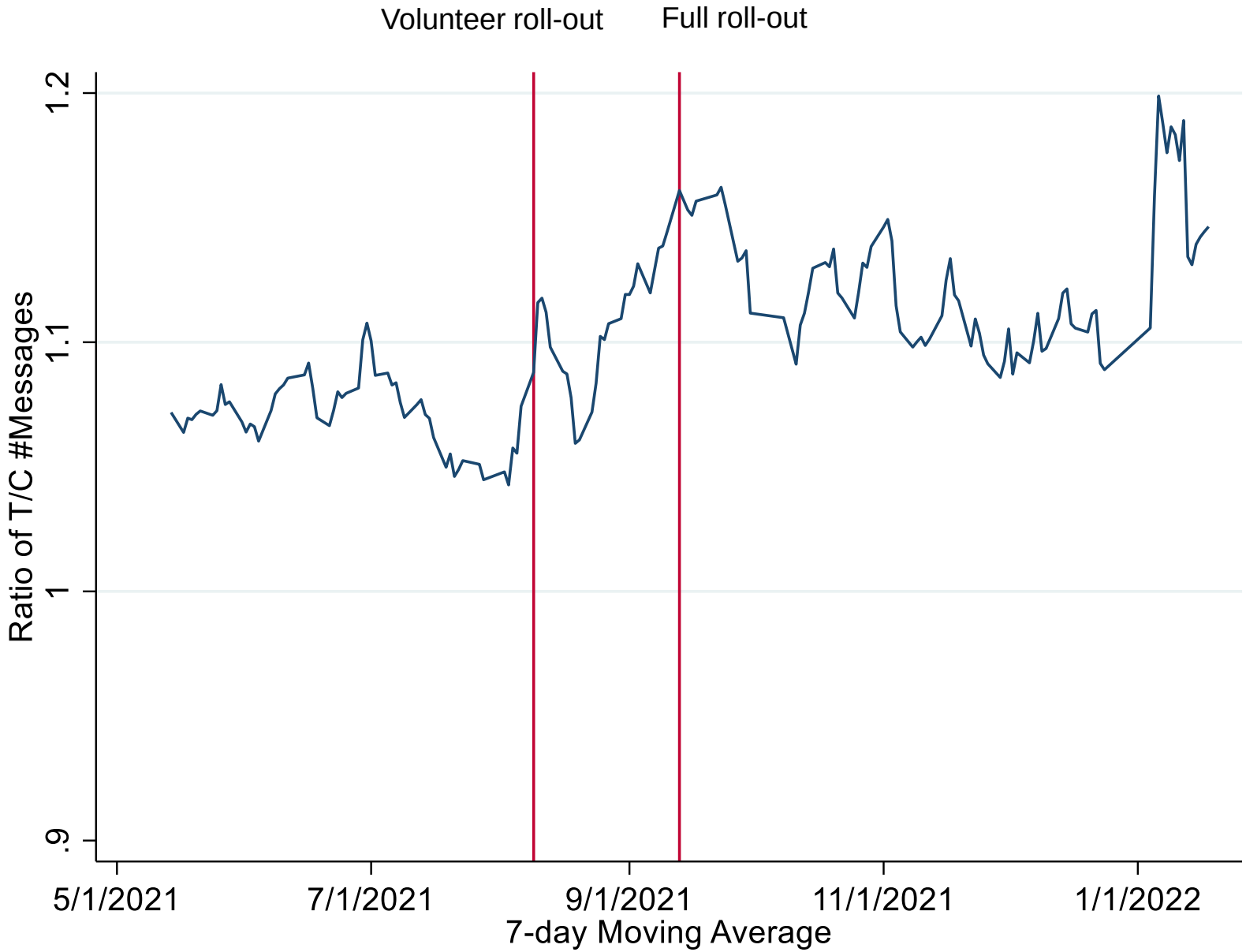
Treatment employees read incoming messages more rapidly on both WFH days and (to a lesser extent) office days





Note: Data for 1612 employees from August 9th 2021 (volunteers) and September 13th (non-volunteers) to January 23rd 2022.

The increase in messaging by treatment employees happened immediately



Notes: Ratio is not significantly different from 1 pre-experiment and is significant post experiment

Note: Data for 1612 employees from August 9th 2021 (volunteers) and September 13th (non-volunteers) to January 23rd 2022.

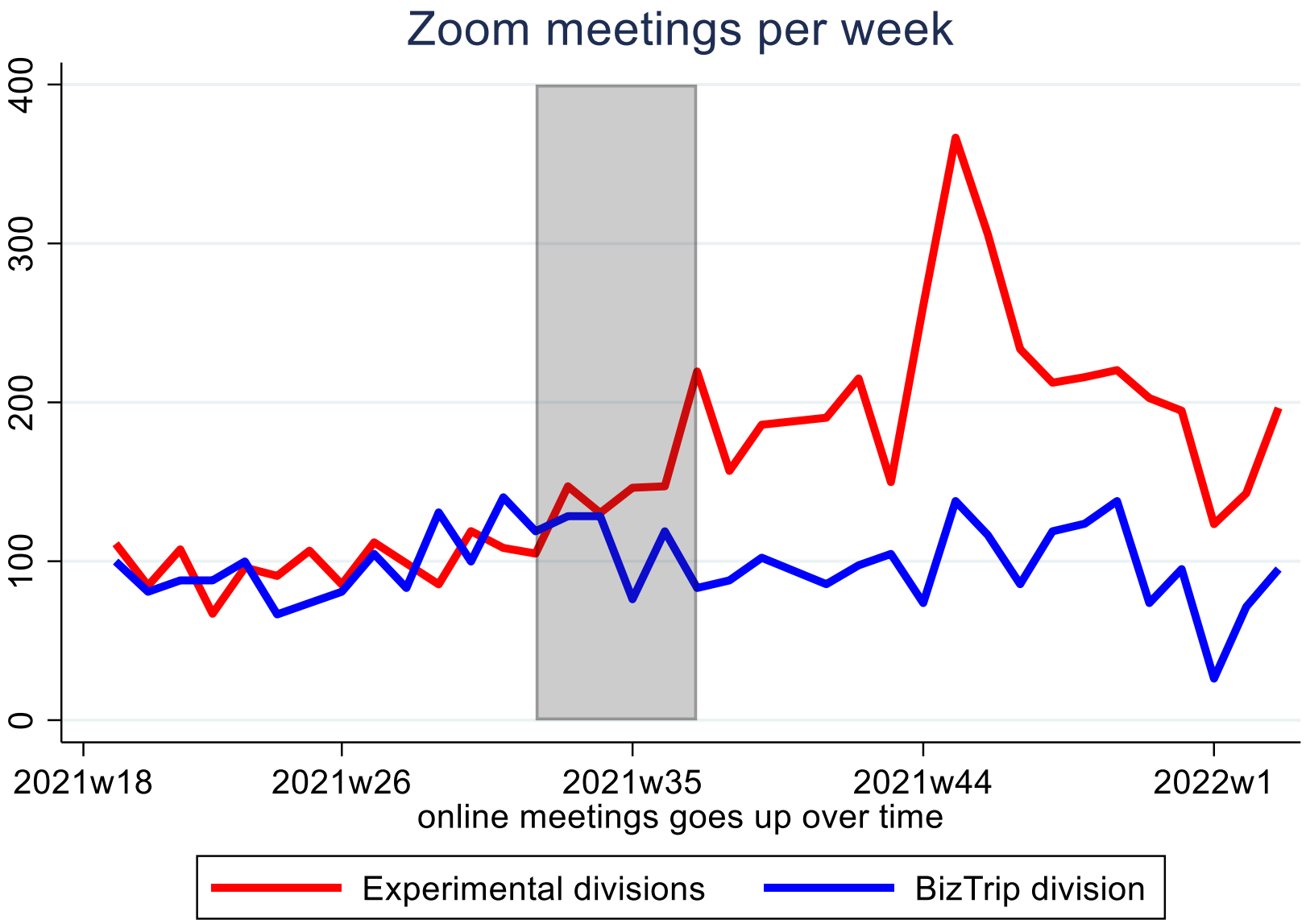
Treatment employees increase messages most to team members and close contacts

	(1) Team	(2) non-Team	(3) Close	(4) non-Close
Treat	0.617**	3.771***	3.16***	1.225*
	(0.244)	(1.229)	(0.793)	(0.735)
Control Means	2.878***	26.55***	11.03***	14.01***
	(0.154)	(0.806)	(1.169)	(1.14)
Coef/Control Mean	0.214	0.142	0.287	.0874
N	241800	241800	241800	241800

Notes: "Team" defined by same manager. "Close" defined as sent messages to that person in 5+ days in the 3 months before the experiment. Data from 1612 participants, from August 9th 2021 (1st wave) and September 13th (2nd wave) to January 23rd 2022.

Zooms meetings increased 74% in the experimental divisions (mostly on Wednesday and Friday)

- Zoom meetings normalized to 100 pre-experiment in WFH experiment divisions and Business Trip (control) division.
- Online meetings goes up 74% compared to the control division (as we would expect – zoom meetings replace in-person meetings)



Experimental design

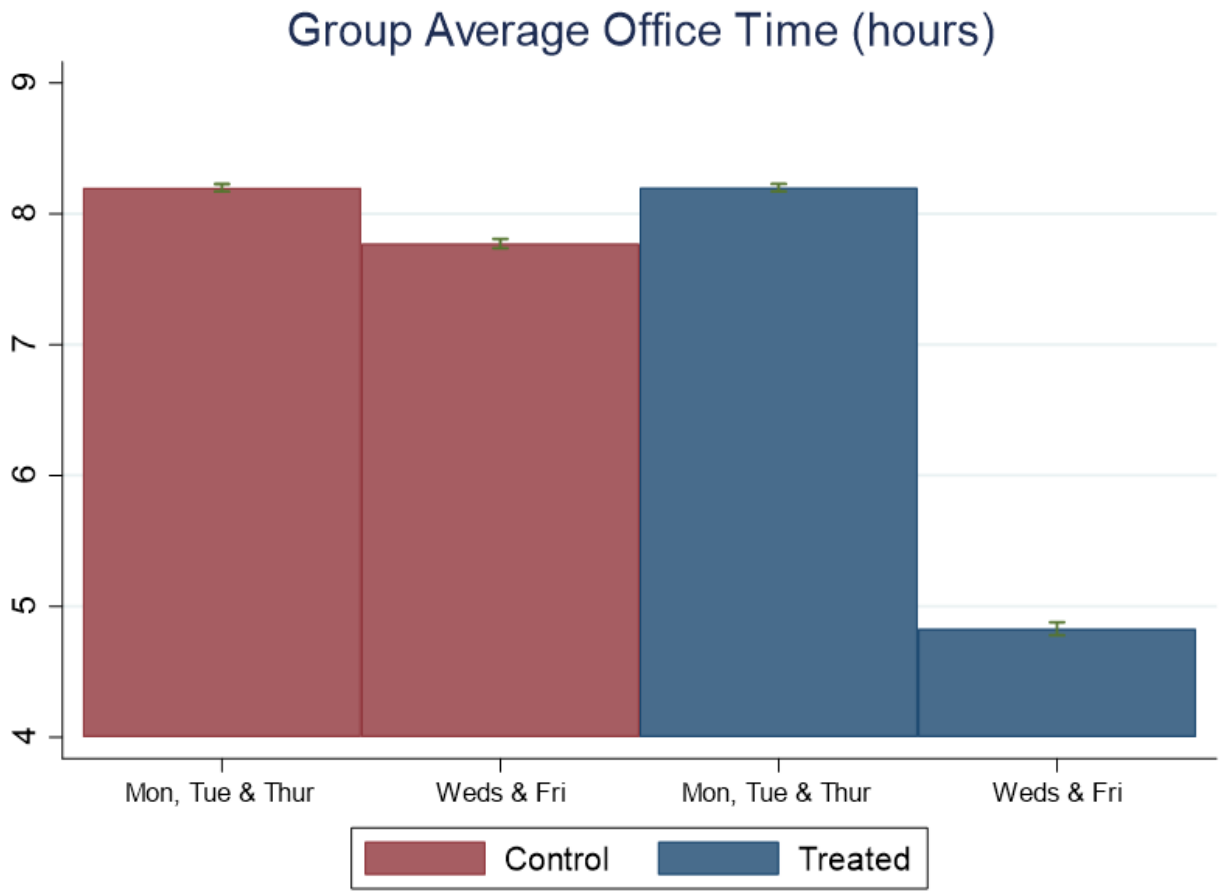
WFH Take-Up

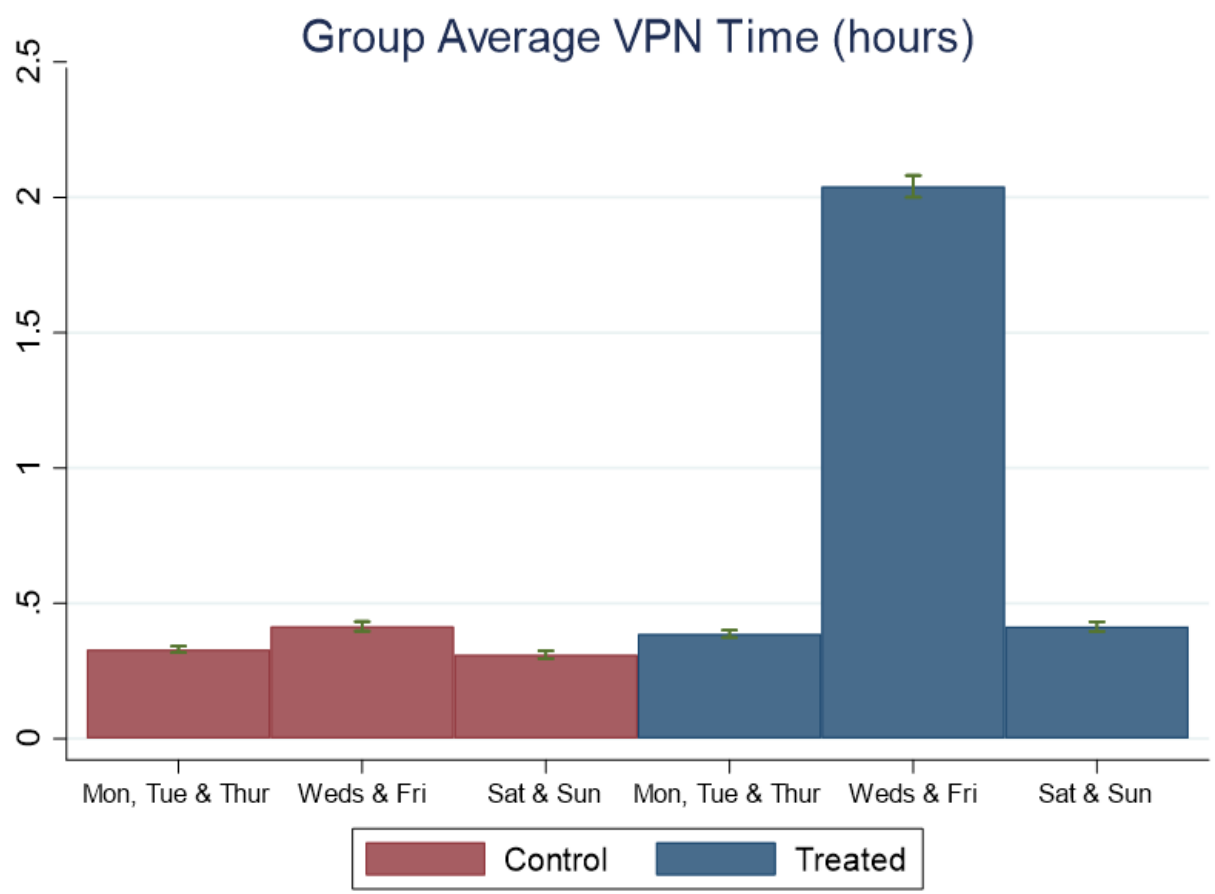
Communication

Hours

Performance

Treatment employees have less office time and more home VPN time on Wednesday and Friday





Notes: 1612 participants, from May 2021 to Jan 2022. Office Time measured as time between card swap at office entry and exit (capped at 15 hours). VPN Time is the time connected to company server to access internal websites, software and data

VPN time actually increases on all days, including Saturday & Sunday

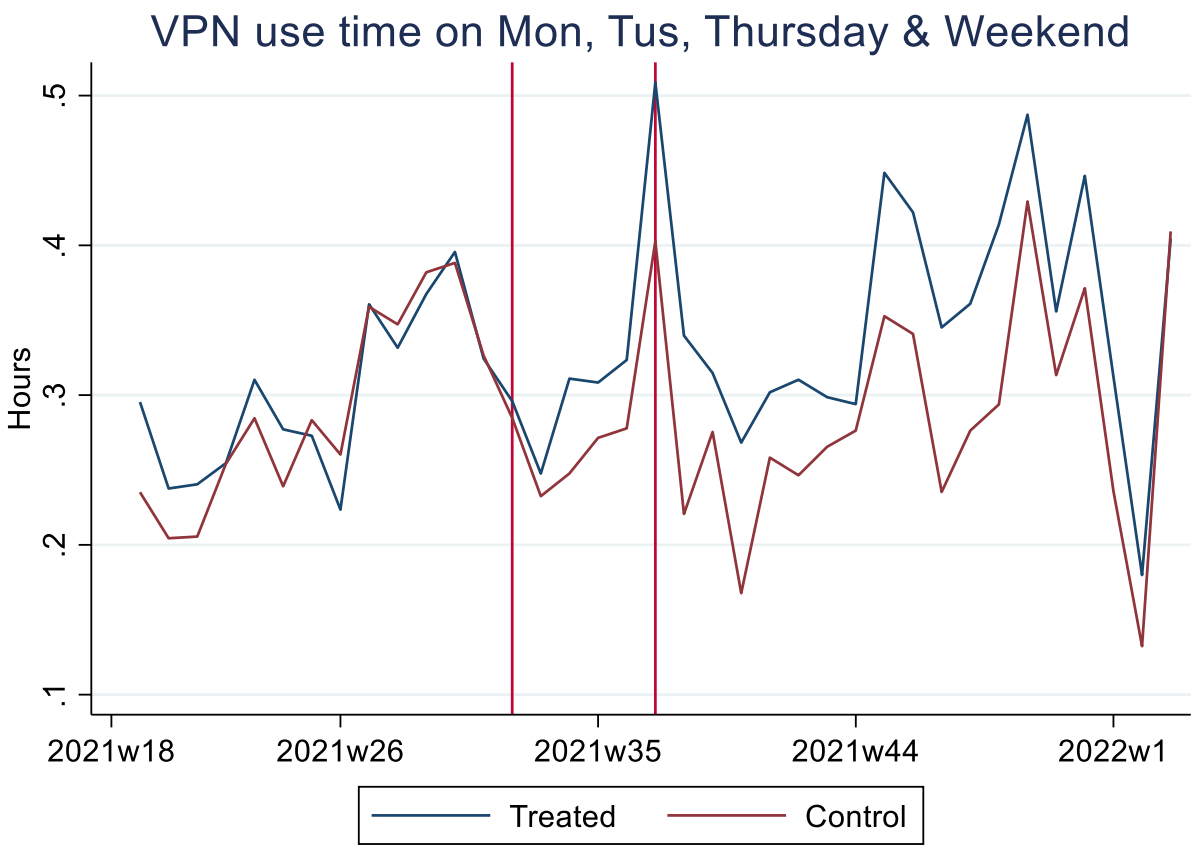
	Overall	Monday	Tues	Wed	Thursday	Friday	Sat	Sun
dependent variable	Individual daily VPN time							
Treat	.508***	.0719**	.0813**	1.56***	.0926***	1.63***	.0778***	.0877***
	(0.0328)	(0.0338)	(0.0345)	(0.0784)	(0.0336)	(0.0719)	(0.0274)	(0.0326)
Control Means	0.288***	0.267***	0.286***	0.294***	0.276***	0.288***	0.269***	0.334***
	(1.15)	(1.10)	(1.15)	(1.17)	(1.11)	(1.18)	(1.11)	(1.23)
dependent variable	Individual daily Office time							
Treat	-0.849***	-0.00904	-0.0320	-2.634***	-0.210**	-2.998***	0.00542	0.0115
	(0.0573)	(0.0646)	(0.0754)	(0.135)	(0.0941)	(0.117)	(0.0168)	(0.0122)
Control Means	6.562***	9.451***	9.269***	8.784***	8.222***	7.694***	0.991***	0.660***
	(0.0379)	(0.0466)	(0.0527)	(0.0684)	(0.0892)	(0.0504)	(0.0122)	(0.00890)
N (days)	169	25	23	24	25	24	24	24

Calculations suggest working time similar for treatment and control

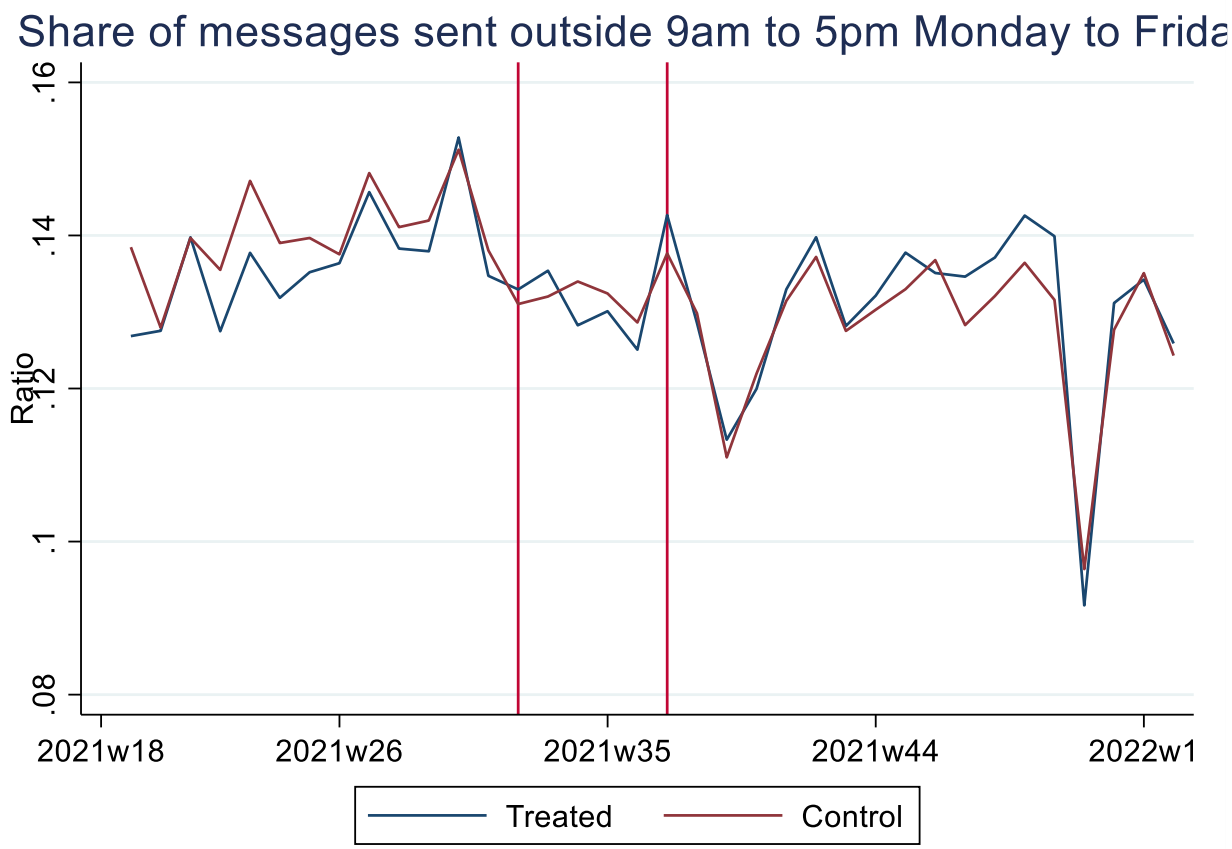
- Treatment 5.6 hours less office time on W&F but 3.2 hours more total VPN time
- VPN used ≈75% of time when WFH, implying about +4.3 home-working hours
- So in total 1.3 hours less on W&F
- But about 0.5-hour total increase on M,T&T

Note: 1612 participants, from May 2021 to Jan 2022; N(person*days)=221,794

See 6.6% more VPN use and 1.6% more messages by treatment employees outside regular hours



Flextime + Flexplace



Flextime

Note: Weekly plot from May 10th 2021 to January 23rd 2022 for 1612 employees. Differences significant at the 5% level for both share of messages and VPN use between treatment and control

Experimental design

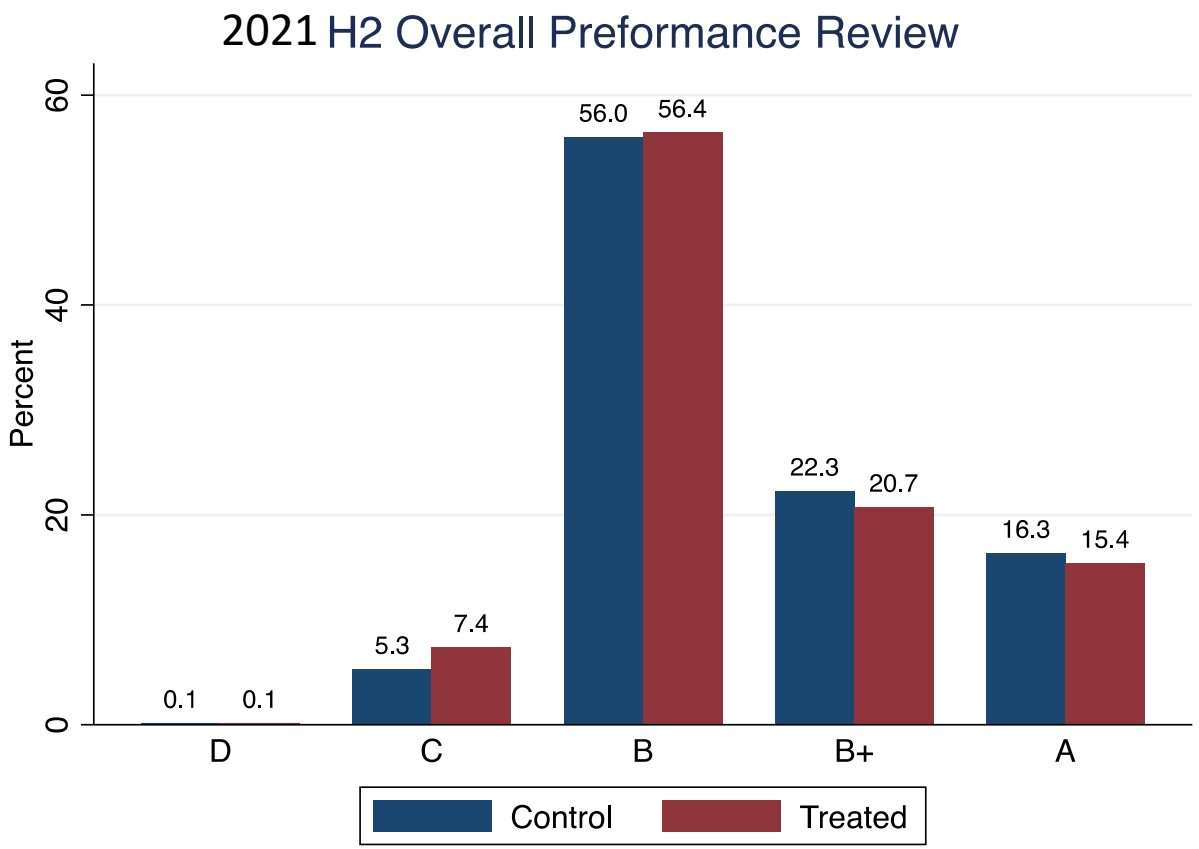
WFH Take-Up

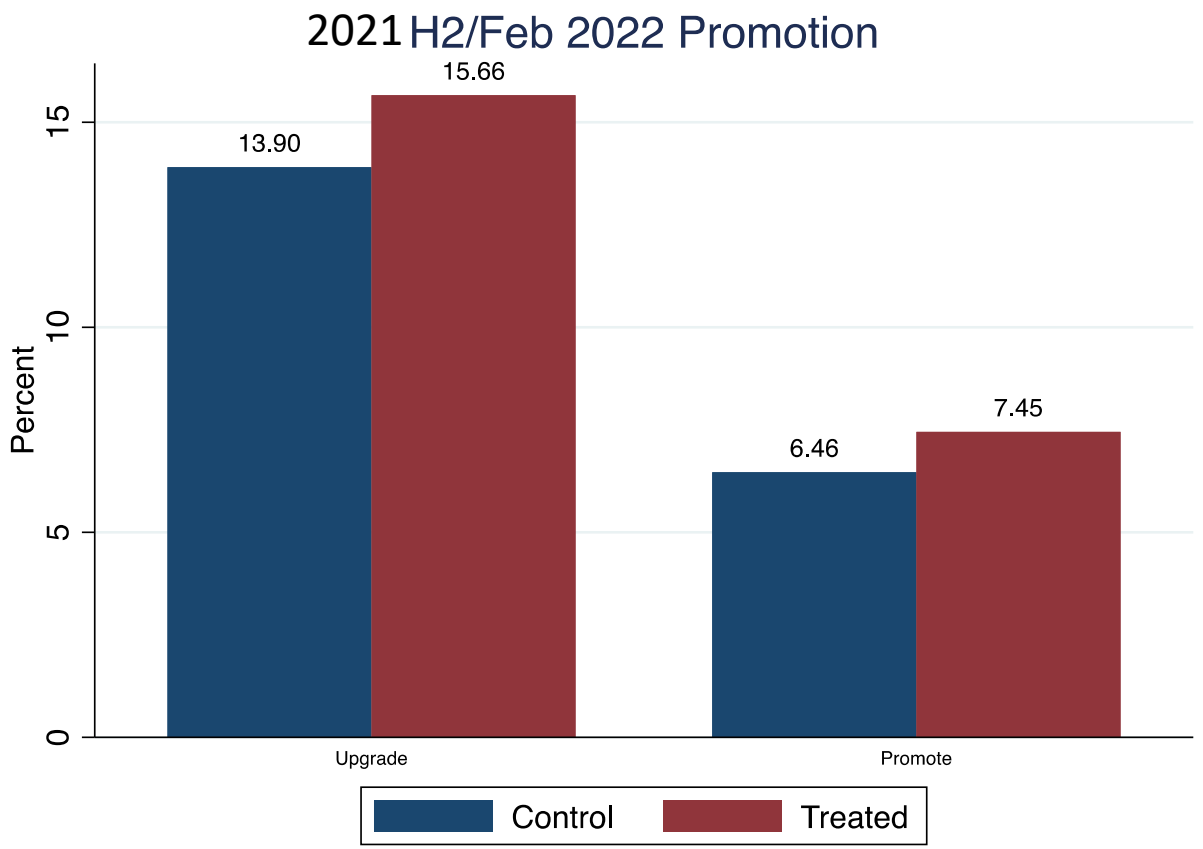
Communication

Hours

Performance

Firm has a rigorous 6-month performance appraisal to set pay and promotions: we see no significant impact (in the first 6-months)





Not significantly different: _b[T]=-0.056 (.043)

Not significantly different: _b[T]= 0.037 (0.029)

No negative spillover

In one-year

Performance heterogeneity – surprisingly not too much

Y: H2 Performance Grade	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Treat	-0.0556	-0.0470	-0.0636	-0.0252	-0.0686	-0.0117	0.0106	1.598	-0.0499
	(0.0431)	(0.0592)	(0.0516)	(0.0732)	(0.104)	(0.0681)	(0.0620)	(3.48)	(0.0518)
Treat-manager		0.0428							
		(0.0604)							
Treat*Treat-manager		-0.0207							
		(0.0863)							
Volunteer			-0.0808						
			(0.0670)						
Treat*Volunteer			0.0286						
			(0.0939)						
Tenure				-0.0151***					
				(0.00578)					
Treat*Tenure				-0.00601					
				(0.00853)					
Commute					-0.0883**				
					(0.0377)				
Treat*Commute					0.00787				
					(0.0536)				
Female						-0.127**			
						(0.0607)			
Treat*Female						0.0636			
						(0.0876)			
Children							-0.0431		
							(0.0605)		
Treat*Children							-0.151*		
							(0.0860)		
Messages								0.0636**	
								(0.0254)	
Treat*Messages								0.0119	
								(0.035)	
Business Function									0.0665
									0.0670
Treat*Business-F									-0.0228
									(0.0936)
N	1507	1507	1507	1507	1507	1507	1507	1507	1507

Promotions heterogeneity – again not too much

Y: Promotion	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Treat	0.0373	0.0512	0.0395	0.0434	-0.0306	0.0136	0.0199	-2.051	0.0448
	(0.0292)	(0.0387)	(0.0358)	(0.0521)	(0.0736)	(0.0480)	(0.0456)	(2.50)	(0.0379)
Treat manager		0.0792*							
		(0.0405)							
Treat*Treat-manager		-0.0342							
		(0.0589)							
Volunteer			-0.0155						
			(0.0425)						
Treat*Volunteer			-0.00651						
			(0.0620)						
Tenure				-0.0214***					
				(0.00363)					
Treat*Tenure				-0.00238					
				(0.00525)					
Commute					-0.0589**				
					(0.0252)				
Treat*Commute					0.0330				
					(0.0370)				
Female						0.00579			
						(0.0422)			
Treat*Female						-0.0369			
						(0.0605)			
Children							-0.207***		
							(0.0394)		
Treat*Children							0.0116		
							(0.0571)		
Messages								0.0421**	
								(0.0189)	
Treat*Messages								-0.0275	
								(0.0251)	
Business Function									-0.0492
									(0.0459)
Treat*Business-F									0.0339
									(0.0652)
N	1507	1507	1507	1507	1507	1507	1507	1507	1507

Also see no evidence of performance spillover effects within teams

	(1)	(2)	(3)	(4)	(5)	(6)
	Performance grade			Promotion		
Treat	-0.0556	-0.0556	-0.0558	0.0337	0.0340	0.0337
	(0.0431)	(0.0432)	(0.0431)	(0.0310)	(0.0310)	(0.0310)
Team Treatment%		-0.0211			-0.00408	
		(0.0762)			(0.0537)	
1+ team member in treatment			0.0108			-0.0192
			(0.0668)			(0.0468)
_cons	3.494***	3.511***	3.491***	0.290***	0.287***	0.302***
	(0.0302)	(0.0476)	(0.0656)	(0.0213)	(0.0334)	(0.0460)
N	1507	1507	1507	1507	1507	1507

Notes: 1612 participants, from August 9th 2021 (1st wave) and September 13th (2nd wave) to January 23rd 2022.

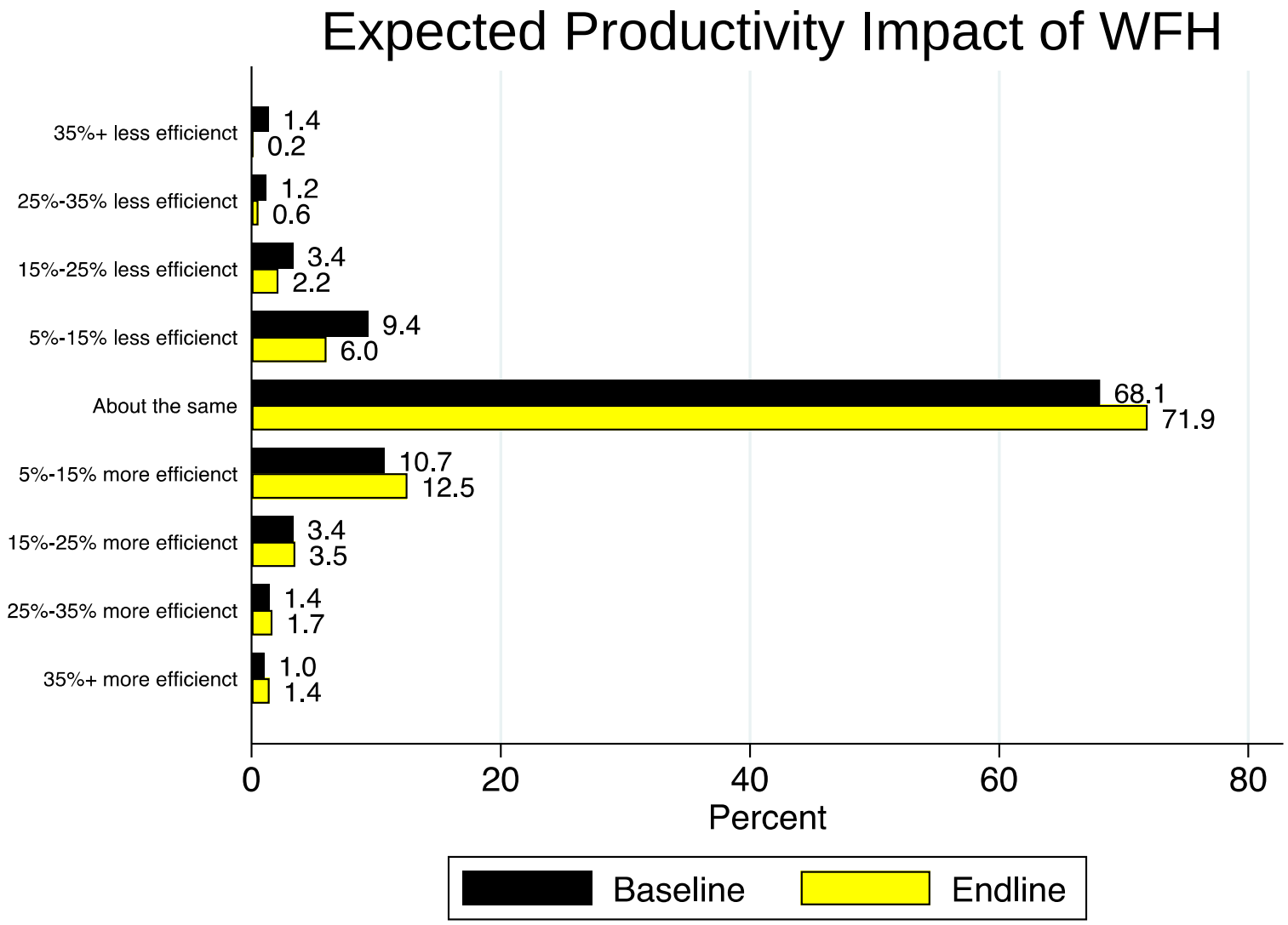
But do see treatment employees writing about 8% more lines of code, mostly driven by increased coding on their days in the office

Dep Var: Lines of Code	M to F	M to F	W&F	M,T&T
Treat	0.0827*	0.0809*	0.0609	0.119**
	(0.0489)	(0.0484)	(0.0675)	(0.0555)
Date FE		Y	Y	Y
Project FE	Y	Y	Y	Y
Level FE	Y	Y	Y	Y
N	32612	32612	12148	19946

Notes: The dependent variable is inverse hyperbolic sine of lines of code submitted, which is extremely similar to log(1+x) so for large values is approximately a percentage change. The data covers the experimental period, so starting in August 9th 2021 for the 1st wave and September 13th for the 2nd wave, and running to January 23rd, 2022 for both waves. Lines of code is available for 729 employees whose primary role was writing code. Standard errors clustered by individual.

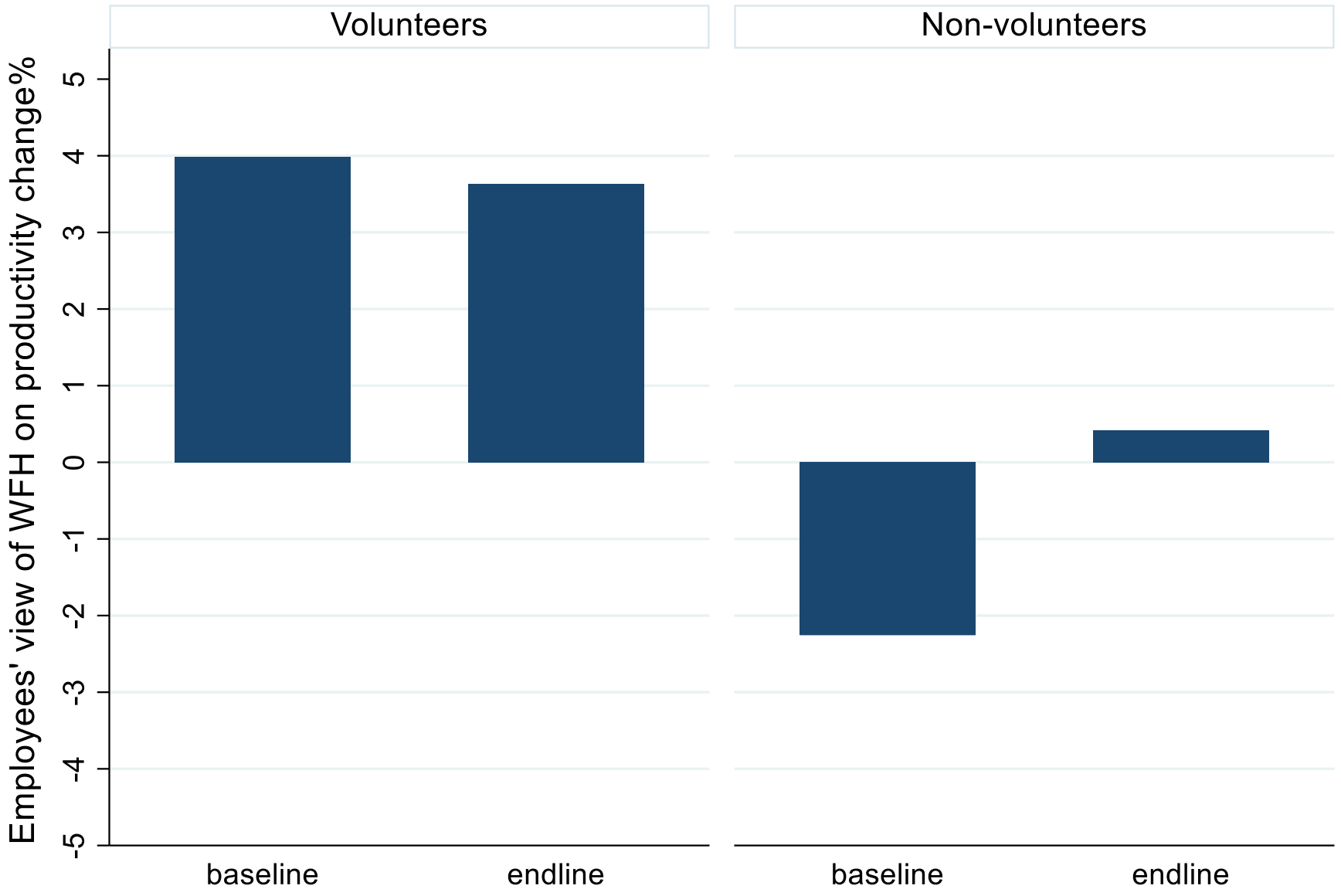
However, the experiment has improved views on WFH productivity

- Response to the question: "*How do you think Wednesday and Friday WFH will impact your productivity compared to working in the office*"
- Mean productivity impact is 0.06% (August 21) and 1.8% (January 22)
- Both January 22 level and change vs August 21 significant at the 1%
- Change is not different between Treatment and Control (both increase), so you do not need to experience WFH yourself to update



[Performance meets expectations]

Increase in WFH productivity views reflects convergence: volunteers slightly moderated, and non-volunteers became more positive



Consistent with evidence from the COVID-pandemic and other work-from-home experiments that individuals ex ante can have quite extreme views (e.g. people claiming "*Working from home is shirking from home*…")

The experience of WFH moderates and improves individuals' expectations.

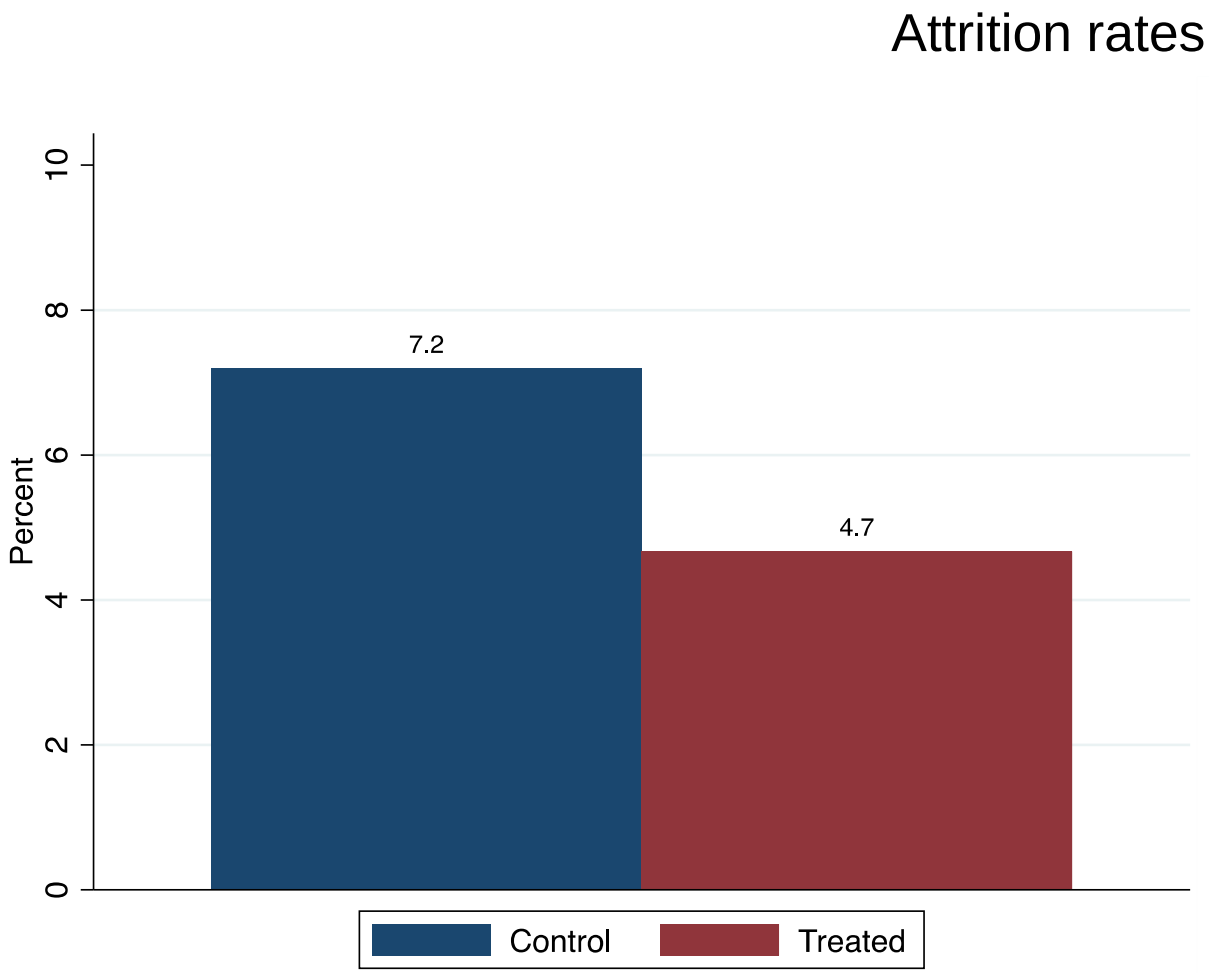
Note: Sample from 1315 (463 volunteers,
852 non-v) on baseline,1345 (446 volunteers,
899 non-v) on the endline

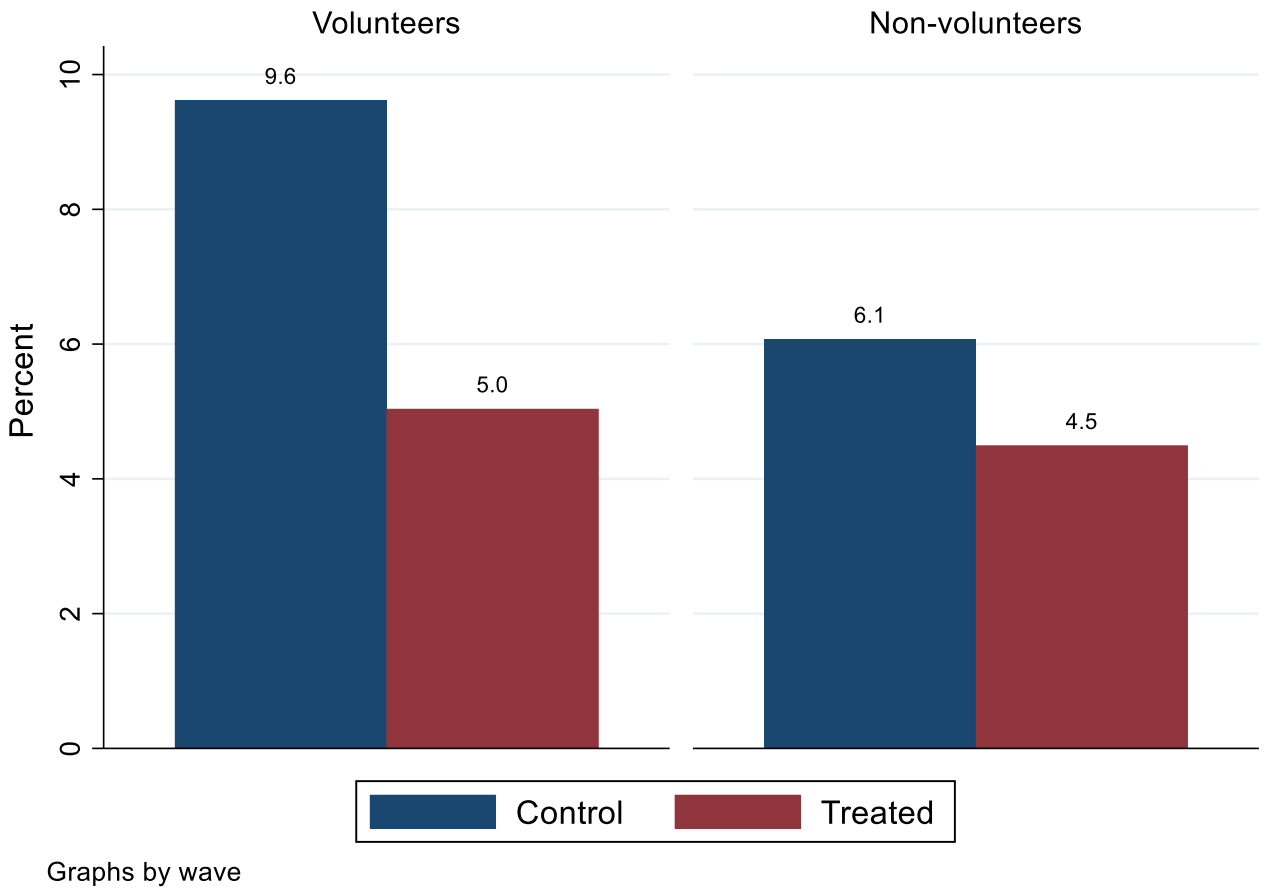
Also reduced non-working days (sick-leave, absence, leaving early & holiday) by 12% – mostly from a massive 1/3 reduction on Friday

	(1)	(2)	(3)	(4)	(5)	(6)
Non-working day	Overall	Monday	Tuesday	Wednesday	Thursday	Friday
Treat	-0.879***	0.742**	0.713**	-2.221***	1.115***	-4.505***
	(0.228)	(0.341)	(0.307)	(0.294)	(0.313)	(0.334)
_cons	7.323***	6.542***	5.251***	6.315***	7.265***	11.06***
	(0.179)	(0.242)	(0.222)	(0.230)	(0.222)	(0.256)
Business Trip						
Treat	-0.297	0.669**	0.605*	-0.847**	0.00238	-1.773***
	(0.303)	(0.293)	(0.320)	(0.332)	(0.416)	(0.358)
_cons	5.633***	3.589***	6.960***	4.104***	6.012***	7.364***
	(0.218)	(0.185)	(0.216)	(0.253)	(0.298)	(0.268)
N	158547	29436	31045	32696	32692	32678

Note: The dependent variable is percentage of days, so -0.879 in column (1) means almost 0.9% less days were missed (about 2.3 given ≈250 working days in a year). Given the baseline of 7.323 % days missed (≈18 days for holidays, absence, sick leave etc) this is a reduction of about 12%. “Business trip” is visits to suppliers, customers etc. Standard errors clustered by individual

Attrition fell 30% in the treatment group (7.2% vs 4.7%), with the drop largest in the volunteer group (those who most want to WFH)



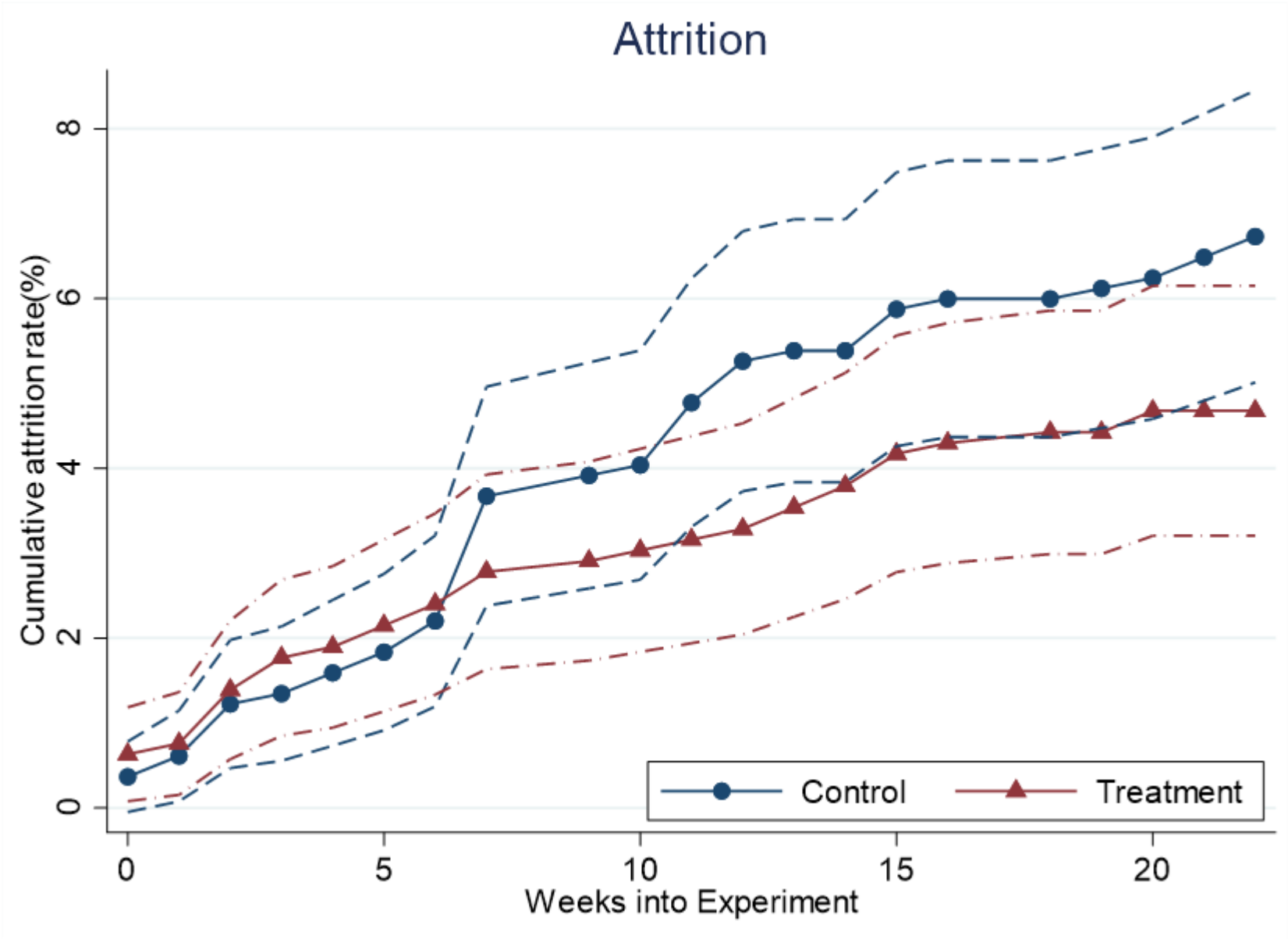


Difference significant at 5% : _b[T]=-0.025 (.0117)

Heterogeneity

Resentment effect?

- Attrition of the marketing and business trip divisions is 9.8% and 10.5%, respectively



Indeed, all job satisfaction survey measures improved for treatment employees (especially those that volunteered to WFH at the outset)

	(1) Recommend to friends	(2) Work satisfaction	(3) Life satisfy satisfaction	(4) Work-life balance	(5) Expected attrition
Treat	0.143	0.190*	0.223*	0.408***	-0.0185*
	(0.116)	(0.0984)	(0.118)	(0.135)	(0.0105)
Volunteer	-0.379**	-0.311**	-0.151	-0.114	-0.0599***
	(0.170)	(0.144)	(0.154)	(0.175)	(0.0141)
Treat*volunteer	0.634***	0.491***	0.384*	0.387	-0.0120
	(0.219)	(0.187)	(0.209)	(0.236)	(0.0196)
_cons	8.115***	7.934***	7.510***	6.982***	-0.0875***
	(0.0815)	(0.0682)	(0.0822)	(0.0957)	(0.00742)
N	1345	1345	1345	1345	1345

Scales from 1 (worst) to 10 (best)

After the Experiment Ended…

On February 14th the HR board decided to roll out hybrid WFH to the entire company (starting on March 1st , announced immediately)

Trip.com Group™

EN

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Management

James Jianzhang Liang
Co-founder, Executive Chairman of the Board

Min Fan
Co-founder, Vice Chairman of the Board and President

Jane Jie Sun
Chief Executive Officer, Director

Cindy Xiaofan Wang
Chief Financial Officer, Executive Vice President

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Internal Document of Trip.com Group

Hybrid Work Regulation

【Applicable to All Companies】

Trip.com Group SH HR (2022) 005

Topic	Employee Management
Publishing Department	Human Resources Department
Release Date	2022-02-14
Implementation Date	2022-03-01
Drafting Department	Human Resources Department
CC	Heads of Human Resources Department, Heads of Relevant Regions of Human Resources, Heads of Human Resources of Branches, Heads of Business Units / Department

Next steps

Continue to collect data on performance, promotion, attrition and recruitment

Collect this for experimental divisions and two other “control” divisions

BU	Not applicable	Days per week	Qualified employees
Accommodation	Sourcing, O2O	2	1636
Airfare (experimental)		2	1110
Vacation		2	2824
Train ticket		2	571
Business Travel		1	1053
Finance	Permission from higher level	2	649
Marketing	ToG, ground force	2	948
IT (experimental)		2	908
International Business		2	275
Supporting	Documents, management	1	243
HR		1	114
Consumer Experience		2	25

Summary of results

1. Employees appear to enjoy WFH – even non-volunteers have a 38% take-up

2. WFH reduced attrition and non-working days by about 30% and 12%

3. Employees appear to also flexitime – work less on WFH days, more on others

4. Employees positively update on WFH from experiencing this

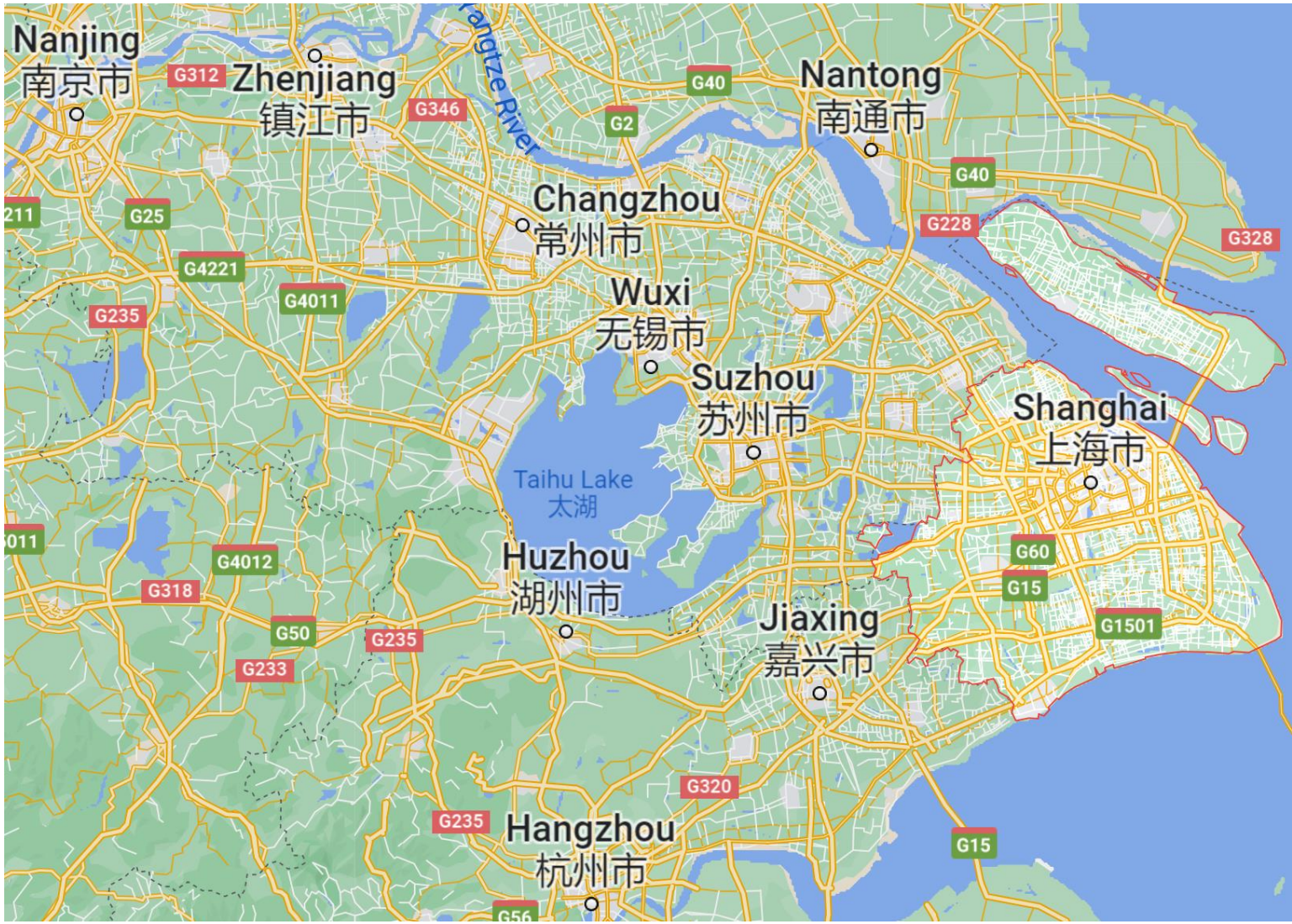
5. Impact on performance is small and insignificant

Suggests WFH positive for the firm and ex-ante probably under-appreciated

Back-Up

Other benefits

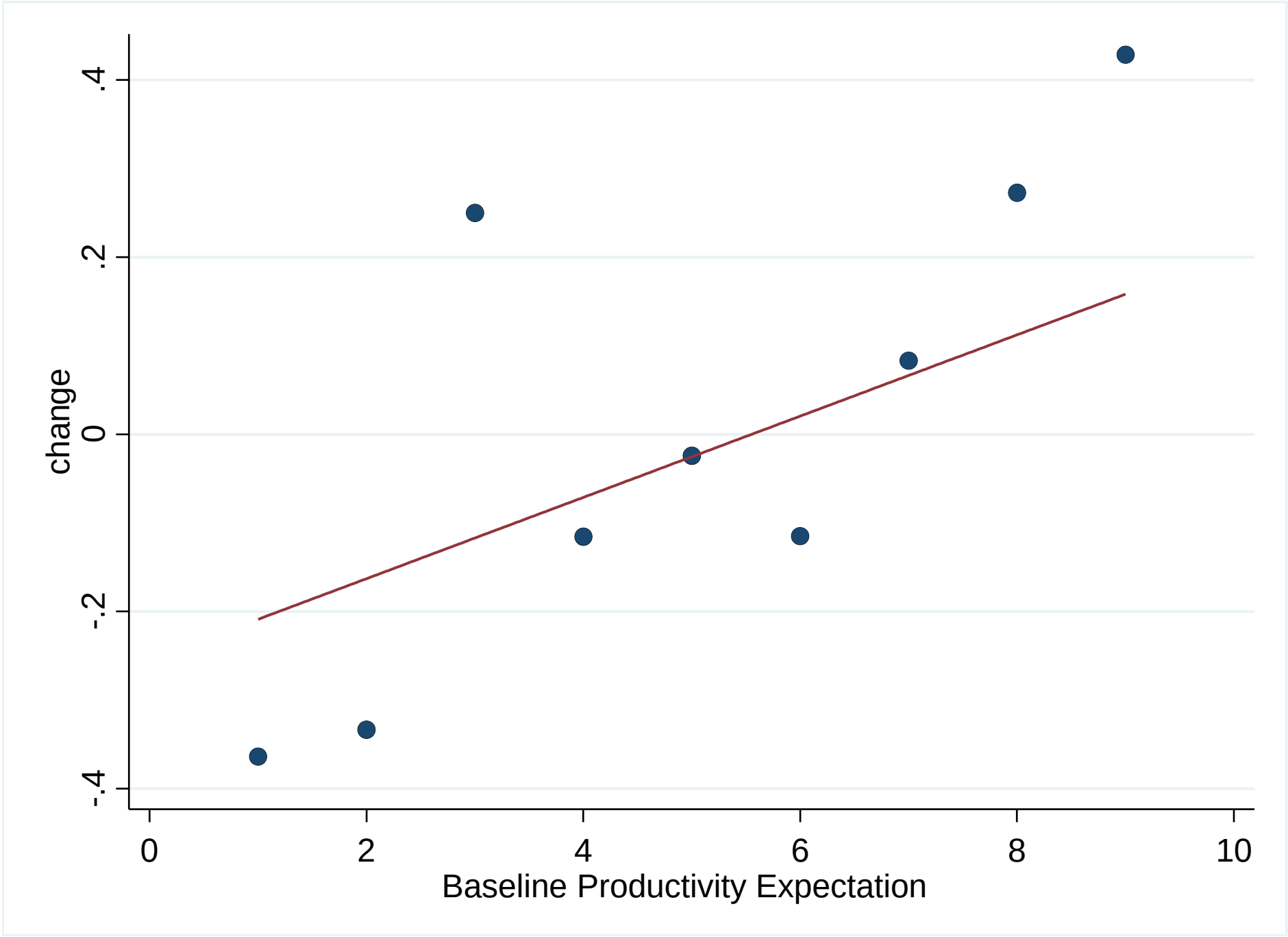
- Cost of attrition/replacement 20%
- Stable workforce + productivity
- Saved living cost



Shanghai Lockdown (3.28~6.15, 2022)

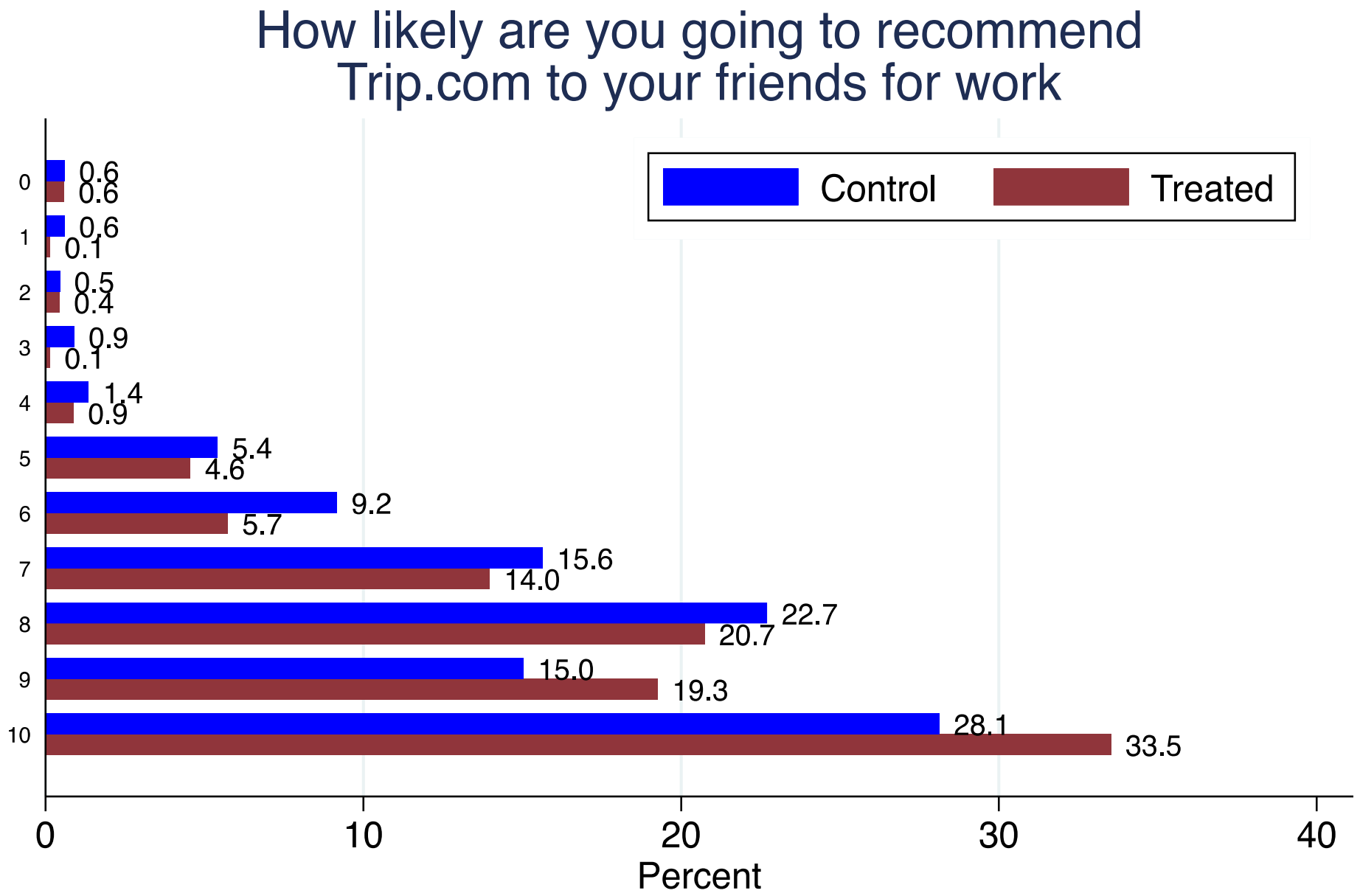
Variable	(1) Lines of Code M to F	(2) Messages	(3) VPN (hour)
Treat	0.143**	3.522*	0.0574
	(0.0689)	(2.122)	(0.130)
Date FE	Y	Y	Y
Level	Y		
Project FE	Y		
N	12485	116288	116288

Do people who say WFH improved their performance see better performance if they WFH?



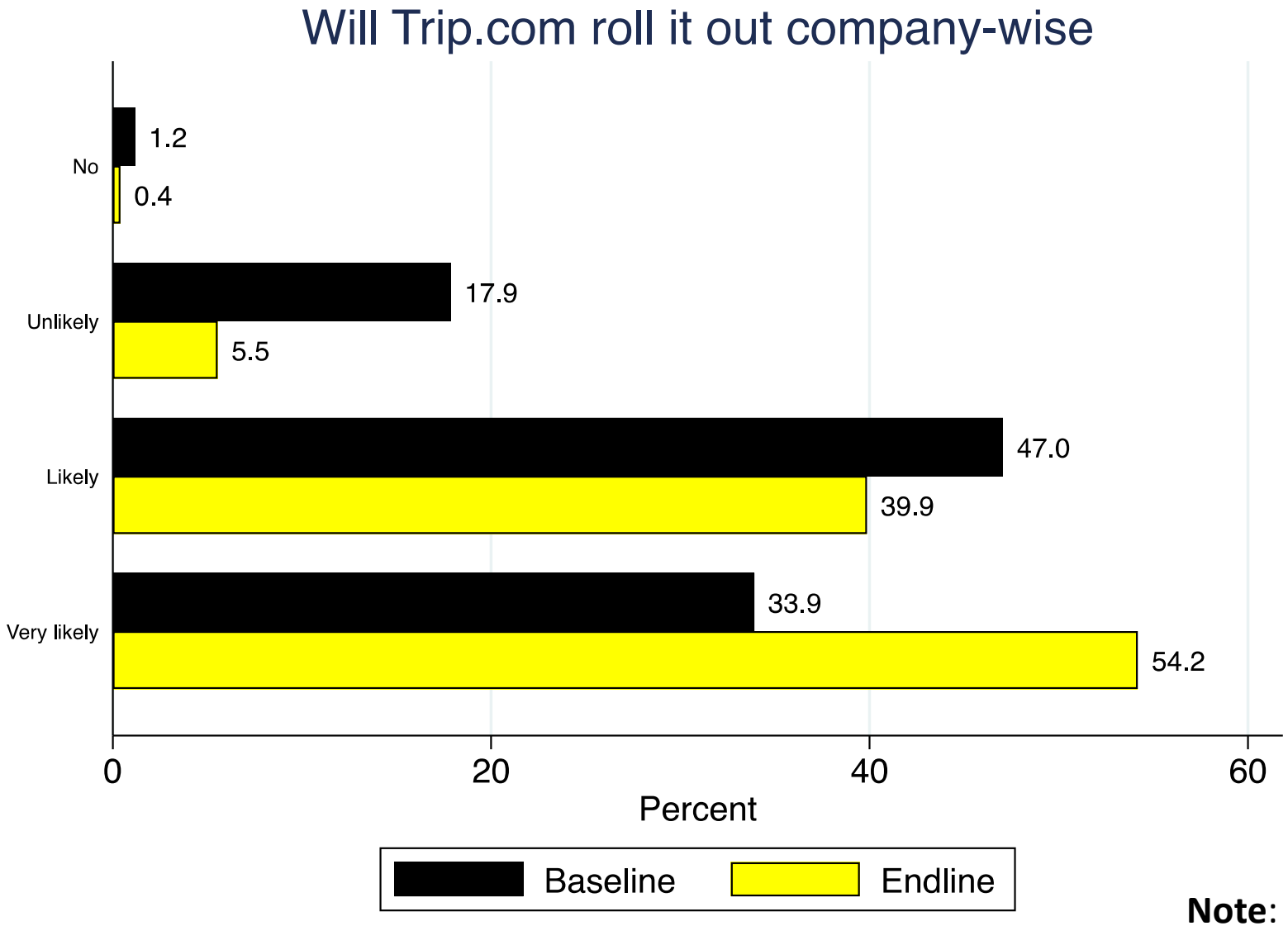
Back

Firm believes it will also improve recruitment (but harder to test)



Note: Sample from 1315 survey respondees. Score from 0 (worst) to 10 (best)

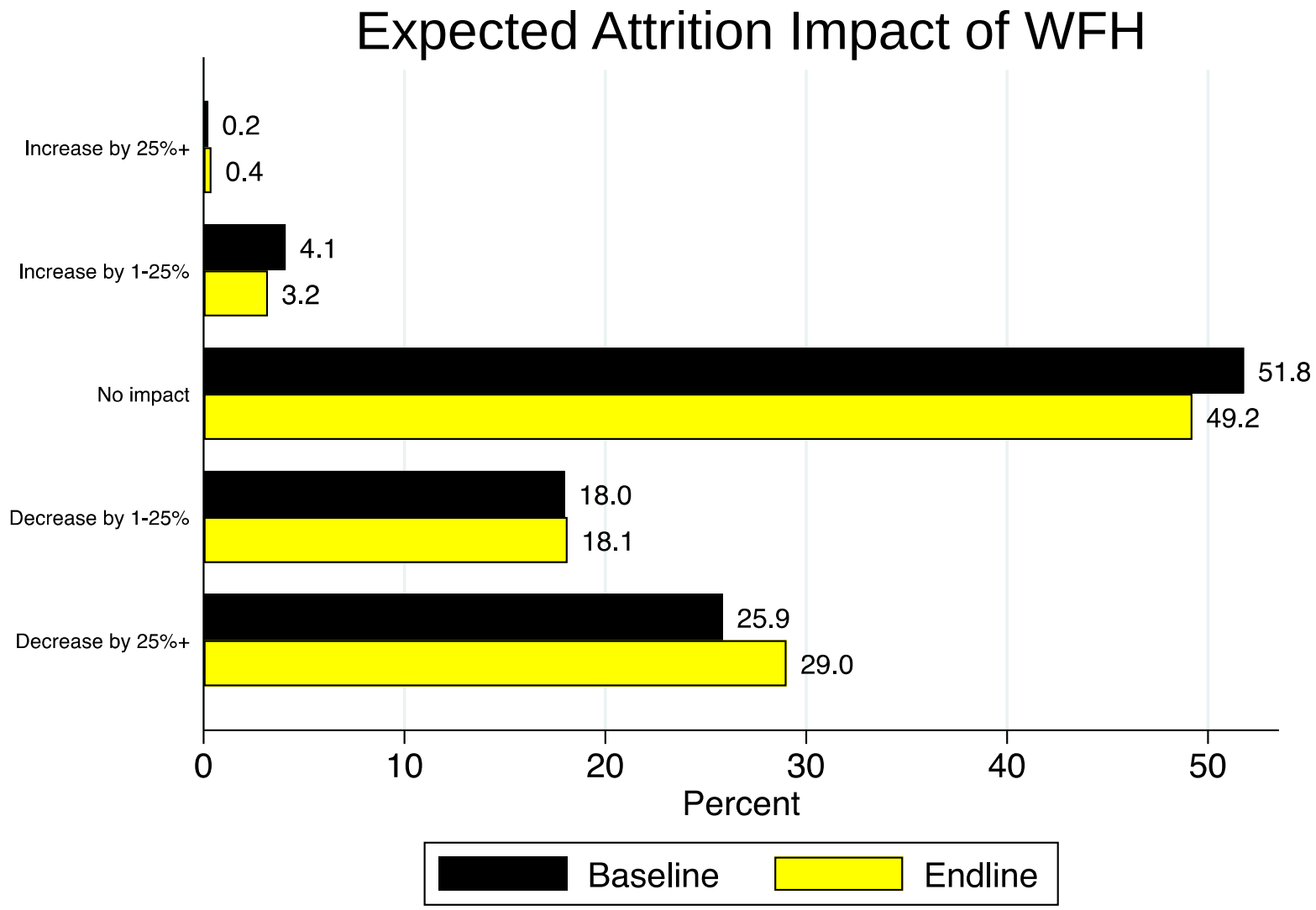
Employees thought the company could roll out WFH after the experiment but were not certain



Note: 1442 and 1461 baseline/endline respondents

Employees also predicted WFH would reduce attrition

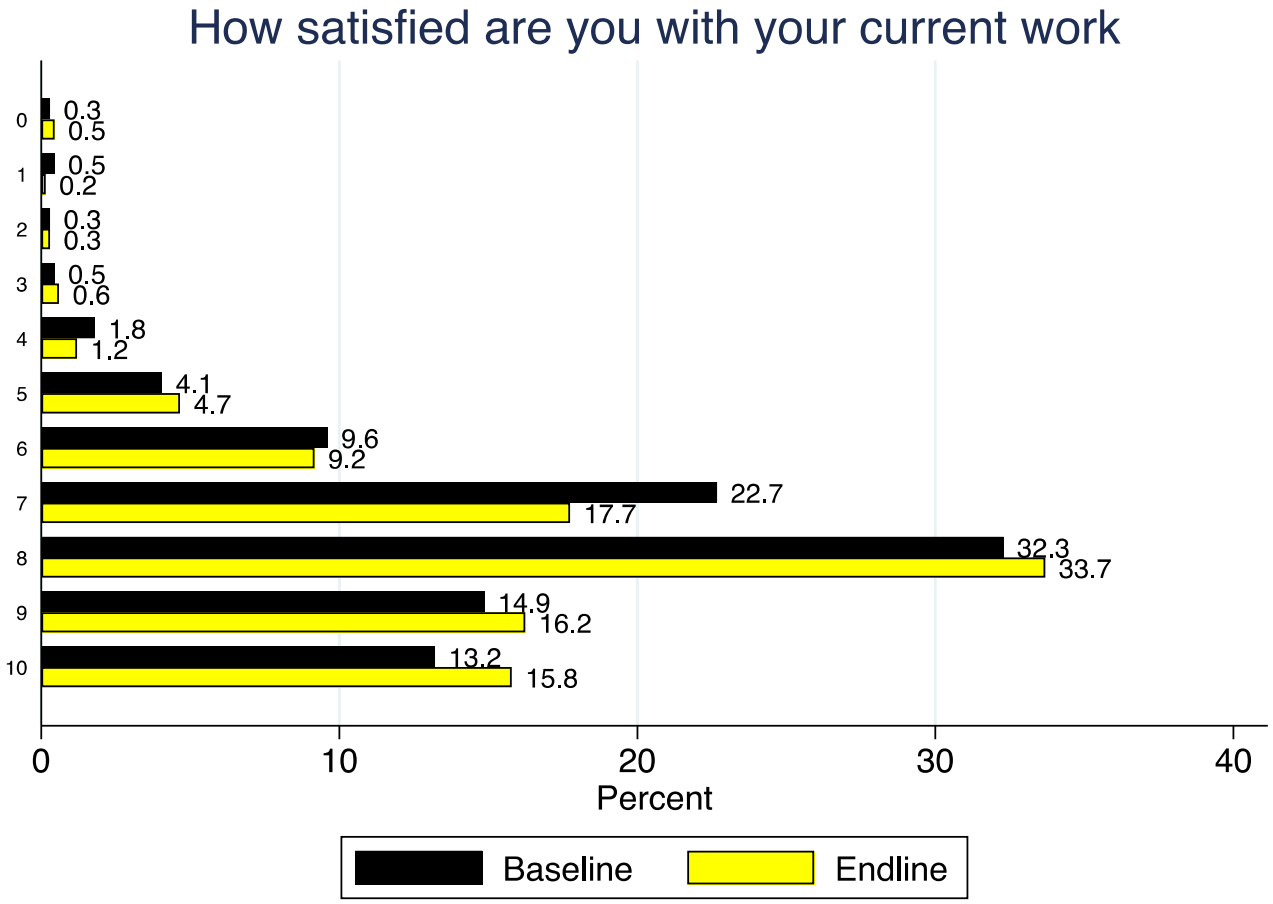
- Response to the question: "*How will Wednesday and Friday working from home likely impact your quit rates*"
- Mean impact is -11.3% (August 21) and -12.1% (January 22).
- Levels significantly different from zero, but change is not significant



Improved self-reported work satisfaction

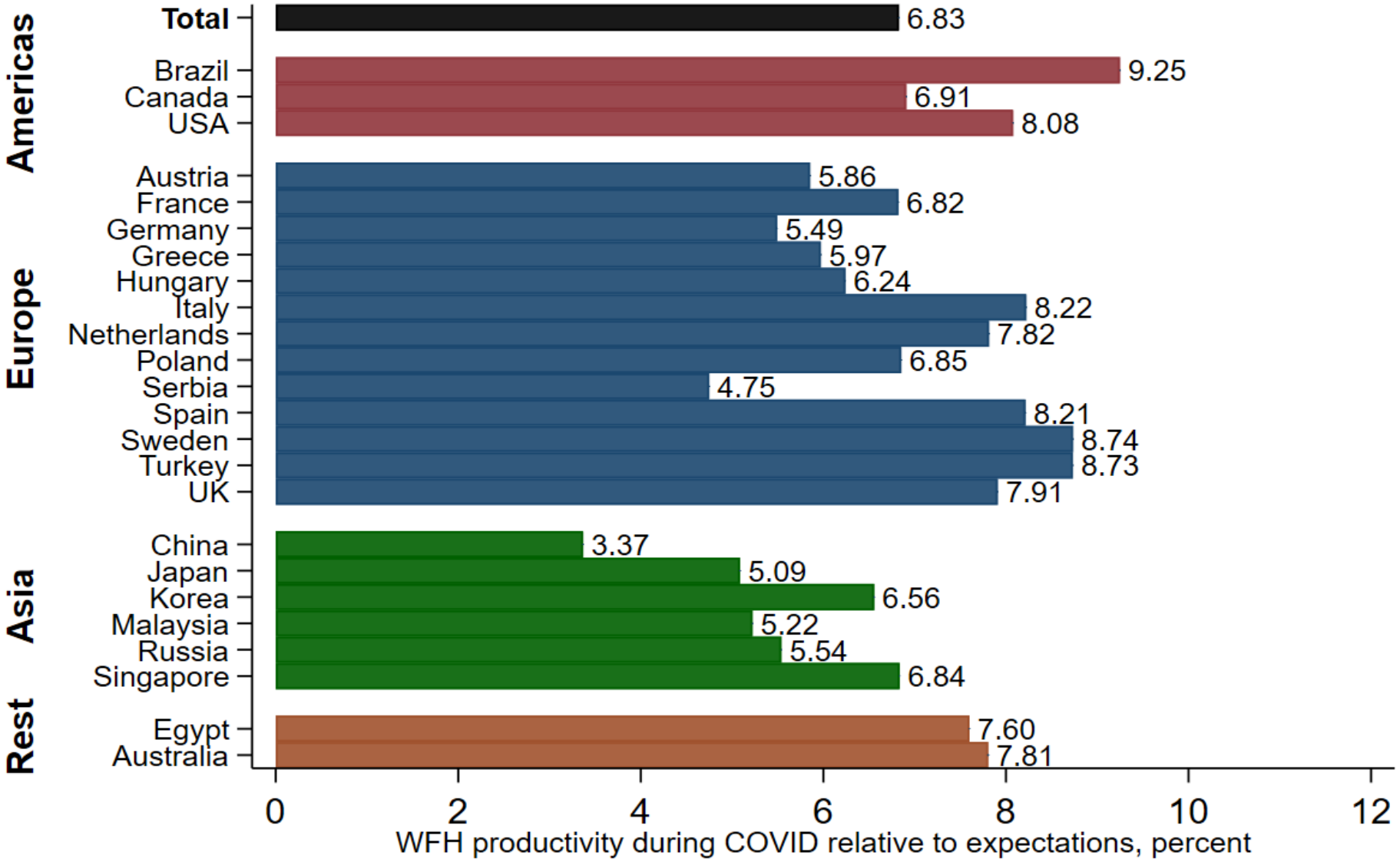
Treatment

Control



Consistent with global data showing WFH turned out better than expected for employees that were forced to WFH during the pandemic

WFH productivity, relative to expectations

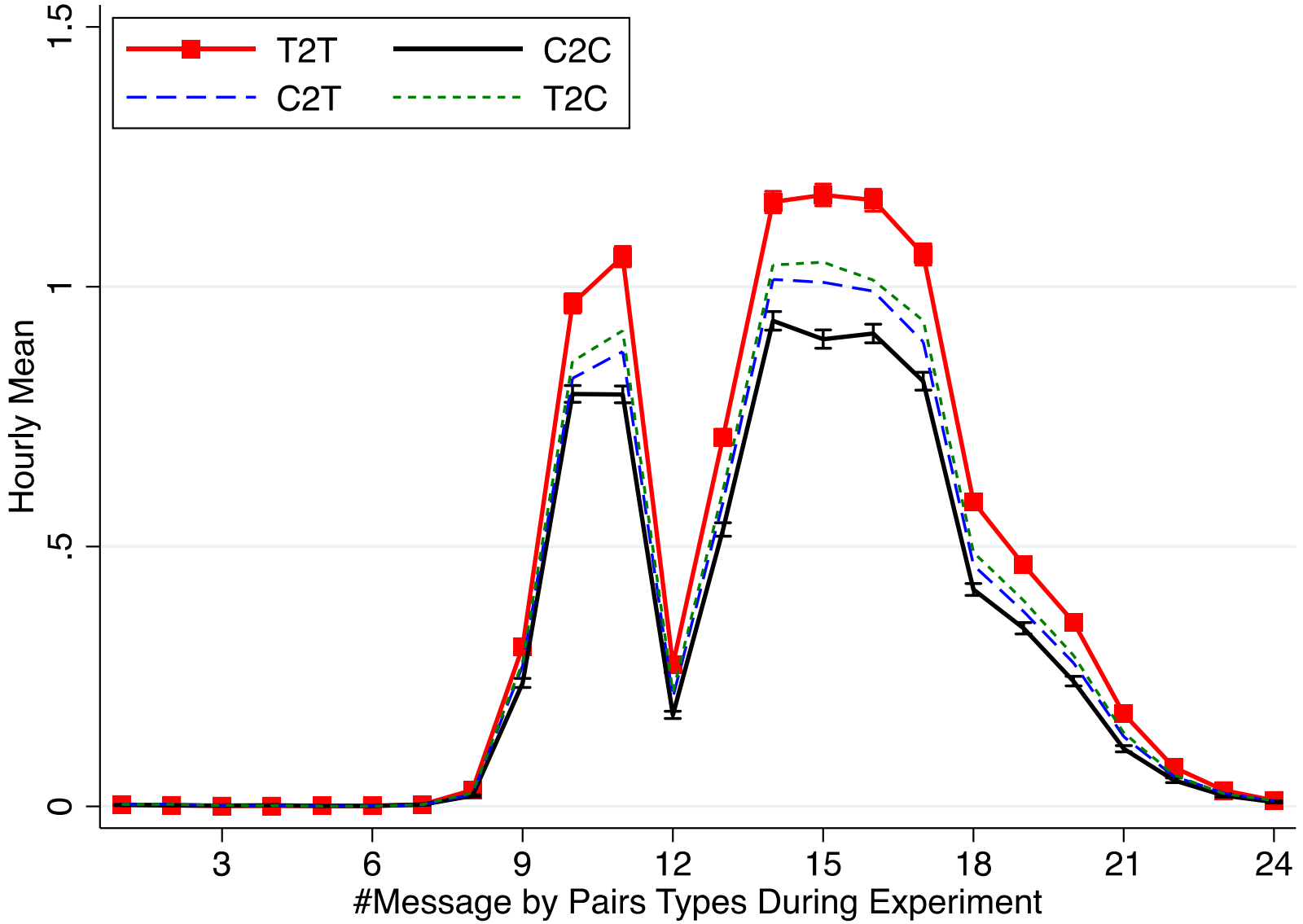


Notes: Responses to the questions: ''Compared to your expectations before COVID how has working from home turned out for you?''. Response bins in terms of increase or decrease in productivity of WFH compared to expectations. Only respondents who report they have worked primarily from home at some point during the COVID-19 pandemic. Controls for gender, age groups, education, industry and wave fixed effects.

Sample of N=16,983 Global WFH respondents, surveyed in August 2021 and February 2022.

Source: "Working from home around the world", Aksoy, Barrero, Bloom, Davis, Dolls and Zarate (2022)

Consistent with WFH has a faster response, treatment more likely to message other treatment (T2T) than control (T2C and C2T)



Suggests home workers more likely to interact with other home workers (at least on messaging).

Not something we expected, and possibly that workers group partly based on WFH status

Heterogeneous impact on attrition – who are more responsive to WFH?

	(1) Attrite	(2) Attrite	(3) Attrite	(4) Attrite	(5) Attrite	(6) Attrite	(7) Attrite
Treat	-0.0252**	-0.0172	-0.0758	-0.0433**	-0.0173	-0.0571***	-0.0297
	(0.0117)	(0.0165)	(0.0476)	(0.0218)	(0.0254)	(0.0213)	(0.0184)
Treat manager		0.00465					
		(0.0182)					
Treat manager*Treat		-0.0166					
		(0.0236)					
Volunteer			-0.0354*				
			(0.0209)				
Treat*Volunteer			0.0300				
			(0.0265)				
tenure				-0.000529***			
				(0.000138)			
Treat*tenure				0.000211			
				(0.000183)			
commute_time					-0.00139		
					(0.0105)		
Treat*commute_time					-0.00696		
					(0.0127)		
female						0.0412**	
						(0.0204)	
Treat*female						-0.0489*	
						(0.0255)	
children							-0.0383**
							(0.0181)
Treat*children							0.00495
							(0.0232)
_cons	0.0720***	0.0698***	0.132***	0.113***	0.0683***	0.0989***	0.0914***
	(0.00903)	(0.0121)	(0.0380)	(0.0169)	(0.0200)	(0.0178)	(0.0143)
N	1612	1612	1612	1612	1612	1612	1612

Standard errors in parentheses

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

Back

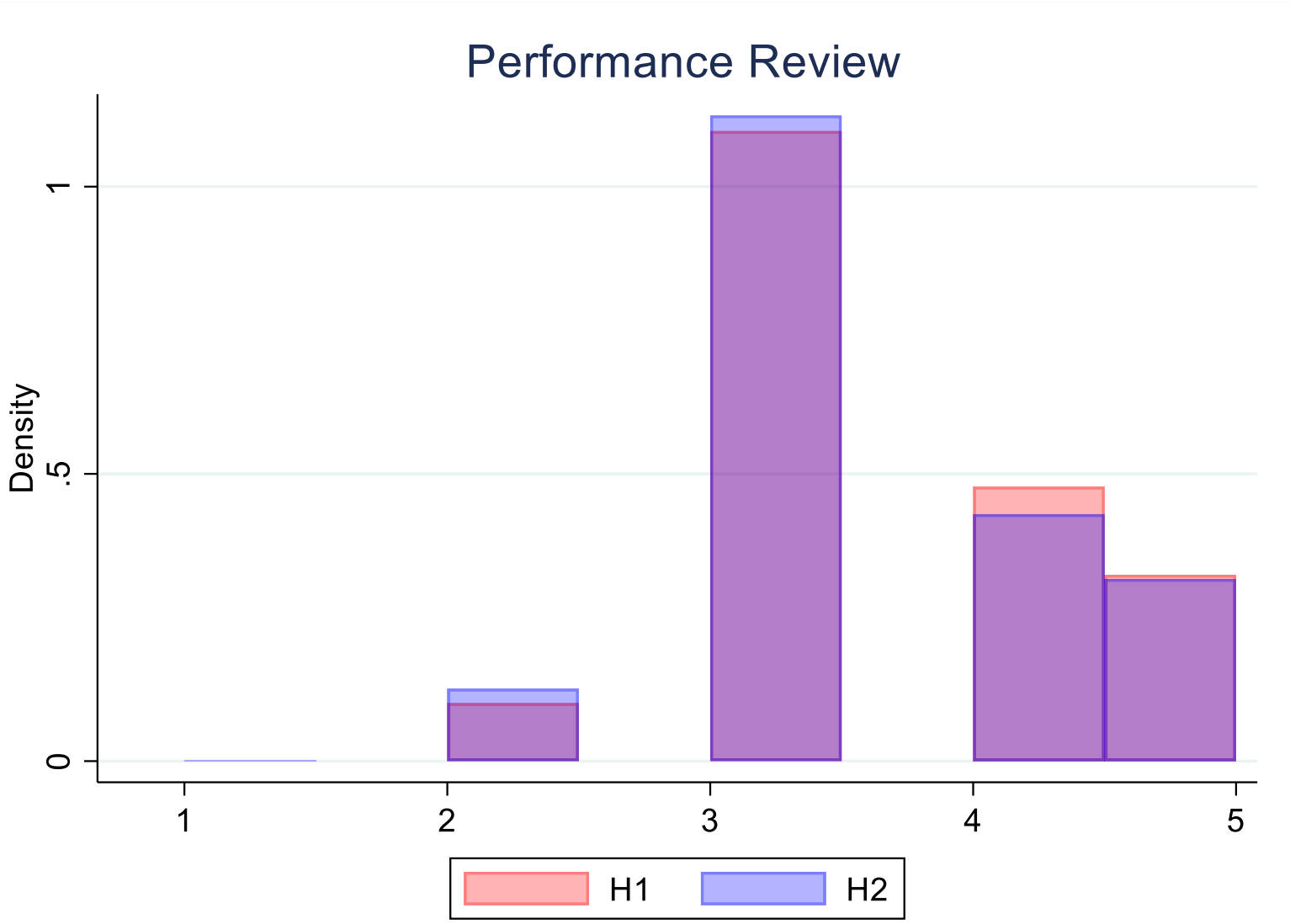
Check the H2/H1 of the two divisions are similar and no spillover

- KS test suggests no significant difference

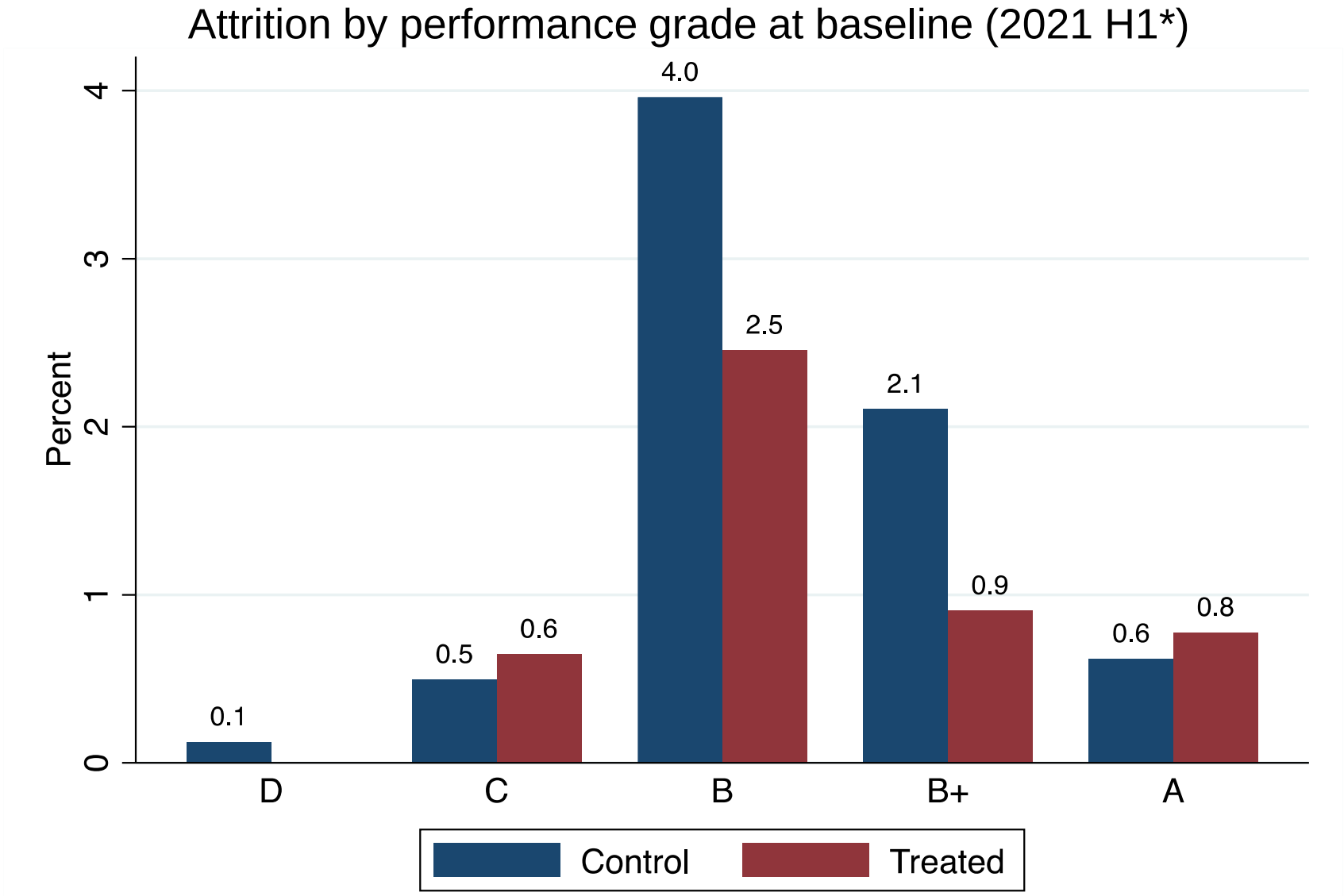
```
. ksmirnov H, by(period)

Two-sample Kolmogorov-Smirnov test for equality of distribution functions

Smaller group             D     p-value
-------------------------------------------
1                    0.0000       1.000
2                   -0.0249       0.398
Combined K-S         0.0249       0.746
```

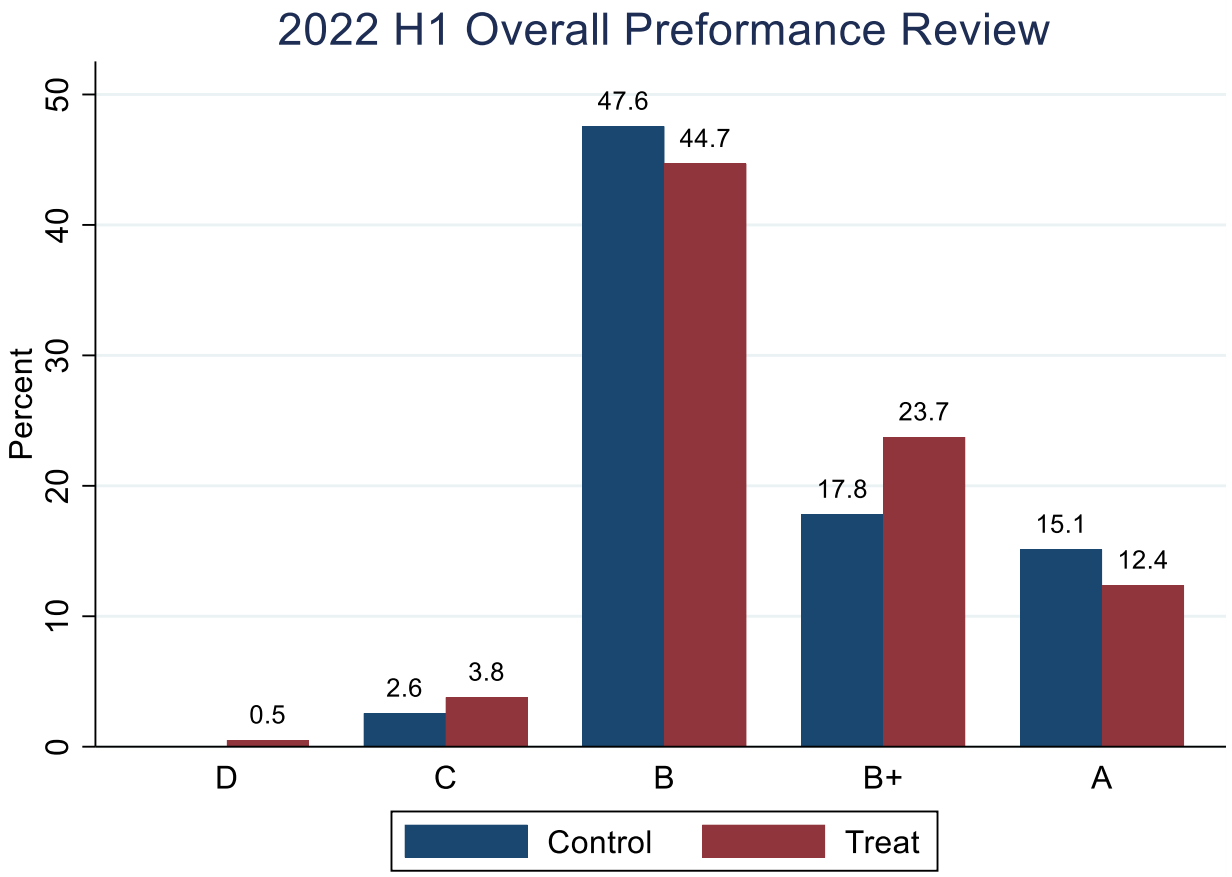


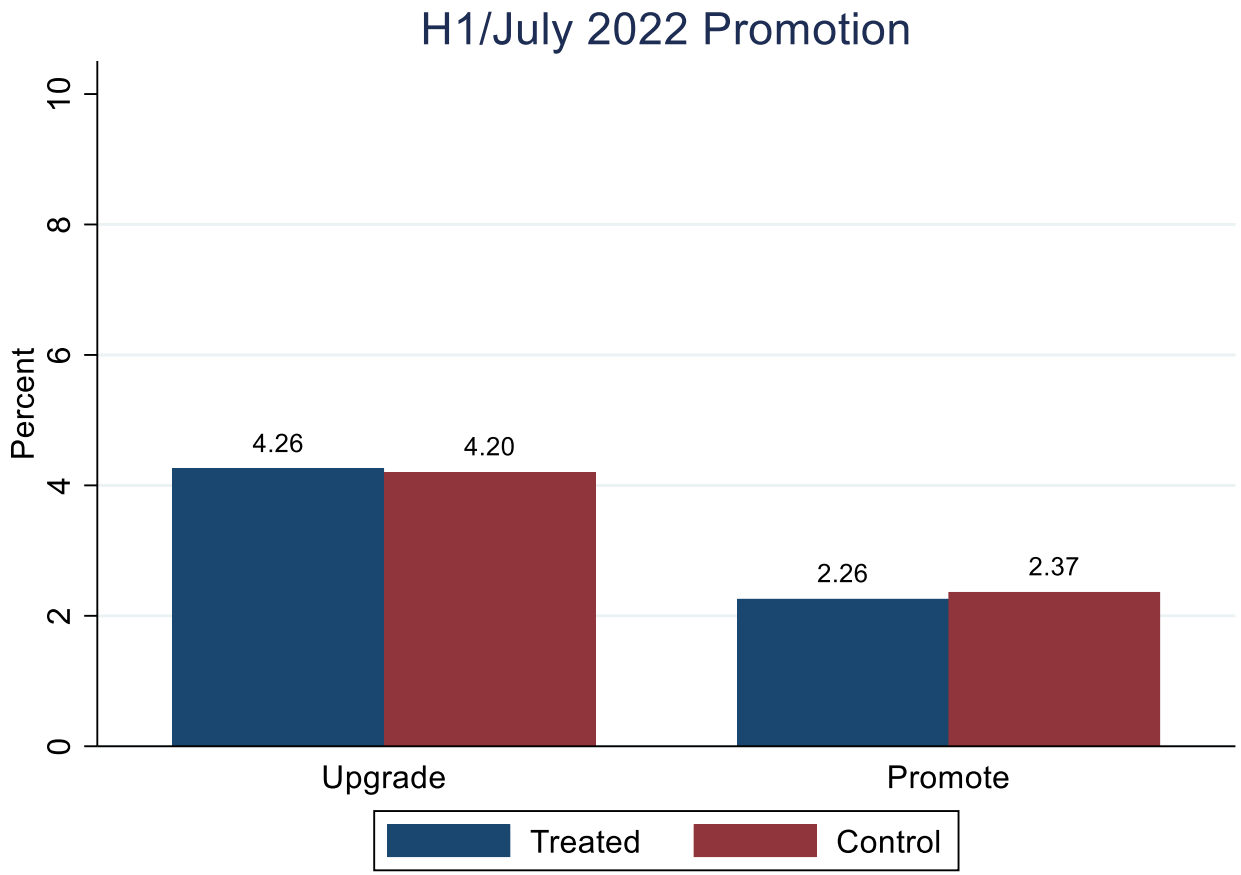
Attrition did fall by 31% (significantly) in the treatment group



Difference significant at 5% : _b[T]=-0.025 (.0117)

2022 H1 Performance & Promotion





_b[treat] = -.0343708 (.0444863) N=1355

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