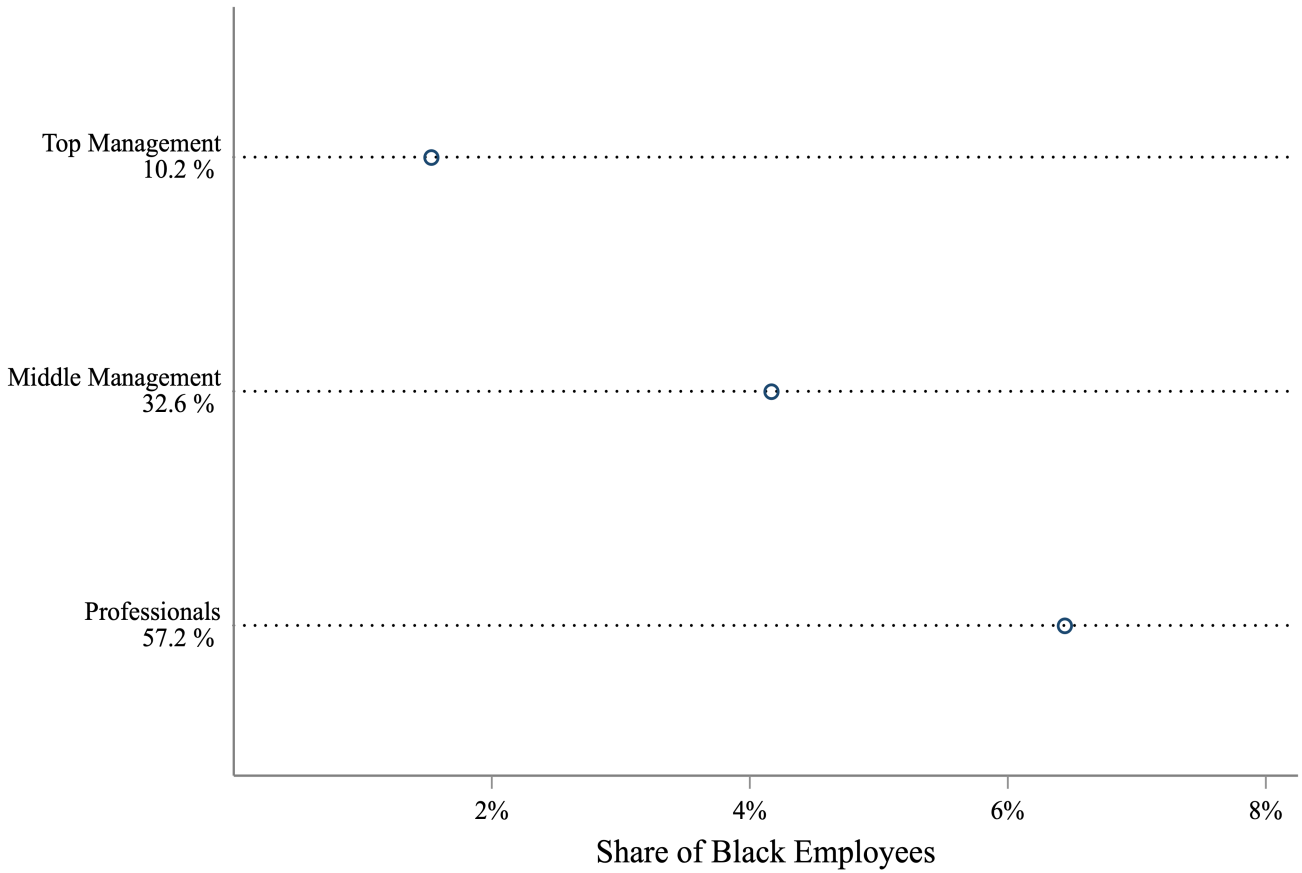
Asymmetric Peer Effects at Work: How White Coworkers Shape the Careers of "People of Color"

Elizabeth Linos, HKS
Sanaz Mobasseri, BU
Nina Roussille, MIT

NBER SI Personnel Economics - July 2023

Motivation

- Elite high-paying workplaces are mostly white, especially at the top.
- Case study at a U.S. professional services firm (>50,000 employees, 2014-2020):



▸ Other Races Pyramid

Motivation

- Elite high-paying workplaces are mostly white, especially at the top.
- Case study at a U.S. professional services firm (>50,000 employees, 2014-2020):

▸ White - Gender Pyramid

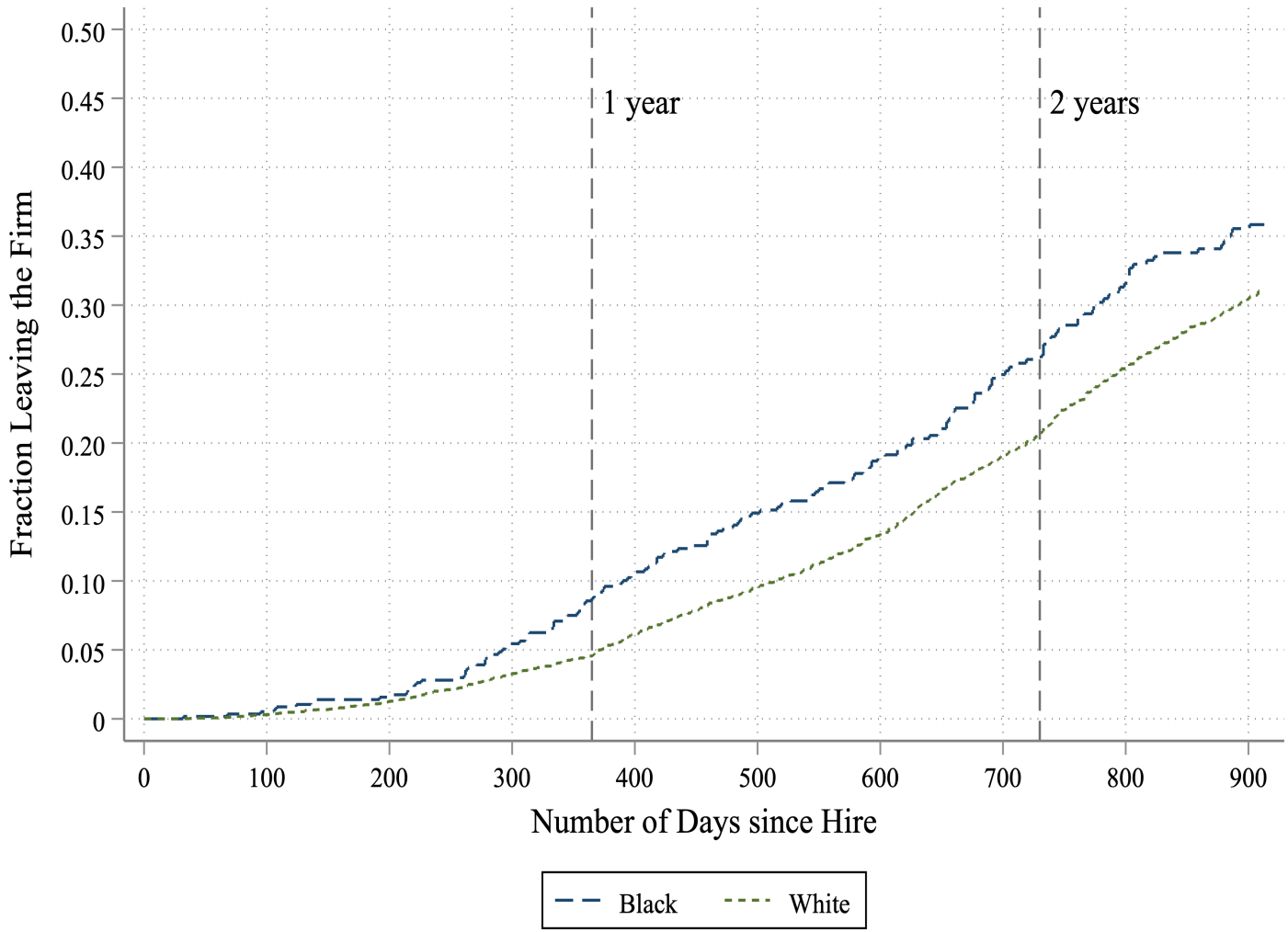
Motivation

- Research on racial disparities has focused on the hiring stage...
  - Evidence of lower callback rates for Black applicants (e.g. Bertrand and Mullainathan (2004); Agan and Starr (2016)).
  - Interventions to fix the pipeline / de-bias the interview process (Bohnet et al. (2016)).
- ... But less is known about racial differences in retention, especially at high-wage firms:
  - Requires firm-level micro data combining racial demographic breakdown with turnover and promotion decisions.
  - Black workers are concentrated in low-paying firms, so it requires a very large firm to observe racial dynamics in a high-wage setting.
- Yet retention is key for representation.

Race turnover gap

- Black employees are twice as likely to leave within a year of their hire than their white counterparts.

KM curve - cumulative incidence of leaving the company



▸ All races ▸ Race promotion gap

This paper

- Research question: what are the drivers of the race turnover gap in high-wage jobs?
- We focus on one potential mechanism: the race of their coworkers.
- Specifically, we leverage the conditional random assignment of a subset of employees to teams to measure how the race of an employee's coworkers impacts their turnover.

Preview of the results

1. We document a large Black-White turnover and promotion gap:
   - Black employees are 7.6 percentage points (36%) more likely to turn over within two years of their hire than their White counterparts.
   - Black employees are 16.5 percentage points (24.4%) less likely to be promoted on time than their White counterparts.
2. Black hires turnover faster in Whiter teams:
   - A one SD (12.7 percentage points) increase in the share of White coworkers in initial team assignment increases Black new hires' turnover within two years by 6.2 percentage points.
3. These effects are *asymmetric* in important ways:
   - White employees are the only racial group that negatively impacts turnover and promotion for Black new hires.
   - Neither White, Asian, nor Hispanic employees careers are shaped by the demographic composition of their respective coworkers.

Preview of the results

1. We document a large Black-White turnover and promotion gap:
   - Black employees are 7.6 percentage points (36%) more likely to turn over within two years of their hire than their White counterparts.
   - Black employees are 16.5 percentage points (24.4%) less likely to be promoted on time than their White counterparts.
2. Black hires turnover faster in Whiter teams:
   - A one SD (12.7 percentage points) increase in the share of White coworkers in initial team assignment increases Black new hires' turnover within two years by 6.2 percentage points.
3. These effects are *asymmetric* in important ways:
   - White employees are the only racial group that negatively impacts turnover and promotion for Black new hires.
   - Neither White, Asian, nor Hispanic employees careers are shaped by the demographic composition of their respective coworkers.

Preview of the results

1. We document a large Black-White turnover and promotion gap:
   - Black employees are 7.6 percentage points (36%) more likely to turn over within two years of their hire than their White counterparts.
   - Black employees are 16.5 percentage points (24.4%) less likely to be promoted on time than their White counterparts.
2. Black hires turnover faster in Whiter teams:
   - A one SD (12.7 percentage points) increase in the share of White coworkers in initial team assignment increases Black new hires' turnover within two years by 6.2 percentage points.
3. These effects are *asymmetric* in important ways:
   - White employees are the only racial group that negatively impacts turnover and promotion for Black new hires.
   - Neither White, Asian, nor Hispanic employees careers are shaped by the demographic composition of their respective coworkers.

The data

- We access the personnel records of all employees at a knowledge-intensive global professional services firm.
- We follow $>$ 50,000 employees, inc. 11,776 new hires, in the U.S. over a period of 7 years (2014-2020).
- We collect:
  - All project assignments at the monthly level (project id + co-worker id + manager id, office, hours worked, billable hours, client id).
  - Major HR events (entry/exit, promotion).
  - Demographics (gender, race - Asian, Black, White, Hispanic -, age, education).

  $\longrightarrow$ We can trace out the entire career trajectory of each of the new hire since 2014.

The data

- We access the personnel records of all employees at a knowledge-intensive global professional services firm.
- We follow $>$ 50,000 employees, inc. 11,776 new hires, in the U.S. over a period of 7 years (2014-2020).
- We collect:
  - All project assignments at the monthly level (project id + co-worker id + manager id, office, hours worked, billable hours, client id).
  - Major HR events (entry/exit, promotion).
  - Demographics (gender, race - Asian, Black, White, Hispanic -, age, education).

$\longrightarrow$ We can trace out the entire career trajectory of each of the new hire since 2014.

Focusing on new hires

- To estimate the impact of White coworkers on employees' turnover, we need *exogenous variation* in the share of White coworkers.
- While tenured and experienced employees have some agency over the projects they work on, a subset of employees do not: new inexperienced hires.
  - Within an office (city $\times$ department), in a given year, these new hires are assigned to projects based on the firms' staffing needs, not their preferences.
  - Central HR managers are in charge of dispatching these hires.
  - Team-level diversity is not a goal: "a first year is a first year is a first year".
- We will verify this claim quantitatively in the empirical strategy section.

Descriptive statistics: New hires

Panel A: New Hires Summary Statistics

	Mean	Sd	Median	P25	P75
Age at Hire	24	3	23	22	24
Share in Top 20 U.S. Schools	0.12	0.33			
Share in Top 21-100 U.S. Schools	0.23	0.42			
Share with a Masters Degree	0.34	0.47			
Share with a Specialized Degree	0.07	0.26			

Panel B: Project Summary Statistics

	Mean	Sd	Median	P25	P75
Number of Projects per Month	5	7	3	2	6
Number of Coworkers per Project	18	18	12	5	26
Number of Months per Project	10	8	8	5	12
Number of Hours per Project	174	374	35	7	176
Share of Priority Projects	0.56				
Share of Billable Hours	0.63	0.38	0.74	0.25	1.00

▸ Race Shares ▸ Coworkers' Demographics ▸ Race and Gender Distributions

The turnover gap: Empirical strategy

- To document the racial turnover gap, we estimate the following model:

$$\mathbb{1}_{ij} = \alpha + R_i'\beta_0 + X_i'\gamma + \delta_j + \epsilon_{ij}$$

where:

  - $\mathbb{1}_{ij}$ equals 1 if individual i from office j leaves the firm within 2 years.
  - R_i' is a vector of (own) race dummies (Black, Asian and Hispanic), in which White is the baseline (omitted) race group, β_0 is our vector of coefficient of interest.
  - X_i' is a vector of individual-level controls.
  - δ_j denotes the office $\times$ year of hire fixed effect.

- Office-level stratified Cox regression:
  - office-specific baseline hazard.

▸ All X_i controls

The turnover gap

	OLS		Cox	
	(1)	(2)	(3)	(4)
Black	0.076***	0.114***	1.252**	1.315*
	(0.027)	(0.035)	(0.128)	(0.202)
Asian	0.034**	0.043**	1.151***	1.230***
	(0.014)	(0.019)	(0.062)	(0.091)
Hispanic	-0.009	0.008	0.993	1.157
	(0.024)	(0.035)	(0.088)	(0.155)
Male	0.039***	0.049***	1.187***	1.256***
	(0.011)	(0.014)	(0.052)	(0.071)
Black × Male		-0.071		0.919
		(0.048)		(0.185)
Asian × Male		-0.017		0.883
		(0.025)		(0.087)
Hispanic × Male		-0.029		0.771
		(0.047)		(0.135)
White Mean Turnover	0.211		0.211	
White Female Mean Turnover		0.172		0.172
Individual controls	X	X	X	X
Office × Year FE	X	X	X	X
Nb. obs	7617	7617	11776	11776

The turnover gap

	OLS		Cox	
	(1)	(2)	(3)	(4)
Black	0.076***	0.114***	1.252**	1.315*
	(0.027)	(0.035)	(0.128)	(0.202)
Asian	0.034**	0.043**	1.151***	1.230***
	(0.014)	(0.019)	(0.062)	(0.091)
Hispanic	-0.009	0.008	0.993	1.157
	(0.024)	(0.035)	(0.088)	(0.155)
Male	0.039***	0.049***	1.187***	1.256***
	(0.011)	(0.014)	(0.052)	(0.071)
Black × Male		-0.071		0.919
		(0.048)		(0.185)
Asian × Male		-0.017		0.883
		(0.025)		(0.087)
Hispanic × Male		-0.029		0.771
		(0.047)		(0.135)
White Mean Turnover	0.211		0.211	
White Female Mean Turnover		0.172		0.172
Individual controls	X	X	X	X
Office × Year FE	X	X	X	X
Nb. obs	7617	7617	11776	11776

▸ Promotion Gap

The role of coworkers

- Research question: what are the drivers of the race turnover gap in high-wage jobs?
- We focus on one potential mechanism: the race of their coworkers.
- Specifically, we leverage the conditional random assignment of a subset of new hires to teams to measure how the race of an employees coworkers in the first few months of employment impacts turnover.
- First step: empirically confirm this conditional random assignment.

Test of random assignment: Race and Gender identity

- Test: Within an office, in a given year of hire, the racial composition of the first projects new hires are assigned to cannot predict the race × gender of the new hire.

	Black Female	Black Male	White Female	White Male
% White Coworkers	-0.017	-0.040	0.019	0.029
	(0.026)	(0.027)	(0.062)	(0.070)
% Black Coworkers	0.047	0.027	0.019	-0.063
	(0.037)	(0.046)	(0.086)	(0.096)
% Asian Coworkers	-0.001	-0.036	-0.079	-0.036
	(0.024)	(0.028)	(0.064)	(0.071)
Individual controls				
Office × Year FE	X	X	X	X
Nb. obs	11776	11776	11776	11776

▸ Asian & Hispanic

Test of random assignment: Other characteristics

- Test: Within an office, in a given year of hire, the racial composition of the first projects new hires are assigned to cannot predict other observable characteristics of the new hire.

	Master Degree	Technical Master	Top 20 School	Top 20-100 School	Top 100-1000	Age
% White Coworkers	-0.039	0.008	0.038	0.064	-0.038	-0.234
	(0.054)	(0.026)	(0.033)	(0.053)	(0.053)	(0.356)
% Black Coworkers	-0.055	0.032	0.024	-0.017	0.022	-0.005
	(0.063)	(0.029)	(0.047)	(0.079)	(0.071)	(0.570)
% Asian Coworkers	-0.018	0.009	0.037	0.037	-0.051	0.212
	(0.054)	(0.026)	(0.035)	(0.052)	(0.053)	(0.346)
Individual controls						
Office × Year FE	X	X	X	X	X	X
Nb. obs	11776	11776	11776	11776	11776	11776

▸ Tests of Random Assignment with Controls

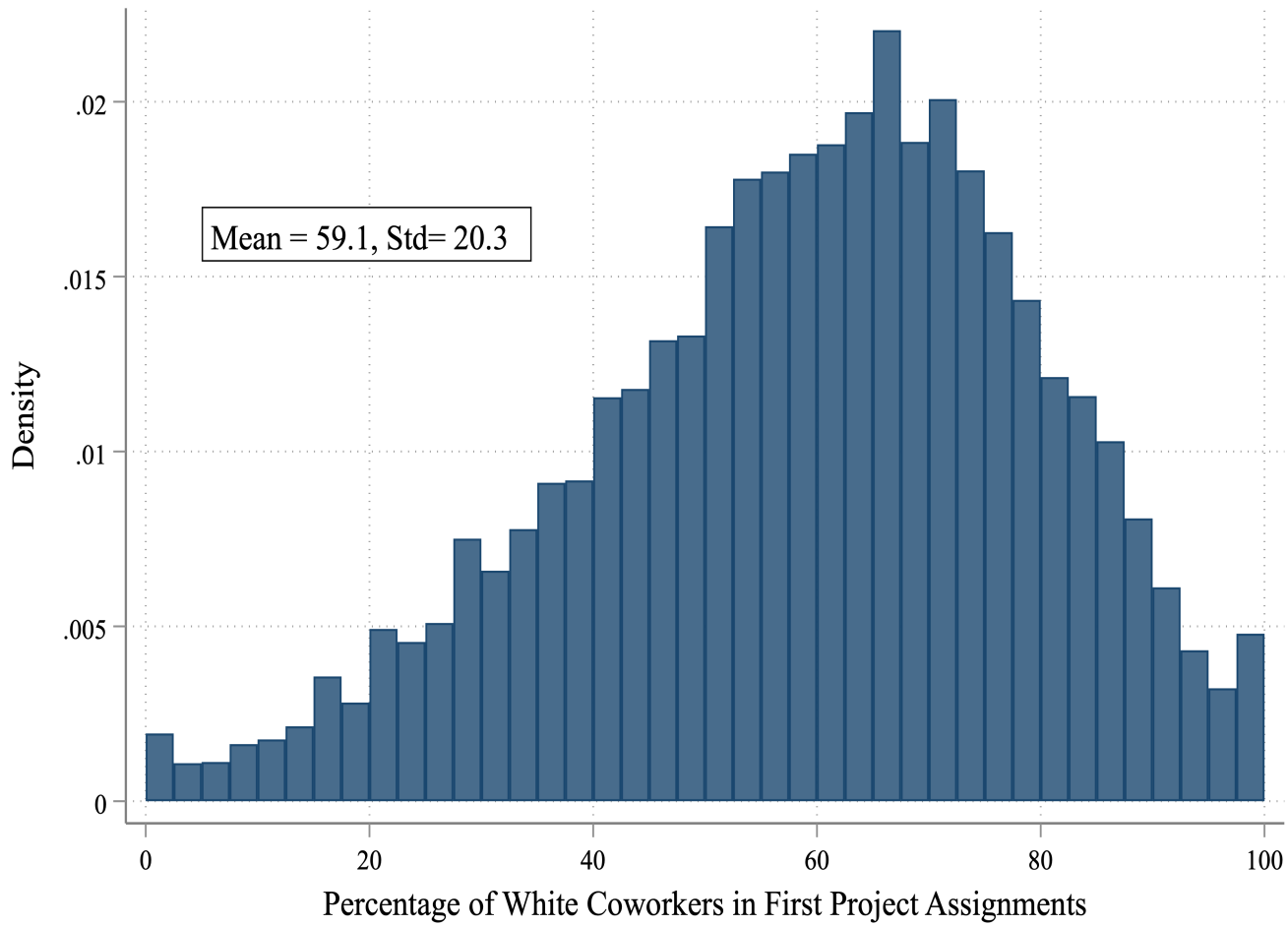
Test of random assignment: Projects

- Ideally we would have double-random assignments of (a) new hire to team and (b) team to project.
  - If project characteristics vary with the racial composition of teams, then whiteness of the team can be a mediator of other project characteristics that impact Black turnover.
- Projects are not randomly assigned.
  - However, we can at least show that within an office, in a given year of hire, the racial composition of the first projects new hires are assigned to cannot predict some project characteristics we do observe.

Project priority is orthogonal to the team composition

	Top Priority	Second Priority	Third Priority	Fourth Priority
% White Coworkers	0.032	0.014	-0.008	0.004
	(0.027)	(0.023)	(0.015)	(0.009)
% Black Coworkers	0.013	0.015	-0.016	0.012
	(0.035)	(0.031)	(0.018)	(0.011)
% Asian Coworkers	0.024	0.001	-0.009	0.005
	(0.029)	(0.023)	(0.016)	(0.009)
Individual controls				
Office × Year FE	X	X	X	X
Nb. obs	11776	11776	11776	11776

Sufficient heterogeneity in exposure to White coworkers



- Even after residualizing on the office $\times$ year fixed effects, the standard deviation remains large, at 12.7 percentage points.

Peer Effects: Empirical strategy

- How does the racial composition of early team assignment affect the likelihood of turnover for Black new hires?
  - Main specification: focus on the share of White coworkers.
- OLS regression on dummy "leaves the firm within two years":

$$\mathbb{1}_{ij} = \alpha + R_i'\beta_0 + W_{-i}\beta_1 + W_{-i}R_i'\beta_2 + X_i'\gamma + \delta_j + \epsilon_{ij}$$

  - W_{-i} is the (leave out) share of White coworkers that new hire i works with in their first project assignments.
  - β_2 is our vector of coefficients of interest, capturing the impact on turnover of an increase in the share of White coworkers for each of our minority new hires, relative to its impact on White new hires (captured by β_1).

Peer Effects: Empirical strategy

- How does the racial composition of early team assignment affect the likelihood of turnover for Black new hires?
  - Main specification: focus on the share of White coworkers.
- OLS regression on dummy "leaves the firm within two years":

$$\mathbb{1}_{ij} = \alpha + R_i'\beta_0 + W_{-i}\beta_1 + W_{-i}R_i'\beta_2 + X_i'\gamma + \delta_j + \epsilon_{ij}$$

  - W_{-i} is the (leave out) share of White coworkers that new hire i works with in their first project assignments.
  - β_2 is our vector of coefficients of interest, capturing the impact on turnover of an increase in the share of White coworkers for each of our minority new hires, relative to its impact on White new hires (captured by β_1).

Black employees turnover faster in Whiter teams

	OLS		Cox	
	(1)	(2)	(3)	(4)
% White Coworkers	0.036	-0.030	1.004	1.000
	(0.080)	(0.092)	(0.003)	(0.004)
Male × % White Coworkers		0.112		1.005*
		(0.076)		(0.003)
Black × % White Coworkers	0.462***	0.602***	1.019***	1.025***
	(0.132)	(0.176)	(0.006)	(0.009)
Asian × % White Coworkers	-0.033	0.002	0.999	0.998
	(0.076)	(0.098)	(0.003)	(0.004)
Hispanic × % White Coworkers	0.002	-0.026	0.999	1.005
	(0.130)	(0.184)	(0.005)	(0.007)
Black × Male × % White Coworkers		-0.265		0.990
		(0.273)		(0.012)
Asian × Male × % White Coworkers		-0.035		1.003
		(0.132)		(0.005)
Hispanic × Male × % White Coworkers		0.055		0.990
		(0.238)		(0.009)
White Mean Turnover	0.211		0.211	
White Female Mean Turnover		0.172		0.172
Individual controls	X	X	X	X
Office × Year FE	X	X	X	X
Manager interaction	X	X	X	X
Nb. obs	7617	7617	11776	11776

Asymmetry: Black new hires are the only impacted group

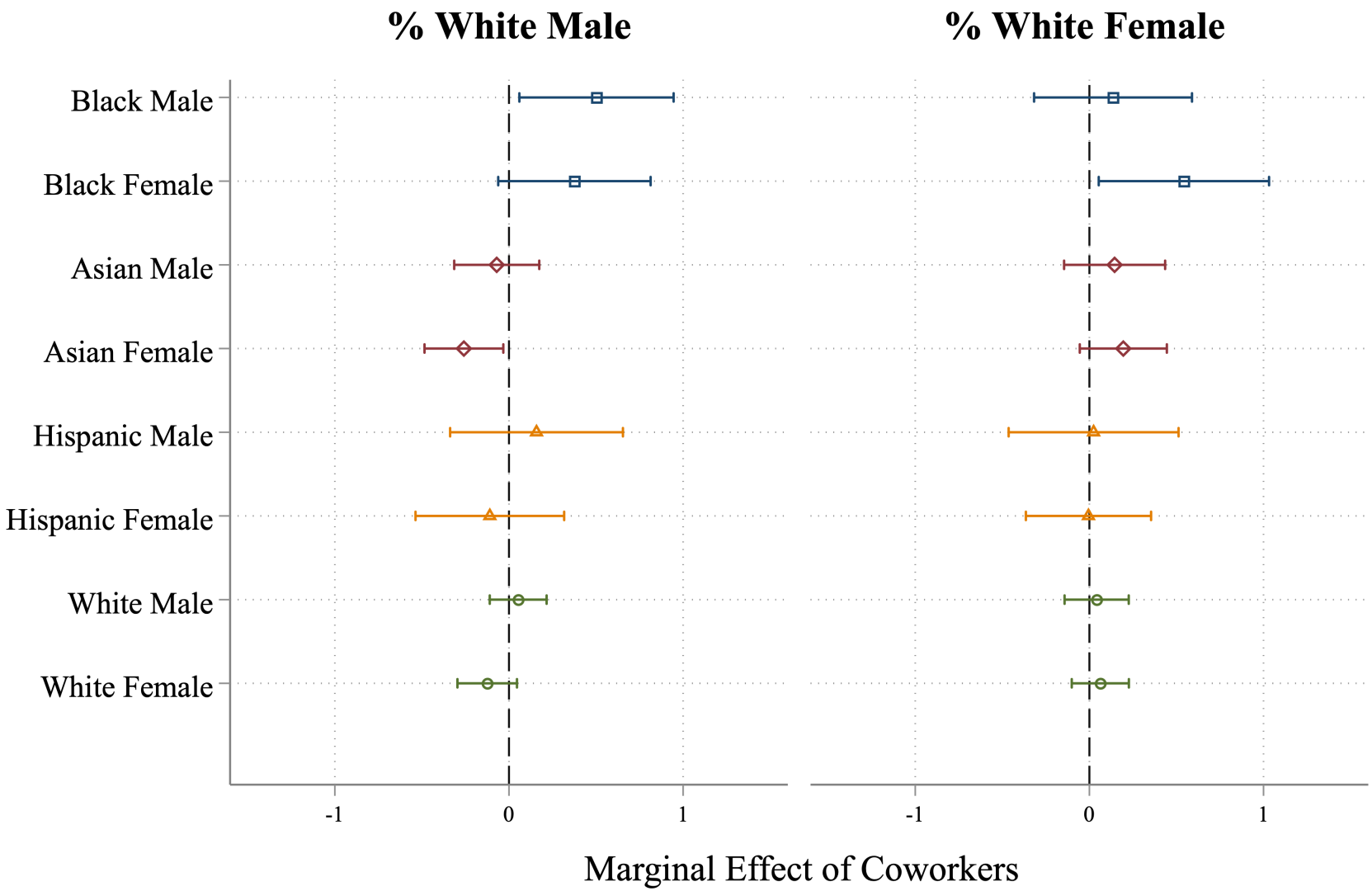
	OLS		Cox	
	(1)	(2)	(3)	(4)
% White Coworkers	0.036	-0.030	1.004	1.000
	(0.080)	(0.092)	(0.003)	(0.004)
Male × % White Coworkers		0.112		1.005*
		(0.076)		(0.003)
Black × % White Coworkers	0.462***	0.602***	1.019***	1.025***
	(0.132)	(0.176)	(0.006)	(0.009)
Asian × % White Coworkers	-0.033	0.002	0.999	0.998
	(0.076)	(0.098)	(0.003)	(0.004)
Hispanic × % White Coworkers	0.002	-0.026	0.999	1.005
	(0.130)	(0.184)	(0.005)	(0.007)
Black × Male × % White Coworkers		-0.265		0.990
		(0.273)		(0.012)
Asian × Male × % White Coworkers		-0.035		1.003
		(0.132)		(0.005)
Hispanic × Male × % White Coworkers		0.055		0.990
		(0.238)		(0.009)
White Mean Turnover	0.211		0.211	
White Female Mean Turnover		0.172		0.172
Individual controls	X	X	X	X
Office × Year FE	X	X	X	X
Manager interaction	X	X	X	X
Nb. obs	7617	7617	11776	11776

Asymmetry: Black new hires are the only impacted group

	OLS		Cox	
	(1)	(2)	(3)	(4)
% White Coworkers	0.036	-0.030	1.004	1.000
	(0.080)	(0.092)	(0.003)	(0.004)
Male × % White Coworkers		0.112		1.005*
		(0.076)		(0.003)
Black × % White Coworkers	0.462***	0.602***	1.019***	1.025***
	(0.132)	(0.176)	(0.006)	(0.009)
Asian × % White Coworkers	-0.033	0.002	0.999	0.998
	(0.076)	(0.098)	(0.003)	(0.004)
Hispanic × % White Coworkers	0.002	-0.026	0.999	1.005
	(0.130)	(0.184)	(0.005)	(0.007)
Black × Male × % White Coworkers		-0.265		0.990
		(0.273)		(0.012)
Asian × Male × % White Coworkers		-0.035		1.003
		(0.132)		(0.005)
Hispanic × Male × % White Coworkers		0.055		0.990
		(0.238)		(0.009)
White Mean Turnover	0.211		0.211	
White Female Mean Turnover		0.172		0.172
Individual controls	X	X	X	X
Office × Year FE	X	X	X	X
Manager interaction	X	X	X	X
Nb. obs	7617	7617	11776	11776

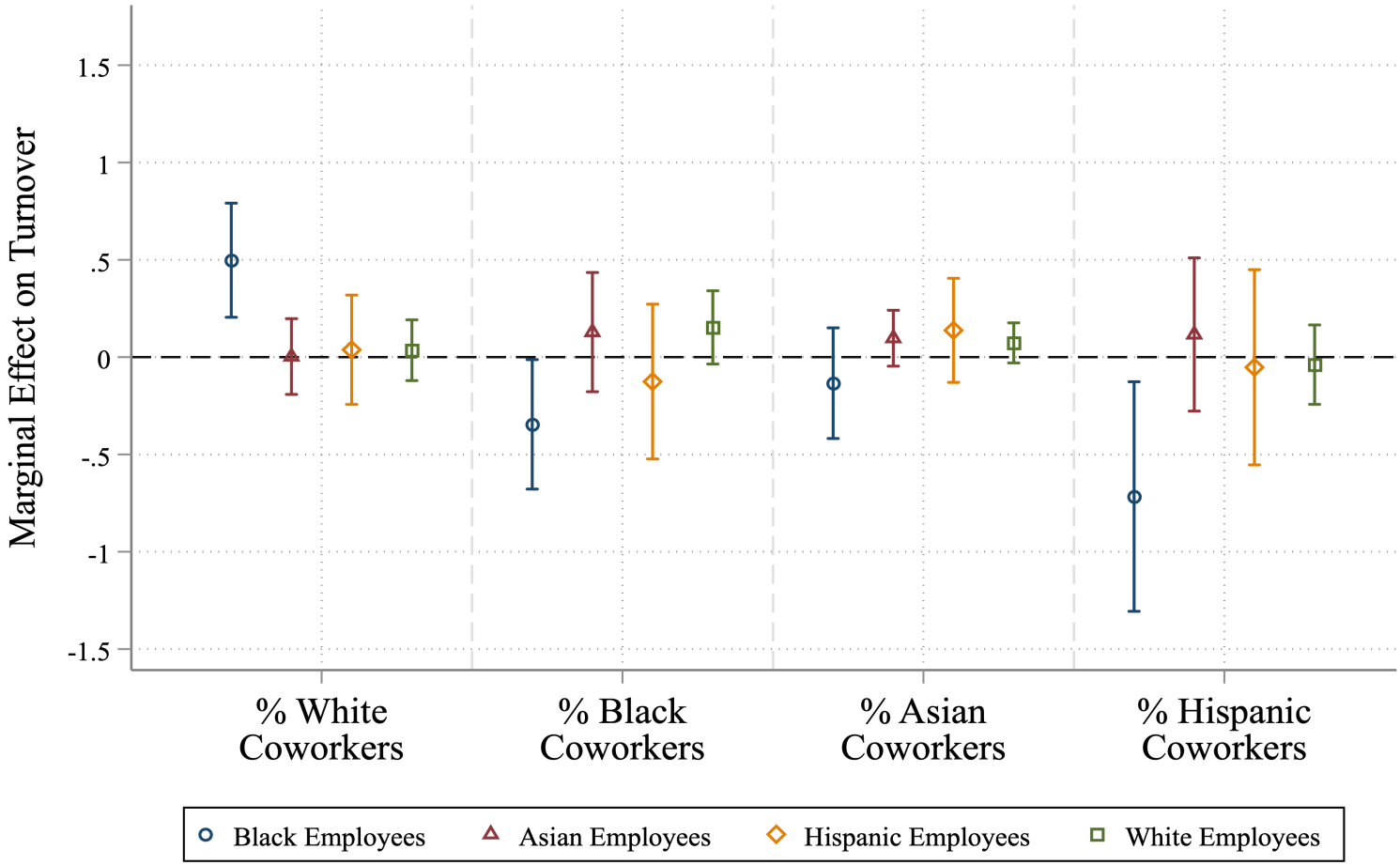
▸ Main Coefficients ▸ Promotion Gap ▸ Promotion Gap - Main Coefficients

Marginal Effect of White Coworkers on Turnover



▸ Promotion Gap

Other asymmetries in peer effects



- White coworkers is the only racial group that negatively impacts the career attainment of Black new hires.
- Other racial groups career attainment is not influenced by the demographics of their coworkers.

Robustness

- Robustness to varying controls ▸ Here
- Robustness to varying measure of turnover ▸ Here
- Robustness to varying measure of initial project ▸ Here
- Robustness to varying time-window of initial team ▸ Here
- Racial composition of first managers has no impact: ▸ Here
- Tokenism doesnt explain our results: ▸ Here

Mechanism

- What can explain that Whiter team lead to higher turnover for Black new hires?
- We explore one channel: performance
  - Do Black new hires (objectively) perform worse in Whiter teams?
  - Do Black new hires receive worse performance reviews in Whiter teams?

Mechanism I: Some evidence of worse objective performance

	Monthly Hours		Monthly Billable Hours		Share of Priority Projects	
	(1)	(2)	(3)	(4)	(5)	(6)
Black	-7.169***	-6.985***	-10.773***	-10.605***	-2.602**	-2.546**
	(1.514)	(1.499)	(1.634)	(1.631)	(1.195)	(1.197)
Asian	1.451*	1.420*	-0.666	-0.722	-1.013	-1.132
	(0.822)	(0.820)	(0.883)	(0.883)	(0.753)	(0.757)
Hispanic	-0.448	-0.449	-1.441	-1.406	-0.609	-0.539
	(1.352)	(1.350)	(1.366)	(1.367)	(1.133)	(1.129)
Male	-0.830	-0.836	0.038	0.029	-0.235	-0.231
	(0.627)	(0.629)	(0.686)	(0.686)	(0.561)	(0.560)
% White Coworkers		-4.932		-5.689		5.006
		(4.711)		(5.126)		(4.229)
Black × % White Coworkers		8.438		5.079		-3.381
		(8.141)		(8.759)		(6.697)
Asian × % White Coworkers		-2.250		-5.191		-6.190
		(4.487)		(4.623)		(3.828)
Hispanic × % White Coworkers		-8.605		-11.942*		1.711
		(7.155)		(6.879)		(6.986)
White Mean Dep. Var.	202	202	173	173	60	60
Individual controls	X	X	X	X	X	X
Office × Year FE	X	X	X	X	X	X
Manager interaction	X	X	X	X	X	X
Nb. obs	7616	7616	7595	7595	7616	7616

Mechanism I: But no evidence that the share of White coworkers causes it

	Monthly Hours		Monthly Billable Hours		Share of Priority Projects	
	(1)	(2)	(3)	(4)	(5)	(6)
Black	-7.169***	-6.985***	-10.773***	-10.605***	-2.602**	-2.546**
	(1.514)	(1.499)	(1.634)	(1.631)	(1.195)	(1.197)
Asian	1.451*	1.420*	-0.666	-0.722	-1.013	-1.132
	(0.822)	(0.820)	(0.883)	(0.883)	(0.753)	(0.757)
Hispanic	-0.448	-0.449	-1.441	-1.406	-0.609	-0.539
	(1.352)	(1.350)	(1.366)	(1.367)	(1.133)	(1.129)
Male	-0.830	-0.836	0.038	0.029	-0.235	-0.231
	(0.627)	(0.629)	(0.686)	(0.686)	(0.561)	(0.560)
% White Coworkers		-4.932		-5.689		5.006
		(4.711)		(5.126)		(4.229)
Black × % White Coworkers		8.438		5.079		-3.381
		(8.141)		(8.759)		(6.697)
Asian × % White Coworkers		-2.250		-5.191		-6.190
		(4.487)		(4.623)		(3.828)
Hispanic × % White Coworkers		-8.605		-11.942*		1.711
		(7.155)		(6.879)		(6.986)
White Mean Dep. Var.	202	202	173	173	60	60
Individual controls	X	X	X	X	X	X
Office × Year FE	X	X	X	X	X	X
Manager interaction	X	X	X	X	X	X
Nb. obs	7616	7616	7595	7595	7616	7616

Mechanism II: Black employees receive worse performance reviews

- We have data on the performance reviews for all employees.
- Early evidence:
  - Black new hires receive worse performance reviews on average (even after controlling for pre-entry characteristics).
  - Black new hires receive worse performance reviews in Whiter teams.

Mechanism II: Black employees receive worse performance reviews

	Low Performance	
	(7)	(8)
Black	0.049***	0.053***
	(0.012)	(0.012)
Asian	0.006	0.006
	(0.004)	(0.004)
Hispanic	-0.000	-0.001
	(0.008)	(0.008)
Male	0.010***	0.010***
	(0.003)	(0.003)
% White Coworkers		0.019
		(0.020)
Black × % White Coworkers		0.169***
		(0.064)
Asian × % White Coworkers		0.033
		(0.023)
Hispanic × % White Coworkers		0.056
		(0.040)
White Mean Dep. Var.	0.020	0.020
Individual controls	X	X
Office × Year FE	X	X
Manager interaction	X	X
Nb. obs	6112	6112

Mechanism II: Black employees receive worse performance reviews

	Low Performance	
	(7)	(8)
Black	0.049***	0.053***
	(0.012)	(0.012)
Asian	0.006	0.006
	(0.004)	(0.004)
Hispanic	-0.000	-0.001
	(0.008)	(0.008)
Male	0.010***	0.010***
	(0.003)	(0.003)
% White Coworkers		0.019
		(0.020)
Black × % White Coworkers		0.169***
		(0.064)
Asian × % White Coworkers		0.033
		(0.023)
Hispanic × % White Coworkers		0.056
		(0.040)
White Mean Dep. Var.	0.020	0.020
Individual controls	X	X
Office × Year FE	X	X
Manager interaction	X	X
Nb. obs	6112	6112

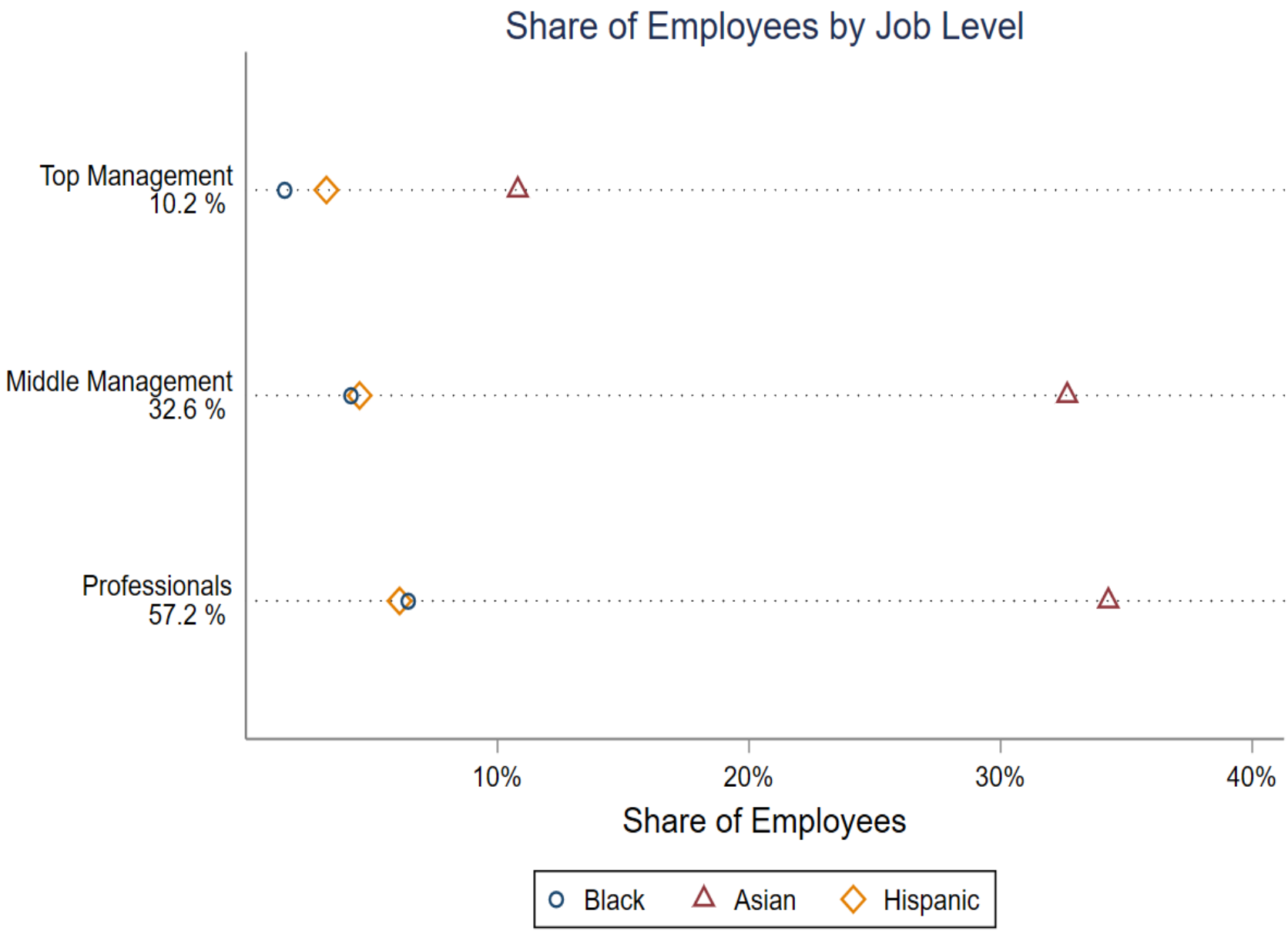
Conclusion

- We move beyond a binary characterization of peers (e.g. similar / dissimilar) to reveal heterogeneity in career outcomes and in peer effects for people of color.
- We find that:
  - Black employees experience by far the largest turnover (and lowest promotion rates) at the earliest stage of their career.
  - The turnover of Black new hires dramatically increases with the share of White coworkers in their initial projects.
  - This effect is asymmetric in several dimensions.
- The higher turnover in Whiter teams seems to be mediated by worse performance reviews, which is not picked up by objective performance measures.

References

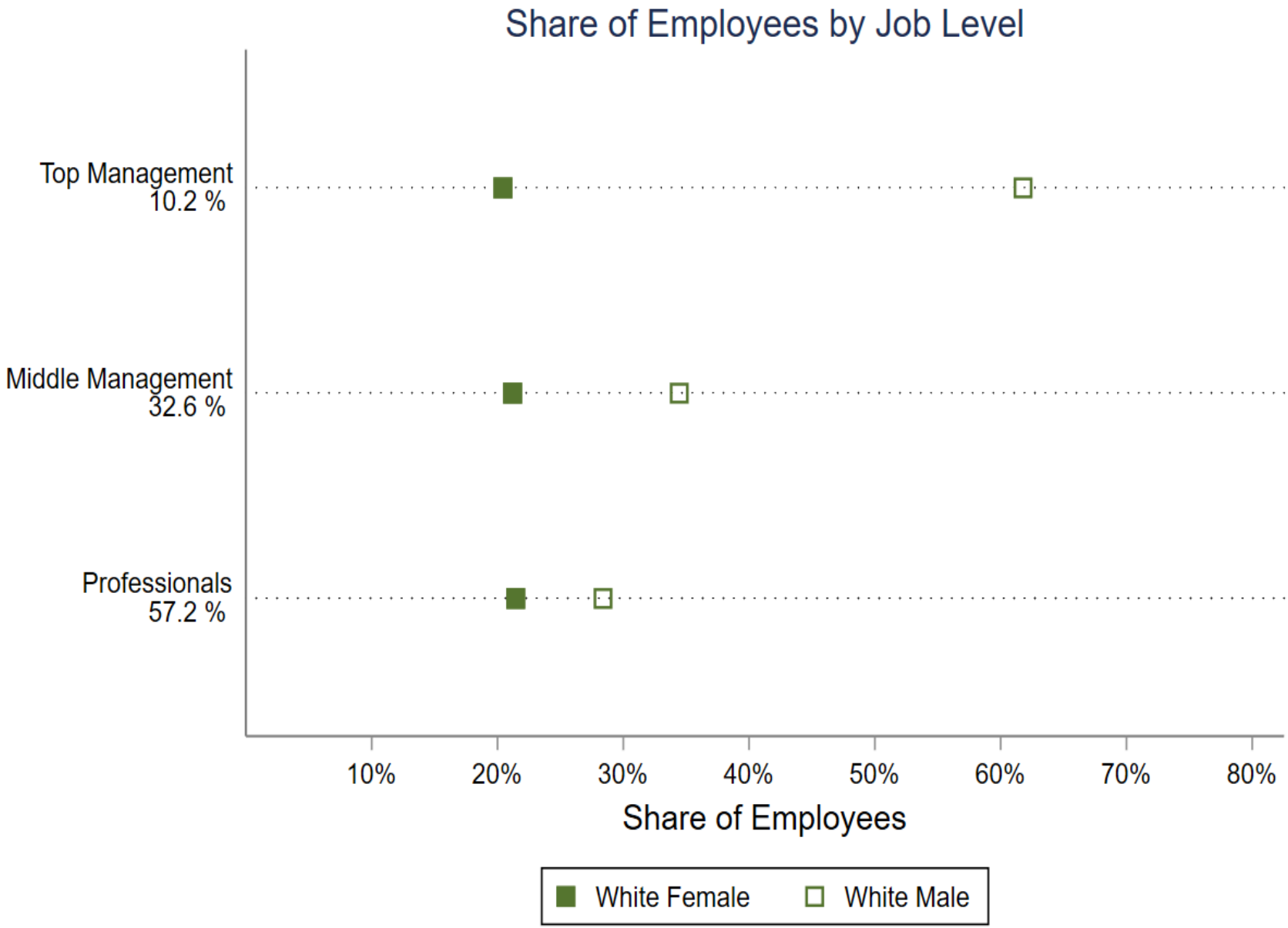
Chetty R, Friedman JN, Saez E, Turner N, Yagan D (2020) Income segregation and intergenerational mobility across colleges in the United States. Q. J. Econ. 135(3):1567–1633.

The race pyramid



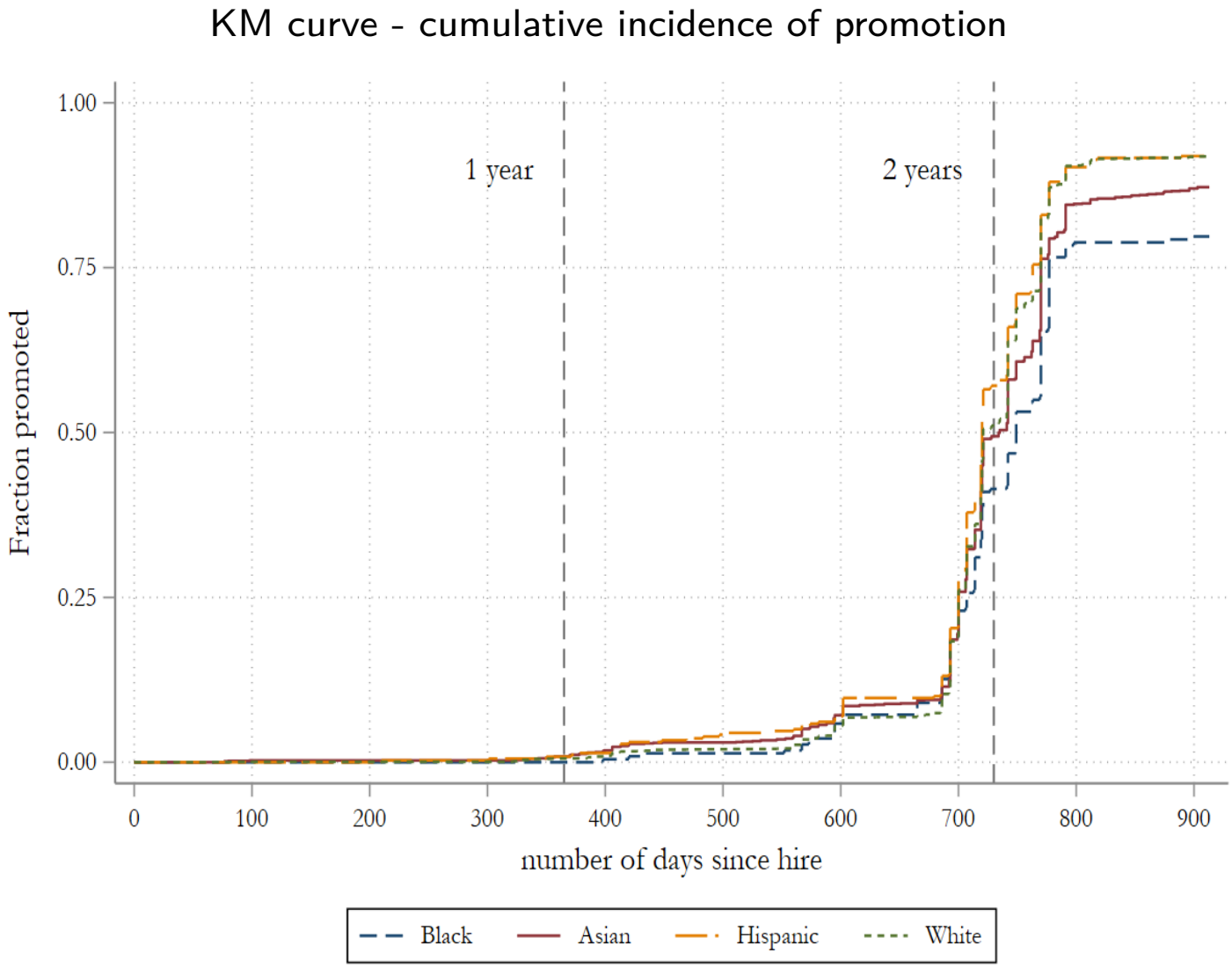
Go Back

The gender pyramid



Go Back

Race promotion gap



▸ Go Back

Descriptive statistics: Race-Gender Shares

	Number	Percentage
Black Female	282	2.3
Black Male	304	2.5
Asian Female	2071	17.1
Asian Male	1668	13.8
Hispanic Female	374	3.1
Hispanic Male	461	3.8
White Female	2964	24.5
White Male	3998	33.0
Total	12122	100.0

Go Back

Descriptive statistics: Coworkers' Demographics

Panel A: Race and Gender of Employees

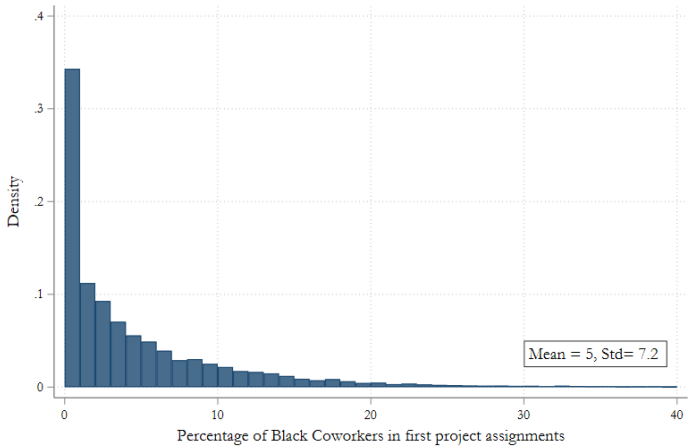
	Share
Black Female	0.02
Black Male	0.03
Asian Female	0.17
Asian Male	0.14
Hispanic Female	0.03
Hispanic Male	0.04
White Female	0.24
White Male	0.33

Panel B: Race and Gender of Coworkers

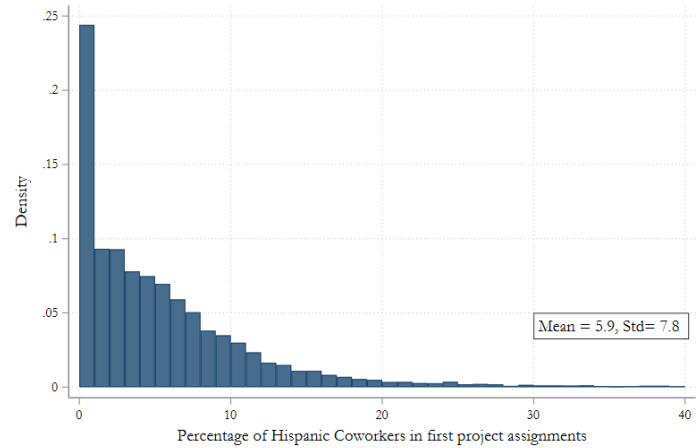
	Mean	Sd	Median	P25	P75
% Female Coworkers	40.8	14.7	40.7	31.7	49.3
% White Coworkers	59.1	20.3	61.1	46.2	73.8
% Asian Coworkers	27.6	19.4	23.2	12.8	38.6
% Hispanic Coworkers	5.9	7.8	3.9	1.1	7.9
% Black Coworkers	5.0	7.2	2.5	0.4	6.8

▸ Go Back

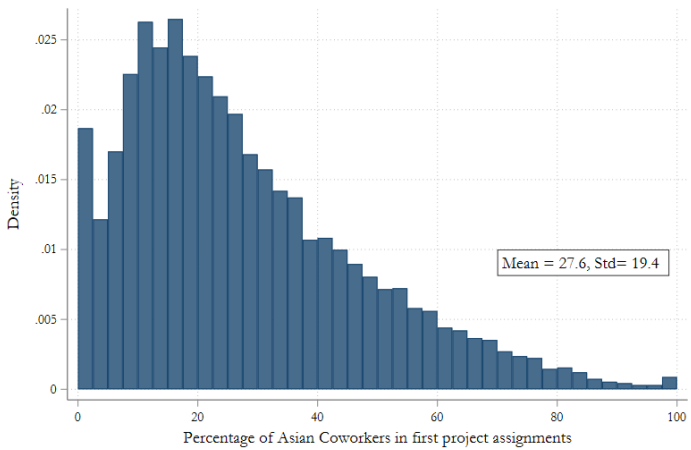
Racial and Gender Composition of Teams



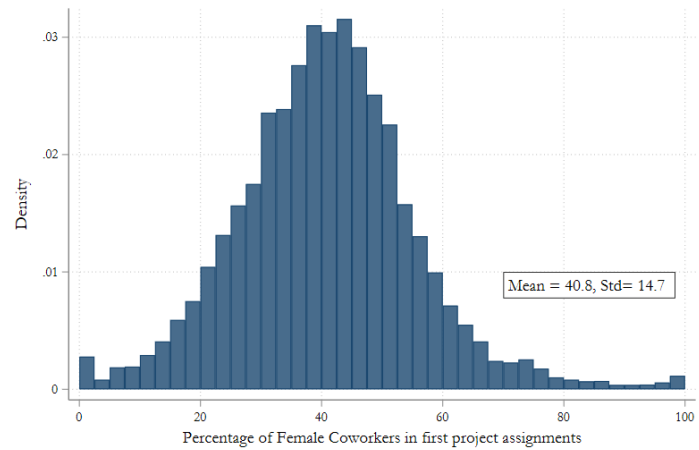
(a) Black Coworkers



(b) Hispanic Coworkers



(c) Asian Coworkers



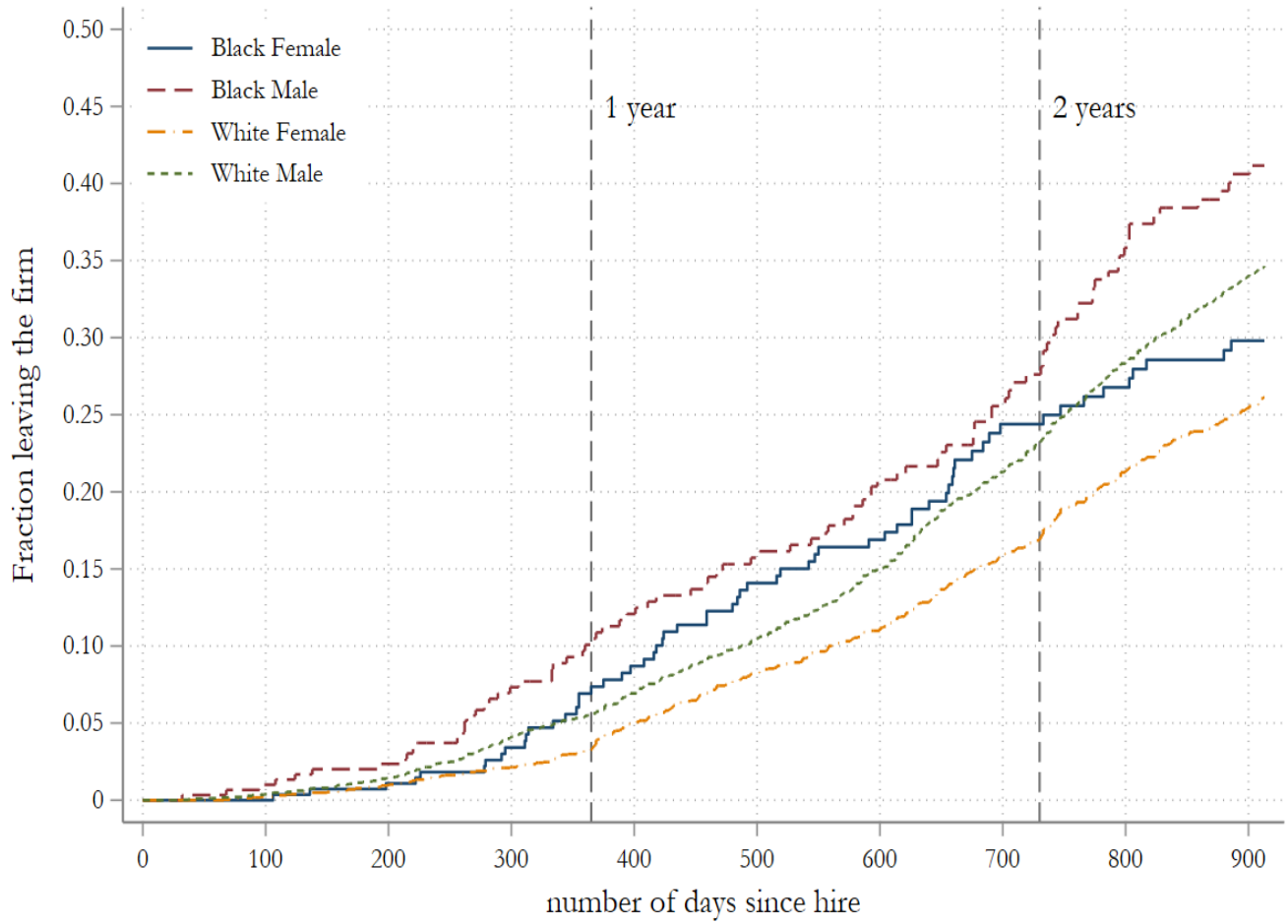
(d) Female Coworkers

▸ Go Back

Race turnover gap

- Black employees are twice as likely to leave within a year of their hire than their white counterparts.

KM curve - cumulative incidence of leaving the company

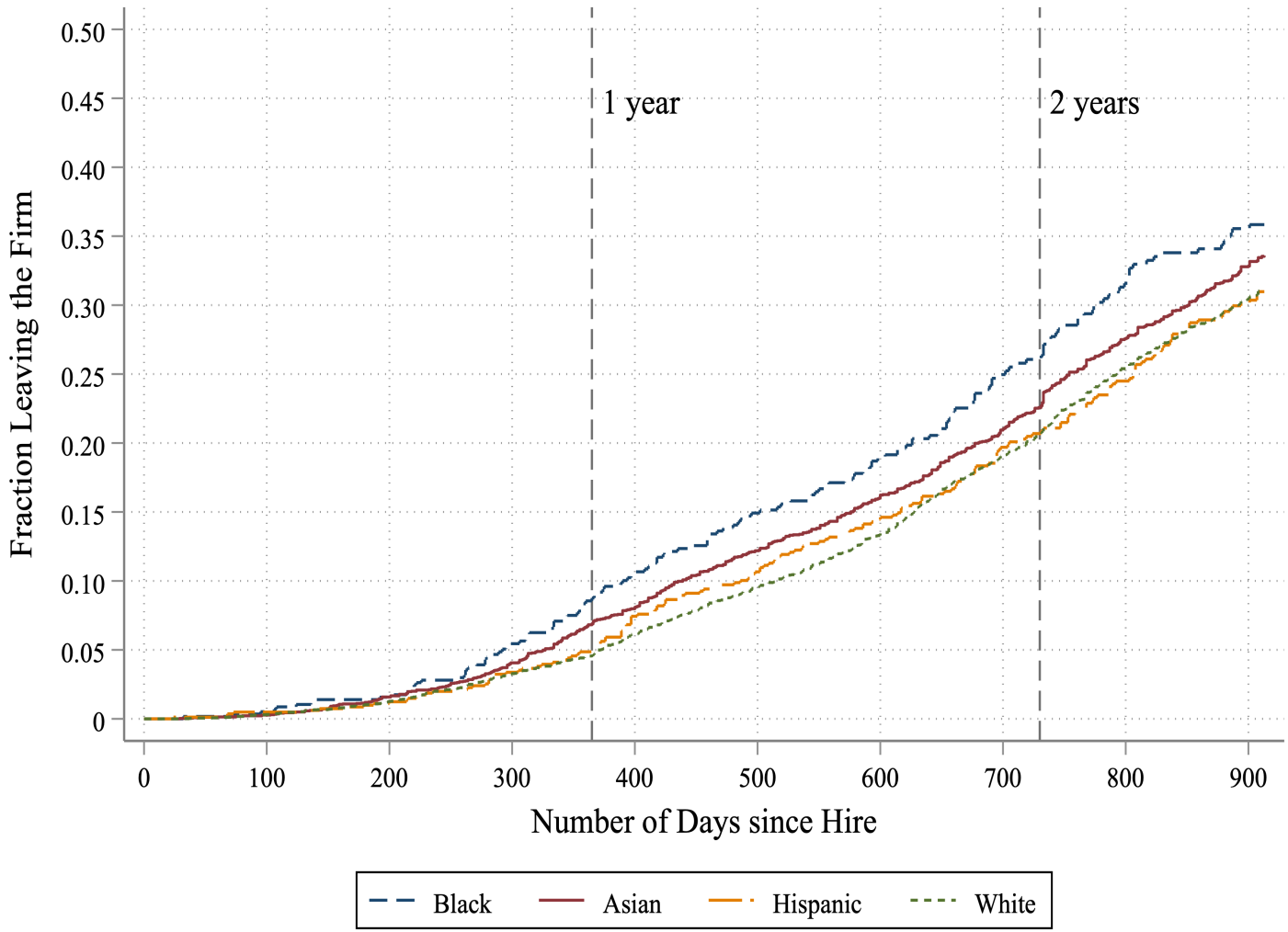


▸ Go Back

Race turnover gap

- Black employees are twice as likely to leave within a year of their hire than their white counterparts.

KM curve - cumulative incidence of leaving the company

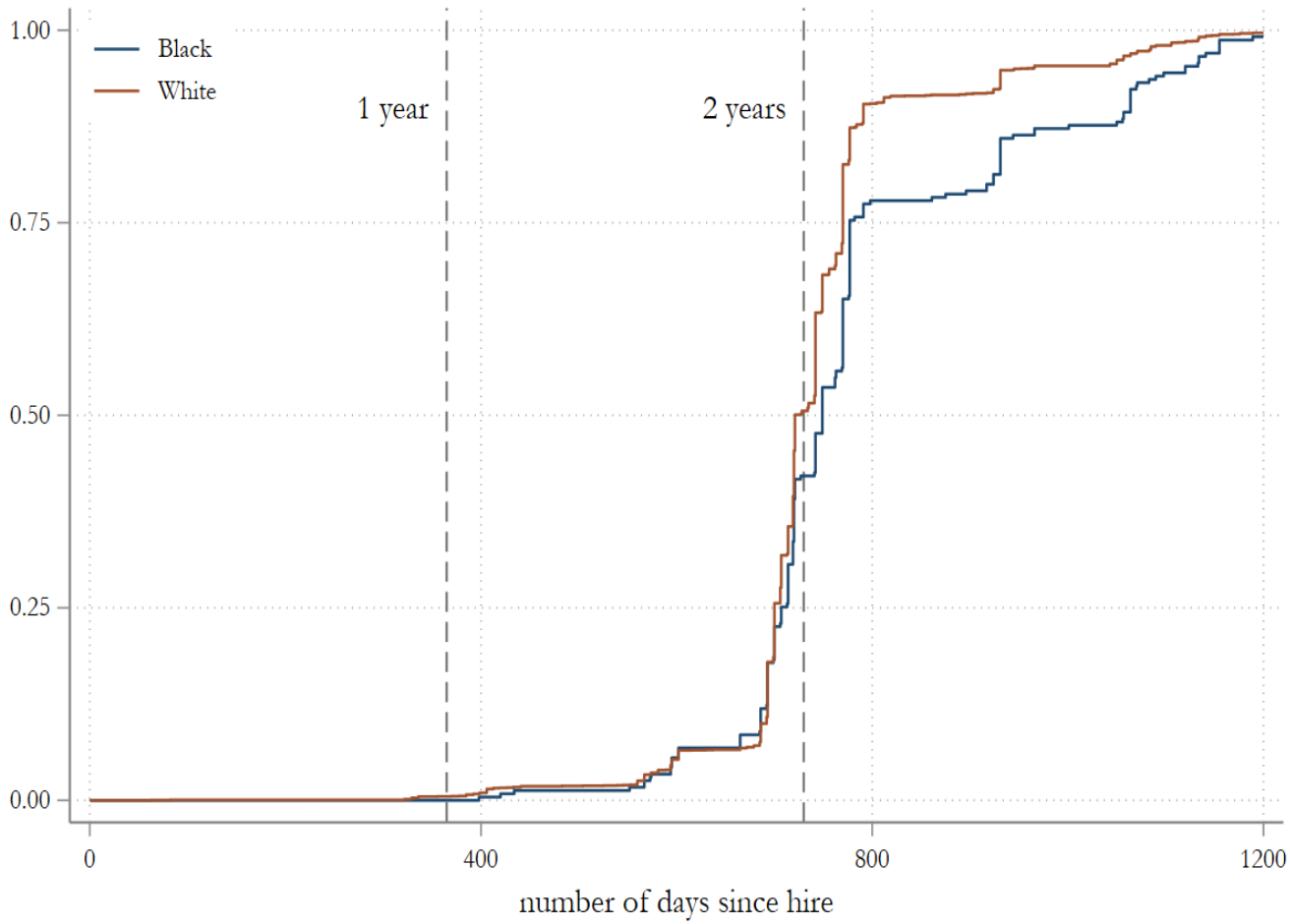


Go Back

Race promotion gap

- Even conditional on staying two years, Black employees are less likely to be promoted than their white counterparts.

KM survival rates (probability of getting a promotion)



Go back

Controls

- Four types of demographic variables:
  - Age.
  - Gender.
  - Education Rank: four categories that ranks the highest-ranked university from which a professional has a degree (top 20, 21-100, 101-1000, and 1001+), constructed based on Carnegie Classification (Chetty et al., 2020).
  - Two "Masters" variables, one indicating whether the employee had a masters degree and another indicating whether the employee had a specialized technical masters.
- To control for differences in the nature of initial team project assignments:
  - Team Size: the average number of coworkers across all initial assignments.
  - a dummy for whether the new hire was initially assigned to at least one priority project.

Go Back

The promotion gap

	OLS		Cox	
	(1)	(2)	(3)	(4)
Black	-0.165***	-0.209***	0.739***	0.722**
	(0.033)	(0.046)	(0.070)	(0.098)
Asian	-0.043**	-0.062***	0.935	0.912
	(0.018)	(0.023)	(0.045)	(0.058)
Hispanic	0.019	0.001	1.015	0.995
	(0.029)	(0.041)	(0.079)	(0.111)
Male	-0.047***	-0.063***	0.913**	0.898**
	(0.014)	(0.017)	(0.035)	(0.042)
Black × Male		0.084		1.046
		(0.064)		(0.195)
Asian × Male		0.036		1.053
		(0.032)		(0.092)
Hispanic × Male		0.032		1.037
		(0.057)		(0.156)
White Mean Promotion	0.676		0.676	
White Female Mean Promotion		0.729		0.729
Individual controls	X	X	X	X
Office × Year FE	X	X	X	X
Nb. obs	7351	7351	11776	11776

▸ Go Back

Test of Random Assignment

	Asian Female	Asian Male	Hispanic Female	Hispanic Male
% White Coworkers	0.028	-0.053	0.013	0.020
	(0.054)	(0.052)	(0.035)	(0.029)
% Black Coworkers	0.078	-0.091	0.007	-0.025
	(0.069)	(0.067)	(0.043)	(0.041)
% Asian Coworkers	0.140**	0.055	-0.019	-0.024
	(0.056)	(0.056)	(0.035)	(0.029)
Individual controls				
Office × Year FE	X	X	X	X
Nb. obs	11776	11776	11776	11776

▸ Go Back

Test of Random Assignment with Controls

Panel A: Employee Race and Gender

	(1) Black Female	(2) Black Male	(3) Asian Female	(4) Asian Male	(5) Hispanic Female	(6) Hispanic Male	(7) White Female	(8) White Male
% White Coworkers	-0.014	-0.038	0.032	-0.052	0.014	0.021	0.014	0.023
	(0.026)	(0.027)	(0.054)	(0.051)	(0.035)	(0.030)	(0.062)	(0.070)
% Black Coworkers	0.049	0.026	0.081	-0.084	0.008	-0.025	0.013	-0.068
	(0.037)	(0.046)	(0.069)	(0.067)	(0.043)	(0.041)	(0.087)	(0.095)
% Asian Coworkers	0.001	-0.036	0.134**	0.054	-0.018	-0.024	-0.072	-0.040
	(0.024)	(0.028)	(0.056)	(0.056)	(0.035)	(0.029)	(0.064)	(0.071)

Panel B: Project Characteristics

	(1) Top Priority	(2) Second Priority	(3) Third Priority	(4) Fourth Priority
% White Coworkers	0.032	0.014	-0.009	0.004
	(0.028)	(0.023)	(0.015)	(0.009)
% Black Coworkers	0.012	0.015	-0.016	0.011
	(0.036)	(0.031)	(0.018)	(0.011)
% Asian Coworkers	0.021	0.001	-0.011	0.005
	(0.029)	(0.023)	(0.016)	(0.009)
Individual controls	X	X	X	X
Office × Year FE	X	X	X	X
Nb. obs	11776	11776	11776	11776

▸ Go Back

Coefficients on main effect

	OLS		Cox	
	(1)	(2)	(3)	(4)
Black	0.083***	0.118***	1.248**	1.246
	(0.027)	(0.035)	(0.129)	(0.195)
Asian	0.030**	0.039*	1.136**	1.189**
	(0.015)	(0.020)	(0.062)	(0.090)
Hispanic	-0.008	-0.001	1.003	1.116
	(0.024)	(0.035)	(0.090)	(0.153)
Male	0.039***	0.046***	1.191***	1.236***
	(0.011)	(0.014)	(0.052)	(0.071)
Black × Male		-0.065		1.000
		(0.049)		(0.204)
Asian × Male		-0.017		0.916
		(0.027)		(0.093)
Hispanic × Male		-0.015		0.824
		(0.047)		(0.146)
White Mean Turnover	0.211		0.211	
White Female Mean Turnover		0.172		0.172
Individual controls	X	X	X	X
Office × Year FE	X	X	X	X
Manager interaction	X	X	X	X
Nb. obs	7617	7617	11776	11776

▸ Go Back

Asymmetry in the promotion gap

	OLS		Cox	
	(1)	(2)	(3)	(4)
% White Coworkers	0.011	0.108	1.000	1.001
	(0.096)	(0.107)	(0.003)	(0.003)
Male × % White Coworkers		-0.169*		0.997
		(0.091)		(0.003)
Black × % White Coworkers	-0.360*	-0.708***	0.995	0.987*
	(0.192)	(0.204)	(0.005)	(0.007)
Asian × % White Coworkers	0.096	0.099	1.002	1.002
	(0.089)	(0.122)	(0.003)	(0.003)
Hispanic × % White Coworkers	-0.198	-0.181	0.999	1.000
	(0.147)	(0.211)	(0.004)	(0.006)
Black × Male × % White Coworkers		0.684**		1.016
		(0.333)		(0.011)
Asian × Male × % White Coworkers		-0.061		0.999
		(0.162)		(0.005)
Hispanic × Male × % White Coworkers		-0.027		1.000
		(0.276)		(0.008)
White Mean Turnover	0.676		0.676	
White Female Mean Turnover		0.729		0.729
Individual controls	X	X	X	X
Office × Year FE	X	X	X	X
Manager interaction	X	X	X	X
Nb. obs	7351	7351	11776	11776

▸ Go Back

Asymmetry in the promotion gap - Main coefficients

	OLS		Cox	
	(1)	(2)	(3)	(4)
Black	-0.164***	-0.200***	0.736***	0.718**
	(0.033)	(0.044)	(0.070)	(0.099)
Asian	-0.038**	-0.052**	0.941	0.923
	(0.018)	(0.024)	(0.046)	(0.060)
Hispanic	0.020	0.009	1.016	1.009
	(0.029)	(0.041)	(0.080)	(0.113)
Male	-0.048***	-0.057***	0.912**	0.904**
	(0.014)	(0.017)	(0.035)	(0.043)
Black × Male		0.071		1.051
		(0.063)		(0.199)
Asian × Male		0.027		1.042
		(0.034)		(0.095)
Hispanic × Male		0.020		1.009
		(0.057)		(0.154)
White Mean Turnover	0.676		0.676	
White Female Mean Turnover		0.729		0.729
Individual controls	X	X	X	X
Office × Year FE	X	X	X	X
Manager interaction	X	X	X	X
Nb. obs	7351	7351	11776	11776

▸ Go Back

Racial Composition of First Managers has no Impact

	OLS		Cox	
	(1)	(2)	(3)	(4)
% White managers	0.008	0.009	0.999	1.001
	(0.026)	(0.031)	(0.001)	(0.001)
Male × % White Managers		-0.001		0.998*
		(0.033)		(0.001)
Black × % White Managers	-0.030	-0.000	1.002	1.000
	(0.061)	(0.078)	(0.003)	(0.004)
Asian × % White Managers	0.015	0.060	1.001	1.000
	(0.029)	(0.038)	(0.001)	(0.002)
Hispanic × % White Managers	0.005	-0.054	1.002	0.997
	(0.056)	(0.074)	(0.002)	(0.003)
Black × Male × % White Managers		-0.048		1.003
		(0.116)		(0.005)
Asian × Male × % White Managers		-0.104*		1.001
		(0.060)		(0.002)
Hispanic × Male × % White Managers		0.113		1.010**
		(0.099)		(0.004)
White Mean Turnover	0.211		0.211	
White Female Mean Turnover		0.172		0.172
Individual controls	X	X	X	X
Office × Year FE	X	X	X	X
Manager interaction	X	X	X	X
Nb. obs	7617	7617	11776	11776

▸ Main Coefficients ▸ Go Back

Racial Composition of First Managers has no Impact - Main Coefficients

	OLS		Cox	
	(1)	(2)	(3)	(4)
% Black managers	-0.022	-0.021	1.001	1.001
	(0.041)	(0.042)	(0.002)	(0.002)
% Asian managers	0.007	0.008	1.000	1.000
	(0.028)	(0.028)	(0.001)	(0.001)
% White managers	0.008	0.009	0.999	1.001
	(0.026)	(0.031)	(0.001)	(0.001)
White Mean Turnover	0.211		0.211	
White Female Mean Turnover		0.172		0.172
Individual controls	X	X	X	X
Office × Year FE	X	X	X	X
Manager interaction	X	X	X	X
Nb. obs	7617	7617	11776	11776

Go Back

Tokenism Doesn't Explain our Results

	OLS		Cox	
	(1)	(2)	(3)	(4)
% White Coworkers	0.088	0.016	1.004	1.001
	(0.090)	(0.101)	(0.004)	(0.005)
Male × % White Coworkers		0.126		1.005
		(0.085)		(0.004)
Black × % White Coworkers	0.379***	0.565***	1.019***	1.030***
	(0.142)	(0.180)	(0.007)	(0.010)
Asian × % White Coworkers	-0.052	-0.003	1.001	0.999
	(0.088)	(0.110)	(0.003)	(0.005)
Hispanic × % White Coworkers	-0.127	-0.106	0.991	0.996
	(0.157)	(0.220)	(0.006)	(0.009)
Black × Male × % White Coworkers		-0.350		0.981
		(0.296)		(0.013)
Asian × Male × % White Coworkers		-0.054		1.008
		(0.151)		(0.006)
Hispanic × Male × % White Coworkers		-0.022		0.991
		(0.278)		(0.011)
White Mean Turnover	0.211		0.211	
White Female Mean Turnover		0.17		0.17
Individual controls	X	X	X	X
Office × Year FE	X	X	X	X
Manager interaction	X	X	X	X
Nb. obs	6659	6659	10048	10048

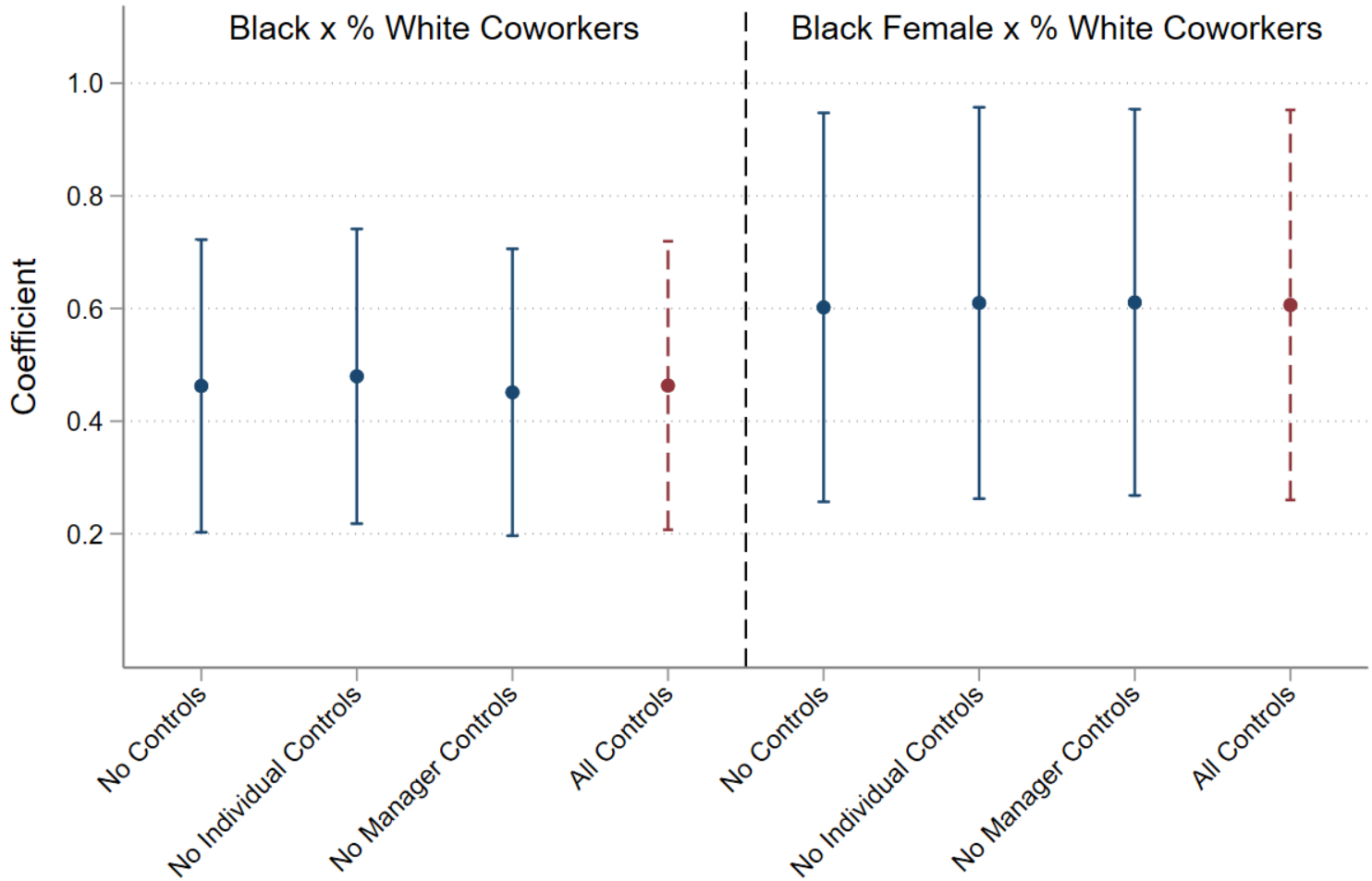
▸ Main Coefficients ▸ Go Back

Tokenism Doesn't Explain our Results - Main Coefficients

	OLS		Cox	
	(1)	(2)	(3)	(4)
Black	0.097***	0.130***	1.370***	1.403**
	(0.030)	(0.037)	(0.151)	(0.231)
Asian	0.021	0.028	1.134**	1.160*
	(0.016)	(0.021)	(0.068)	(0.097)
Hispanic	-0.001	0.010	1.087	1.233
	(0.027)	(0.039)	(0.107)	(0.184)
Male	0.041***	0.047***	1.219***	1.261***
	(0.012)	(0.015)	(0.058)	(0.080)
Black × Male		-0.061		0.947
		(0.051)		(0.205)
Asian × Male		-0.014		0.969
		(0.030)		(0.110)
Hispanic × Male		-0.022		0.795
		(0.051)		(0.154)
White Mean Turnover	0.211		0.211	
White Female Mean Turnover		0.17		0.17
Individual controls	X	X	X	X
Office × Year FE	X	X	X	X
Manager interaction	X	X	X	X
Nb. obs	6659	6659	10048	10048

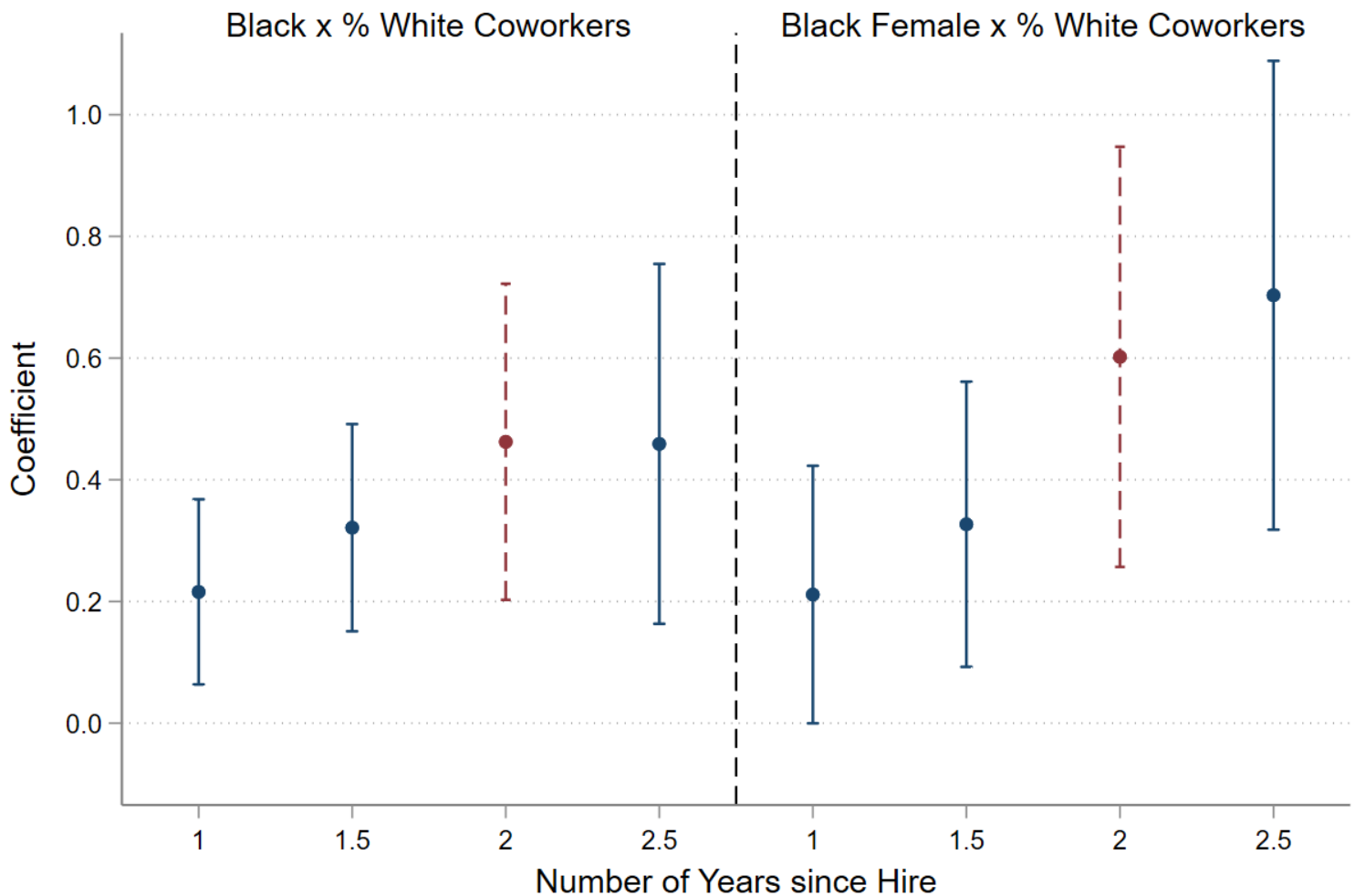
▸ Go Back

Robustness check: Varying Controls



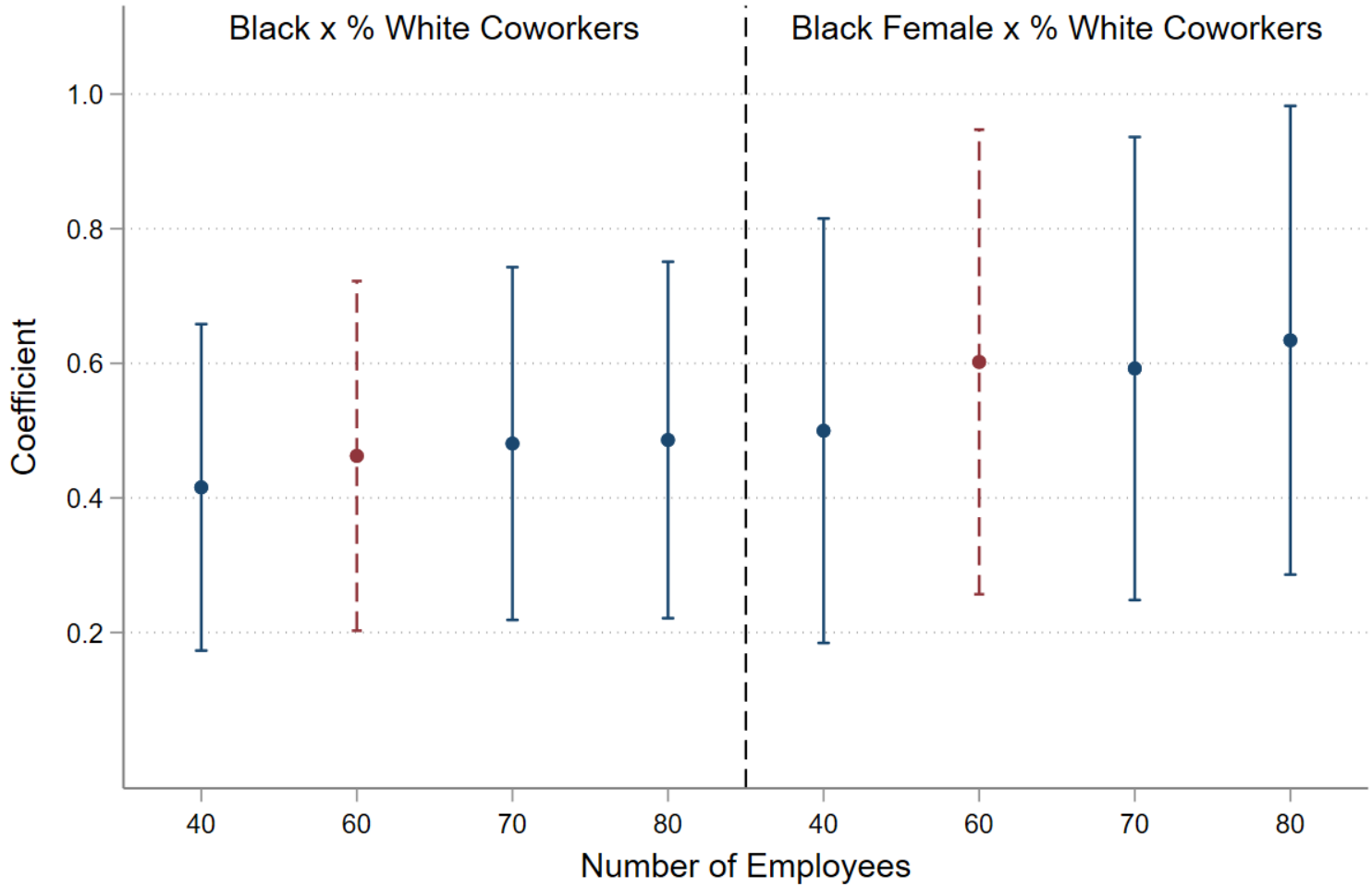
▸ Go Back

Robustness check: Varying Measure of Turnover



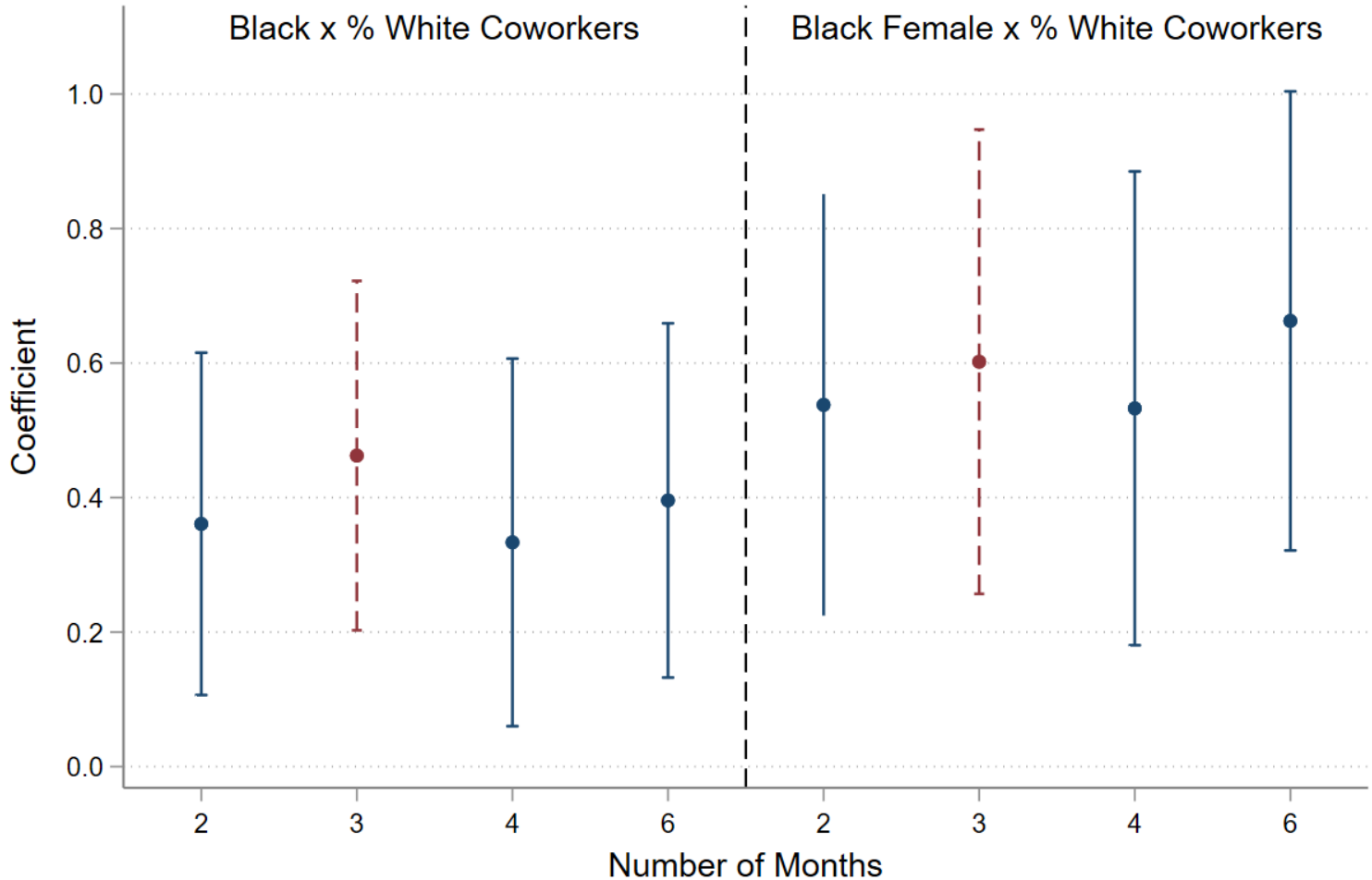
▸ Promotion Gap - Robustness ▸ Go Back

Robustness check: Varying Measure of Initial Project Assignment



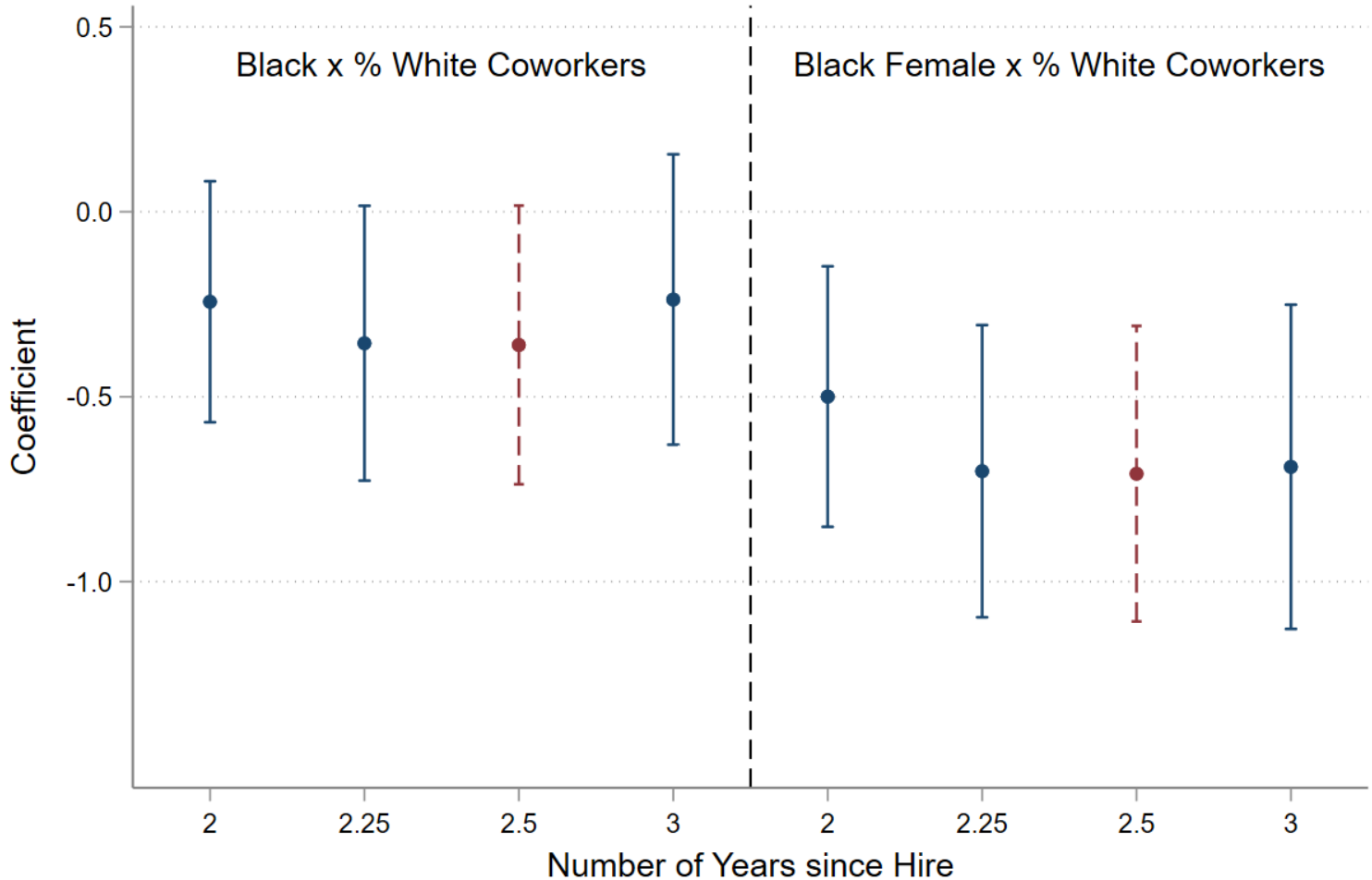
Go Back

Robustness of Turnover Results: Varying Time-Window of Initial Project Team



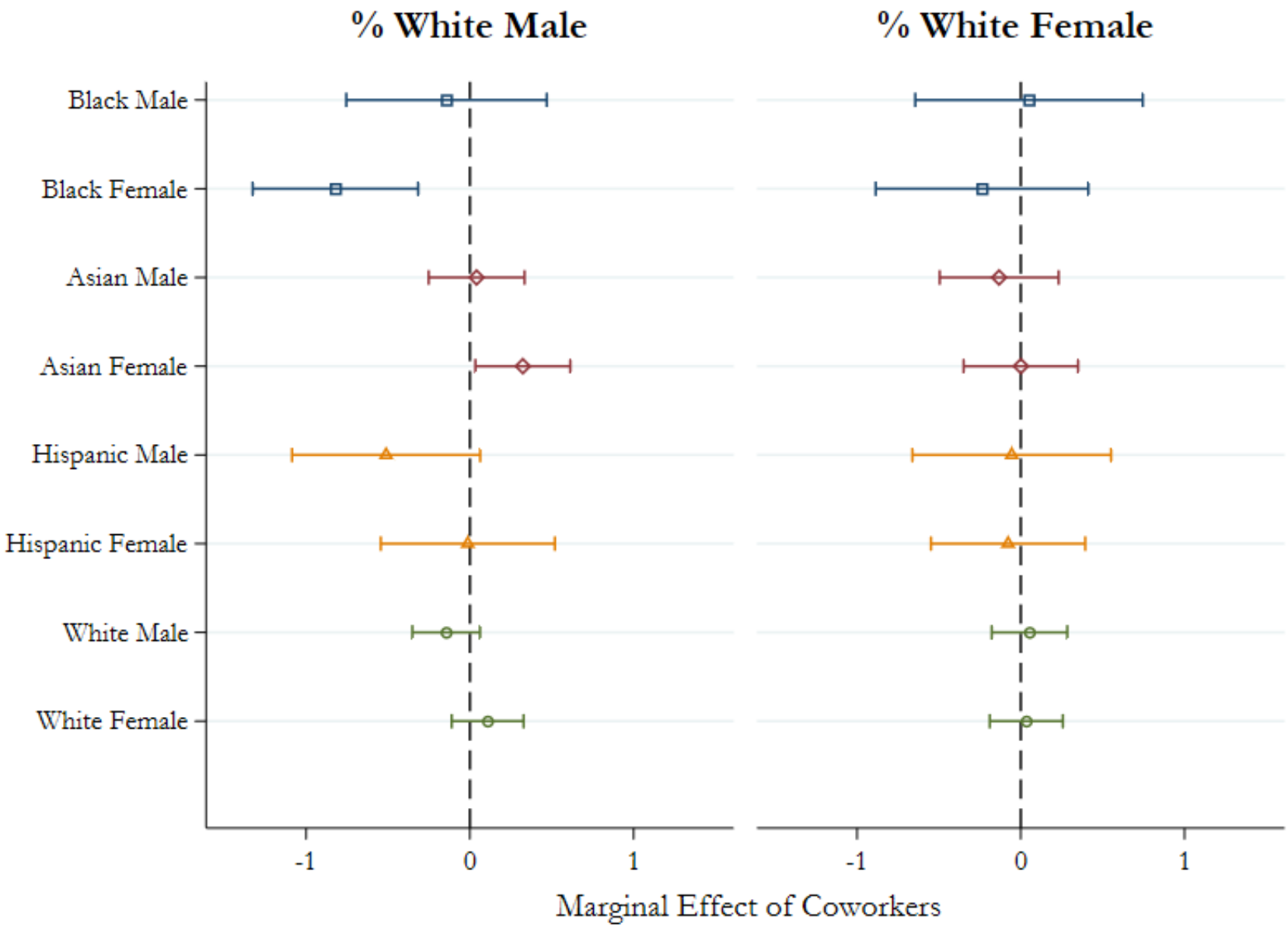
Go Back

Robustness of Promotion Results: Varying Measure of Promotion



▸ Go Back

Marginal Effect of White Coworkers on Promotion



Go Back

Mechanism I: Regression without Individual Controls

	Monthly Hours		Monthly Billable Hours		Share of Priority Projects	
	(1)	(2)	(3)	(4)	(5)	(6)
Black	-7.213***	-7.057***	-11.036***	-10.901***	-3.522***	-3.497***
	(1.480)	(1.466)	(1.615)	(1.613)	(1.321)	(1.323)
Asian	1.650**	1.616**	-0.608	-0.672	-1.682**	-1.786**
	(0.810)	(0.805)	(0.882)	(0.882)	(0.804)	(0.806)
Hispanic	-0.549	-0.544	-1.675	-1.631	-1.373	-1.315
	(1.365)	(1.362)	(1.383)	(1.383)	(1.267)	(1.265)
% White Coworkers		-4.483		-5.128		7.585*
		(4.709)		(5.123)		(4.457)
Black × % White Coworkers		6.998		2.951		-4.463
		(8.071)		(8.772)		(7.226)
Asian × % White Coworkers		-2.530		-5.803		-4.967
		(4.509)		(4.617)		(4.071)
Hispanic × % White Coworkers		-7.797		-11.783*		2.251
		(7.163)		(6.904)		(7.245)
White Mean Dep. Var.	202	202	173	173	60	60
Individual controls						
Office × Year FE	X	X	X	X	X	X
Manager interaction	X	X	X	X	X	X
Nb. obs	7616	7616	7595	7595	7616	7616

▸ Go back

Mechanism I: Regression with Outcome Variable in Log

	Log Monthly Hours		Log Monthly Billable Hours		Log Share of Priority Projects	
	(1)	(2)	(3)	(4)	(5)	(6)
Black	-0.039***	-0.038***	-0.071***	-0.070***	-0.036	-0.033
	(0.009)	(0.009)	(0.012)	(0.012)	(0.046)	(0.046)
Asian	0.006	0.006	-0.008	-0.008	-0.004	-0.009
	(0.004)	(0.005)	(0.006)	(0.006)	(0.029)	(0.029)
Hispanic	-0.003	-0.003	-0.010	-0.010	-0.012	-0.009
	(0.008)	(0.008)	(0.010)	(0.010)	(0.041)	(0.040)
% White Coworkers		-0.013		-0.031		0.133
		(0.028)		(0.046)		(0.154)
Black × % White Coworkers		0.031		0.027		-0.084
		(0.046)		(0.059)		(0.229)
Asian × % White Coworkers		-0.012		-0.021		-0.256*
		(0.024)		(0.031)		(0.151)
Hispanic × % White Coworkers		-0.057		-0.081*		0.002
		(0.040)		(0.049)		(0.247)
White Mean exp(Dep. Var.)	202	202	173	173	60	60
Individual controls	X	X	X	X	X	X
Office × Year FE	X	X	X	X	X	X
Manager interaction	X	X	X	X	X	X
Nb. obs	7616	7616	7595	7595	7521	7521

▸ Go back

Mechanism I: Regression with Gender

	Monthly Hours		Monthly Billable Hours		Share of Priority Projects	
	(1)	(2)	(3)	(4)	(5)	(6)
% White Coworkers	-4.932	-0.917	-5.689	-5.490	5.006	3.253
	(4.711)	(5.235)	(5.126)	(5.631)	(4.229)	(4.611)
Male × % White Coworkers		-7.266		-0.817		2.757
		(4.512)		(4.464)		(4.038)
Black × % White Coworkers	8.438	-2.918	5.079	-4.035	-3.381	-13.153
	(8.141)	(13.937)	(8.759)	(13.038)	(6.697)	(9.862)
Asian × % White Coworkers	-2.250	1.124	-5.191	-1.283	-6.190	-5.730
	(4.487)	(5.675)	(4.623)	(5.878)	(3.828)	(5.257)
Hispanic × % White Coworkers	-8.605	-10.867	-11.942*	-5.895	1.711	7.433
	(7.155)	(9.015)	(6.879)	(10.145)	(6.986)	(10.371)
Black × Male × % White Coworkers		20.529		17.040		18.784
		(17.650)		(18.627)		(13.233)
Asian × Male × % White Coworkers		-9.522		-9.409		-0.012
		(7.626)		(8.191)		(7.329)
Hispanic × Male × % White Coworkers		3.221		-11.008		-10.117
		(13.858)		(14.296)		(12.491)
White Mean Dep. Var.	202		173		60	
White Female Mean Dep. Var.		203		174		62
Individual controls	X	X	X	X	X	X
Office × Year FE	X	X	X	X	X	X
Manager interaction	X	X	X	X	X	X
Nb. obs	7616	7616	7595	7595	7616	7616

▸ Go back

Mechanism I: Regression with Gender - Other coefficients

	Monthly Hours		Monthly Billable Hours		Share of Priority Projects	
	(1)	(2)	(3)	(4)	(5)	(6)
Black	-6.985***	-6.711***	-10.605***	-8.233***	-2.546**	-1.817
	(1.499)	(2.174)	(1.631)	(2.164)	(1.197)	(1.650)
Asian	1.420*	0.039	-0.722	-1.982	-1.132	-1.275
	(0.820)	(1.076)	(0.883)	(1.222)	(0.757)	(0.987)
Hispanic	-0.449	-1.983	-1.406	-1.959	-0.539	-0.172
	(1.350)	(1.920)	(1.367)	(1.917)	(1.129)	(1.690)
Male	-0.836	-1.873**	0.029	-0.560	-0.231	-0.307
	(0.629)	(0.782)	(0.686)	(0.827)	(0.560)	(0.715)
Black × Male		-0.449		-4.579		-1.330
		(2.870)		(3.086)		(2.402)
Asian × Male		2.725*		2.594		0.394
		(1.516)		(1.722)		(1.396)
Hispanic × Male		2.592		0.925		-0.655
		(2.755)		(2.685)		(2.292)
White Mean Dep. Var.	202		173		60	
White Female Mean Dep. Var.		203		174		62
Individual controls	X	X	X	X	X	X
Office × Year FE	X	X	X	X	X	X
Manager interaction	X	X	X	X	X	X
Nb. obs	7616	7616	7595	7595	7616	7616

▸ Go Back