Asymmetric Peer Effects at Work: The Effect of White Coworkers on Black Women's Careers *

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Abstract

This paper investigates how having more White coworkers influences the subsequent retention and promotion of Black, Asian, and Hispanic women and men. Studying 9,037 new hires at a professional services firm, we first document large racial turnover and promotion gaps: even after controlling for observable characteristics, Black employees are 6.7 percentage points (32%) more likely to turn over within two years and 18.7 percentage points (26%) less likely to be promoted on time than their White counterparts. The largest turnover gap is between Black and White women, at 8.9 percentage points (51%). Drawing on conditional random assignment of new hires to initial project teams, we then show that a one standard deviation (14.0 percentage points) increase in the share of White coworkers is associated with a 10.6 percentage point increase in turnover for Black women. These effects are similar in magnitude to the overall turnover gap between White and Black women, and asymmetric: Black women are the only race-gender group whose turnover and promotion are negatively impacted by the racial composition of their coworkers. We explore potential pathways through which these peer effects may emerge: while the share of White coworkers does not affect formal task assignment, Black women who were initially assigned to Whiter teams subsequently report fewer billable hours and more training hours, and are more likely to be labeled as low performers in their first performance review. Our findings call for more research on how peer effects early in one's career shape longer-term racial inequalities at work.

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1. Introduction

The underrepresentation of peoples of color in high-wage jobs, especially in leadership positions, remains a significant problem (Bell Smith and Nkomo 2003; Tomaskovic-Devey and Avent-Holt 2019; Hancock et al. 2021). To better understand and reduce these racial inequalities, researchers and practitioners have often focused on pre-hire factors, such as bias in recruitment and selection practices, programs to build a stronger pipeline or initiatives to diversify the applicant pool (Goldin and Rouse 2000; Behaghel et al. 2015; Bohnet et al. 2016; Agan and Starr 2018; Chang et al. 2020; Abraham and Burbano 2021; Exley and Kessler 2022; Castilla and Rho 2023). Comparatively less scholarly attention has been paid to measuring the impact of within-firm work practices on the retention and promotion of employees of color. Yet the demographic composition of a firm's workforce depends both on who enters the firm as well as who stays and is promoted (Sørensen 2004).

In this paper, we focus on a critical factor shaping one's career trajectory within a firm: coworkers. Many overlapping literatures document the ways in which coworkers influence each other, ranging from convergence in productivity that may improve overall performance, to informal knowledge transfer and networks that lead to future promotable opportunities, to peer support that may influence belonging and satisfaction at work (Ozcelik and Barsade 2011; Hoogendoorn et al. 2013; Lount and Wilk 2014; Herbst and Mas 2015; Cornelissen et al. 2017; Cooke et al. 2019). In elite, knowledge-intensive firms, coworkers impact not only socialization but also success within the firm (Sherer 1995; Anderson-Gough et al. 2000; Davenport et al. 2002; Cross and Parker 2004). Whether and how these peer effects impact employees of color in predominantly White firms remains an open question.

Analyzing the careers of 9,037 inexperienced new hires over a seven-year period (2014-2020) in a large professional services firm, this study asks: Does having more White coworkers early in one's career influence retention and promotion for Black, Asian, and Hispanic women and men?[1] We study the impact of White coworkers in particular because elite high-wage firms are numerically dominated by White employees, such that all non-White employees primarily interact with White colleagues (Blumer 1958; Bobo 1999). We focus on inexperienced new hires for both substantive and methodological reasons. Substantively, one's early work experiences are particularly important

[1] We capitalize the words "Black" and "White" throughout this article. Capitalizing "Black" gives necessary weight to an identity that has been pressed upon people of African descent and involves much more than color. Capitalizing "White" affirms the racialization of a group and further removes the signaling (via lowercase "w") of Whiteness as the standard and norm.

in determining career outcomes, as these initial experiences can have imprinting effects that persist over time (Briscoe and Kellogg 2011; Marquis and Tilcsik 2013; Tilcsik 2014; Rothstein 2023). Methodologically, focusing on inexperienced new hires allows us to leverage, for causal inference, the exogenous assignment to one's first project teams: to minimize non-utilized time, an HR manager assigns newly hired employees to teams with no input from the employees or managers themselves. As such, conditional on geography and department ("office"), who your coworkers are is as good as random in the first few months at the firm. We verify that claim both qualitatively, through interviews with HR managers, and quantitatively, testing that the racial composition of initial teams is orthogonal to one's own race and other observables.

We first document large heterogeneities in retention and promotion by race and gender: even after controlling for individual (e.g., age and degree) and office characteristics, Black new hires are 6.7 percentage points (32%) more likely to turn over within two years of their hire and 18.7 percentage points (26%) less likely to be promoted on time than their White counterparts. The largest turnover gap is between Black and White women, at 8.9 percentage points (51%). Asian and Hispanic employees also face higher turnover and lower promotion rates than their White counterparts, but the differences are smaller and not statistically significant. To be sure, whether or not turnover or promotion is a net positive or net negative is unclear for any individual employee of color (Sterling 2023). However, these aggregate differences by race so early in career trajectories lend themselves to a deeper exploration of different experiences within the firm.

What causes these differential turnover and promotion rates? We focus our attention on one potential explanation: the racial composition of an employee's coworkers. Drawing on the quasi-random assignment of new hires to initial teams, we find that a one standard deviation (14.0 percentage point) increase in the share of White coworkers on first teams is associated with a 6.4 percentage point increase in Black employees' turnover within two years. These effects are driven by the experience of Black women: a one standard deviation increase in the share of White coworkers is associated with a 10.6 percentage point increase in turnover for Black women. These peer effects are similar in magnitude to the overall turnover gap between White and Black women. They are also asymmetric: in contrast with Black women employees, none of the other race and gender groups are significantly affected by exposure to more White coworkers. Further, a series of Wald tests indicate that the effect of White coworkers on Black women is statistically different ($p < 0.05$) from that on other race and gender groups. The impact we identify on Black women is distinct from the effect of being a numerical minority: Hispanic men, Hispanic women, and Black

men are numerically similar demographic groups to Black women employees, yet we do not observe an effect of Whiter teams on their turnover and promotion. To further probe the intersectionality of our results, we investigate whether the effect of White coworkers on Black women is differentially driven by either White men or White women coworkers. We find that while both the initial shares of White men and women coworkers influence turnover for Black women, the point estimate for the effect of White men coworkers is almost twice as large as that of White women coworkers, and only the share of White male coworkers influences Black women's promotion.

To explain how initial exposure to more White colleagues influences Black women's retention and promotion, we explore three potential causal pathways—subsequent formal task assignment, engagement and participation, and performance evaluation—using administrative data on these intermediate outcomes and illustrative qualitative interviews with 18 employees. We find no evidence that Black women are, on average, formally assigned to a different number or different quality of projects. Despite this, we note that Black women who were initially assigned to teams with a higher share of White coworkers are subsequently more likely to be labeled as low performers and to report fewer billable hours in subsequent projects, both of which are predictors of higher turnover and lower promotion for all employees. They also report more hours spent on training, yet this too is correlated with lower promotion for all employees. Qualitative interviews contextualize our findings: Black employees, and particularly Black women, reported numerous ways in which interacting with their majority White coworkers negatively influenced their participation and identified challenges related to their task assignments and performance evaluations.

Our findings make several contributions. First, we offer literature on peer effects and racial inequality an intersectional perspective on the causal effect of initial White coworkers on career attainment for Black, Asian, and Hispanic women and men in high-wage jobs, using longitudinal fine-grained administrative data (Hoxby 2000; Falk and Ichino 2006; Jackson and Bruegmann 2009; Mas and Moretti 2009; Hensvik and Skans 2016). We further trace how these peer effects manifest over time and across organizational processes by exploring the impact of White peers on subsequent formal task assignment, engagement and participation and performance evaluations. Second, we bring a peer effects perspective to the intersectionality literature with novel evidence of asymmetric coworker effects on turnover and promotion: only Black women's career outcomes, not other employees', are affected by their majority White colleagues (Crenshaw 1989; Hurtado 1989; Purdie-Vaughns and Eibach 2008). This move has the potential to deepen extant theories of intersectionality by pointing to organizational processes that serve as conduits for producing race

and gender inequalities. Third, our study provides management practitioners with the practical insight that even seemingly neutral short-term organizational staffing practices can result in long-term post-hire dynamics that limit firm diversity and heighten costs associated with developing and replacing human capital. Lastly, we document heterogeneity among Black, Asian, and Hispanic employees' turnover and promotion rates, which extant literature on intra-firm racial inequality has had limited data to investigate (Maertz and Campion 1998; Hom et al. 2008; Lee et al. 2008; Sterling 2023).

2. Related Literature

Across the social sciences, extant theories about race and gender inequalities in career attainment have focused on what women and men of color lack: for example, human capital or skills (Becker 2009), access to valuable social capital or returns from homophilous social networks (McPherson et al. 2001; Smith 2005; Fernandez and Fernandez-Mateo 2006), and perceived belonging and self efficacy (Bandura 1994; Baumeister and Leary 1995). Yet each of these individual characteristics are produced in relationships with others (Tilly 1998). And, as Tomaskovic-Devey and Avent-Holt (2019) state, "there is no such thing as an individual actor, absent the relationships he or she is embedded within." This study, therefore, focuses on how coworkers shape career outcomes for peoples of color.

To do so, we lean on a vast interdisciplinary literature demonstrating that individual outcomes are influenced by observable and unobservable characteristics of their peers, such as classmates or coworkers (Manski 1993; Hoxby 2000; Mannix and Neale 2005; Sacerdote 2011). For example, individuals' performance and productivity are measurably influenced by their higher-ability and higher-performing peers, which has primarily been studied in schools or low-wage work contexts (Sørensen 2004; Falk and Ichino 2006; Mas and Moretti 2009; Kaur et al. 2010; Cornelissen et al. 2017; Mas and Pallais 2017; Golsteyn et al. 2021; Feld and Zölitz 2022). Relationships with coworkers also enable access to their social networks are associated with intrafirm and inter-firm career advancement (Granovetter 1973; Podolny and Baron 1997; Burt 2009). Finally, peers can be a critical source of social support, shaping subjective experiences of social belonging, that ultimately influence who stays and who goes in a given firm (Lepine and Van Dyne 2001; Chiaburu and Harrison 2008; Nanda and Sørensen 2010; Sunder et al. 2017).

Studies that consider the racial identity of the peer are less clear about whether these potential peer benefits apply in demographically diverse work contexts (Sørensen 2004; Leonard and Levine

2006; Cornelissen et al. 2017; Glover et al. 2017). In particular, the extant literature offers mixed evidence on the potential effects of White coworkers – a numerical majority racial identity group – on the retention and promotion patterns for employees of color.

One set of studies points to a positive impact of having more White colleagues on underrepresented employees: if a "rising tide lifts all boats," the existing higher status and privileges afforded to White male employees may mean that exposure to more White colleagues early on in one's career increases access to information, social capital informal networks, resources, and opportunities that might otherwise be unavailable (Lareau and Horvat 1999; Petersen et al. 2000; McDonald 2011; Pedulla and Pager 2019; Castilla 2022). Indeed, some studies find that access to White male networks improve career outcomes such as providing more job leads or job assistance, even for members of the network that are not themselves White and male (McDonald 2011; Silva 2018). Some evidence suggests a similar pattern in housing, sporting, religion, and educational contexts, although the evidence is mixed (Day and McDonald 2010; Chetty et al. 2016; Munn 2018). Notably, a large swath of interventions to increase access to predominantly White spaces (e.g., "mentorship programs") implicitly depend on this theory of change (Bonifacino et al. 2021).

In contrast, other evidence points to a more detrimental effect of having more White colleagues on employees of color. For example, a 2006 study of front-line workers in low-wage jobs in the service sector finds correlational evidence that Black, Hispanic, and Asian employees were more likely to quit within six months when their workplace had a greater share of White peers (Leonard and Levine 2006). Theories of similarity-attraction (Byrne 1971; Lau and Murnighan 1998), social identity (Tajfel and Turner 2004), and social contact (Allport 1954; Blau 1977; Zatzick et al. 2003; Castilla 2011), all suggest that working with a greater share of demographically dissimilar coworkers heightens the salience of one's difference and feelings of non-belonging, which can increase turnover and decrease promotion by diminishing communication and social integration for minority group members in particular (O'Reilly et al. 1989; Tsui and O'Reilly 1989; Zenger and Lawrence 1989; Jackson et al. 1991; Riordan and Shore 1997; Elvira and Cohen 2001; Sørensen 2004). Group competition theory complements these perspectives by detailing how majority group members, typically Whites, enact backlash and antagonistic behaviors toward minority group members when they perceive threats to their group dominance (Blalock 1967).

Such peer effects could operate through a host of different pathways within teams. For instance, minoritized team members may be assigned less promotable tasks, less challenging tasks, or have fewer opportunities to do highly visible or critical components of a team's work (De Pater et al. 2009;

Lehmann 2011; Babcock et al. 2017; Hurst et al. 2021). Over time, this may lead to disengagement or demotivation, that impacts either perceptions of performance or can impact performance directly through various channels. For instance, previous studies have shown that working with more biased managers leads to a reduction in subsequent effort by minority employees through less manager-employee interaction (Glover et al. 2017). Similarly, the stereotype threat literature points to a reduction in performance when someone fears that their performance will confirm a negative stereotype about their demographic group (Steele 1997; Shih et al. 1999). Lastly, the literature on tokenization suggests that being the sole member of a given demographic group or "solo status" can reduce performance and effort when individuals feel that they are the sole representative of their group, fear of being stereotyped by the dominant group, and/or have lower expectations of their performance in the presence of the dominant group (Sekaquaptewa and Thompson 2002; Sekaquaptewa et al. 2007; Wingfield and Wingfield 2014).

A third possibility is that White coworkers heterogeneously affect different minority racial groups, where there may be no impact for some and large effects for others. Differences in their historical immigration experience to the United States and dramatic demographic shifts in the population have given rise to at least two axes of subordination—cultural foreignness and inferiority—which are often reflected by differences in stereotype content (Kim 1999; Citrin and Sears 2014; Zou and Cheryan 2017). As a result, hierarchical perceptions of culturally foreign minority groups, such as Asian and Hispanic, are variable. For example, stereotypes of Asian people as "model minorities" (Kao 1995; McGrady and Reynolds 2012)—as equally or more competent than Whites—change interracial interaction contexts by casting Asian people as higher ranking than Black and Hispanic people (Bergsieker et al. 2010). Perceptions of Hispanic groups in the U.S. are similarly not monolithic: under different contexts may be viewed as similar to either White, Asian, or Black people in the racial hierarchy (Fiske et al. 2002; Sears and Savalei 2006).

At the same time, a rigid and relatively impermeable boundary, or color line, separates Black and White people (Bourdieu and Wacquant 1999; Omi and Winant 2018; Derenoncourt et al. 2023). Without the power, status, or group size needed to change the interaction context in high-wage professions, routine daily interactions often call on Black employees to ensure their White coworkers feel comfortable by managing their Black identity and adhering to racialized norms of emotional expressions (Wingfield 2010), keeping silent when faced with racial bias, demonstrating their competence, and upholding, conforming to, and enforcing interaction norms established by their higher-status White colleagues (Wingfield and Wingfield 2014). To this day, Black women and

men perceive significantly more frequent discrimination and are four times more likely to report heightened group consciousness than their Hispanic and Asian counterparts, providing evidence that the color line separating White people from Black people remains more impermeable than the lines separating White people from other minority groups of color (Bourdieu and Wacquant 1999; Brondolo et al. 2006; Landrine et al. 2006; Sears and Savalei 2006; Sears 2015; Omi and Winant 2018; Lean In 2020).

Further evidence documents the double disadvantage of Black women, whose experience is shaped by the intersection of multiple subordinated identities (Combs 2003; Hall et al. 2019; Petsko and Bodenhausen 2019). Indeed, Black women's outcomes and experiences differ from those of other members of their gender or racial categories (Crenshaw 1989; Bell Smith and Nkomo 2003; Settles 2006; Purdie-Vaughns and Eibach 2008). Relative to Black men, for example, Black women are underrepresented at the top of the corporate hierarchy, holding roughly 3% of Fortune 500 board seats in 2020, and earn lower pay across the majority of occupations (Deloitte, LLP 2019). At work, Black women are more often harassed and minimized more than Black men, experiencing harassment related to both gender and race (Berdahl and Moore 2006; Bailey and Null 2018; Smith et al. 2019). Evidence abounds that Black women professionals' interactions with White coworkers are distinct from those of their Black male counterparts (Hughes and Dodge 1997; Wingfield 2007; Cortina and Magley 2009; Hall et al. 2012; Pitcan et al. 2018; Sisco 2020).

These mixed results point to a need to take an intersectional empirical lens to our understanding of how majority White peers in elite work settings affect their coworkers, who are members of different race and gender identity groups. This study does just that.

3. Institutional Setting and Data

3.1. Institutional Setting

Field site. The field site for our research, which we refer to as ProfServ to protect its anonymity, is a large knowledge-intensive global professional services firm that uses teams to advise clients on a variety of projects. These teams do project-based work and range in size throughout the duration of a project. The nature of tasks depends on the client but as a professional services firm, these tasks could include providing knowledge or expertise related to data analysis, consulting, accounting, legal support, as well as other technical expertise and knowledge-sharing related to the specific client sector. Importantly, as we describe below, the majority of tasks are billed to clients on an hourly basis, making billable hours a key success metric for an individual employee.

Typically, partners attract work, then deploy teams that include junior employees to execute this work (Gilson and Mnookin 1985). New employees are assigned to their first project teams by staffers whose primary responsibility is to manage resource allocation.

As both a knowledge producer for its clients and a prototype of a knowledge-intensive organization itself, ProfServ is particularly well-suited to the study of elite careers (Suddaby and Greenwood 2001; Gardner 2012; McGinn and Milkman 2013). First, ProfServ is hierarchically structured, such that junior professionals are required to demonstrate their value to the company (or leave) over a specific time period early in their tenure, making the first few years of employment especially important for career attainment (Kahn and Huberman 1988; Sherer and Lee 2002; Hewlett and Luce 2006). Specifically, after two years, employees are expected to either receive promotions or leave the company. Second, because work is organized in teams, which provide knowledge work and knowledge sharing, experiences with coworkers impact not only one's socialization but also one's success within the firm, which is critical for career mobility (Anderson-Gough et al. 2000; Davenport et al. 2002; Cross and Parker 2004). Third, in this setting, human capital is the primary asset and is expensive to develop and replace, making employee turnover costly (Sherer 1995; von Nordenflycht 2010; Nishii 2012). Gallup estimates the cost of turnover ranges from 50% to 200% of an employee's annual pay (McFeely and Wigert 2019), a sizable amount for any organization, but particularly for those with high wage employees. Fourth, with more than 50,000 employees, ProfServ is one of the largest firms in its industry, which allows us to include enough junior employees of various races and genders and sufficient turnover to be able to empirically test our research questions.

Focus on inexperienced new hires. We focus on inexperienced new hires for both substantive and methodological reasons. Substantively, the first two years at the firm are critical for long-term success, and more broadly initial experiences can have imprinting effects that are persistent over time (Briscoe and Kellogg 2011; Marquis and Tilcsik 2013; Tilcsik 2014; Rothstein 2023). From a methodological standpoint, the allocation process of inexperienced new hires to teams at ProfServ presents a crucial advantage. While tenured or experienced employees have some influence on the projects they work on, inexperienced new hires, that is, employees recruited directly from degree programs with no prior experience (e.g., internships) at ProfServ, do not. Conditional on the office they are hired into, which is defined as the geographic location (city) and department (business) in which they work, the assignment to projects of these employees is as good as random. We confirm this key feature of our design both qualitatively and quantitatively in Section 4.2. Thus, we focus

on describing and analyzing the career attainment and experience of new hires.

3.2. Data

Data for this study was sourced from seven years of ProfServ's administrative employment data and project billing records, from 2014 to 2020. From ProfServ's administrative employment data, we observe employees' hiring dates, job changes (including promotions), exits, geographic location, and the department to which they were assigned. Administrative data also contain employees' self-reported racial and ethnic identity[2], gender[3], and education history. From ProfServ's time use records, we observe the universe of projects to which employees report billing their time at a monthly level, as well as time reported on non-client facing work and training. Project billing data also includes a prioritization score for ProfServ which indicates how important the project is to the firm. We refer to people who are working on the same project as coworkers who are part of the same project "team." A given employee may work on multiple team projects simultaneously, and on average works on 3 teams per month.

Sample. ProfServ employs over 50,000 people, distributed across numerous U.S. cities and departments. Figure I depicts the share of Black, Asian, Hispanic, and White U.S. employees by job level. At the most junior level of these jobs, which we term "Professionals," no more than half of all employees are White, with Asian employees being the second largest group. Further racial stratification is evident at more senior job levels, which we refer to as "Middle" and "Top" Management. Indicatively, the share of Black employees in Top Management is a third of the share at more junior levels. Conversely, the share of White employees is greater than 80% at the Top Management level, which is consistent with the broader elite professional services industry (Ray 2019a,b; U.S. Bureau of Labor Statistics 2022).

From 2014-2020, the total sample of full-time junior professionals with the same job title in the U.S. is 23,539. For this analysis, we excluded 12,607 employees who had prior experience with ProfServ (e.g., internships, rehires) that likely influenced their initial project team assignments. We excluded an additional 1,895 employees who either primarily worked independently rather than across teams on multiple projects or are the sole new hire in their office.

[2] Similar to the Census, the administrative data we used asked employees to identify with panethnic categories, such as Asian and Hispanic, that consolidate ethnic, tribal, religious, and national groups (Okamoto and Cristina Mora 2014). While the motivation and construction process for different panethnic categories vary, there is evidence of growing panethnic identification and a sense of metagroup unity. We verified that the sample who does and does not self-report their race do not differ on other observables, both pre-entry characteristics such as gender and education and firm career trajectories, e.g., average turnover and promotion rates.

[3] During our study window, newly-hired employees were required to self-report their gender at birth (male or female).

Our final sample of study thus consists of 9,037 full-time inexperienced new hires, recruited between 2014 and 2020. The study sample, as described in Table C.1, includes White men (31.8%), White women (24.5%), Asian men (12.1%), Asian women (15.7%), Hispanic men (3.9%), Hispanic women (3.1%), Black men (2.4%) and Black women (2.3%). Table I further summarizes the project and employee characteristics of our full-time newly hired inexperienced sample. New hires are on average 25 years of age, all have an undergraduate degree; 27% have a master's degree, and 12% have degrees from a Top 20 ranked U.S. school. The median number of projects per month that employees bill time to is 2, the median number of total hours reported on a project is 120, and the median number of coworkers per project is 24.

Dependent variables. Our main outcomes of interest are turnover and promotion. Turnover is measured as a binary variable that takes the value 1 in the month that the employee is terminated and 0 otherwise. Similarly, promotion is measured as a binary variable that takes the value 1 in the month that the employee is promoted and 0 otherwise. Our data does not allow us to distinguish between voluntary and involuntary turnover of high-wage employees, both of which impose significant costs for the firm. While these two types of separations may coexist at the firm (MacLeod and Malcomson 1989), even administrative records of voluntary and involuntary turnover would not reflect the true nature of separations (McGinn and Milkman 2013). Indeed, some employees resign in anticipation of being terminated and, conversely, others may prefer a termination instead of resigning for a range of reasons (e.g., benefits). We also define binary indicators for "turnover within two years" and "promotion within two-and-a-half years" for whether an employee exits within two years or is promoted in the six months after they meet the two-year tenure mark, in line with expected promotion cycles.[4] For these models, we subset the data to employees that we observe for at least two years for turnover (N= 5,839) or two-and-a-half years for promotion (N=5,354). In this organizational context, promotion is substantively similar to turnover in that if someone does not get promoted "on time" (i.e., within two-and-a-half years of their hire), or anticipates not getting promoted, they are likely to leave.

Table C.2 presents the raw mean turnover and promotion by employees' race and gender. Approximately 22.3% of our sample turn over within two years of hire, and 68.4% are promoted on time. Turnover is lowest and promotion is highest for White women employees in our sample, at 17.5% and 76.8%, respectively. We therefore use White women employees as the reference group

[4] In Section 5.3, we show that changing the window within which turnover and promotion are observed does not meaningfully change our results.

for the main analyses. The raw turnover and promotion gaps between White and Black employees are 6.1% percentage points and 21.7% percentage points, respectively. Figure II depicts the estimated tunorver Kaplan Meier (KM) curves for employees by race (Panel (a)) and by race and gender (Panel (b)).[5] Panel (a) demonstrates that Black turnover starts to diverge from other groups before one year (at approximately 250 days) and stays consistently higher thereafter. Panel (b) illustrate that while Black men depart the firm earlier than Black women, by the two year mark the Black to White women turnover gap is about twice as large as that between White and Black men.

Independent variables. The main independent variable of study is the (leave out) share of White coworkers each employee works with across all the projects[6] they are assigned to in the first three months of their employment, when utilization is centrally managed[7] (hereafter called "first project assignments"). Coworkers in a given project are defined as all employees working on the same project as the focal new hire, excluding the managers of the project. For each project, we compute the share of White coworkers with whom the focal new hire works. The share of White coworkers across all first project assignments is then computed as the weighted average share of White coworkers across projects, weighted by the number of hours that the individual has worked on each project.

Figure III depicts the distribution of the average share of White coworkers in first project assignments. This figure illustrates that there is substantial variation in the share of White coworkers across new hires: one standard deviation in the share of White coworker is 20.8 percentage points, and even after residualizing on the office by year of hire fixed effects that we use in our later analysis, this standard deviation remains large, at 14.0 percentage points. Figure B.1 shows the distribution for exposure to other racial identity groups that are relatively smaller in size.

4. Empirical Strategy and Randomization Check

4.1. Empirical Strategy

We are first interested in documenting racial turnover and promotion gaps. To do so, we estimate the following model:

[5] Figure B.2 shows the same KM curve on promotion.

[6] Based on guidance from ProfServ, we exclude projects with more than 60 employees because these projects likely reflect distinct administrative functions and should not be conceptualized as employees working on the same time. However, our results are not sensitive to this team size threshold as we discuss in Section 5.3.

[7] We use a three month time window, based on guidance from our ProfServ partners related to when junior employees have no control over their project assignments. In Section 5.3, we show the lack of sensitivity of our results to this initial time period window, with alternative specifications going from two to six months.

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

where 1_{ij} is our main outcome variable, a binary that equals 1 if individual i in office j leaves the firm within two years or 0 otherwise. For promotion, we use a binary equal to 1 if employee i is promoted within two-and-a-half years ("on time"), or 0 otherwise. R_i' is a vector of (own) racial identity dummies (Black, Asian and Hispanic), in which White is the baseline (omitted) group. To enhance the precision of our estimates, we also include a vector of individual-level controls, X_i'. This vector includes four types of demographic variables (Gender, Age, Education Rank, and Masters) as well as controls for differences in the nature of initial team project. The "Education Rank" variable consists of 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 rankings from the Times, Chetty, and Carnegie Classification (Chetty et al. 2020). We include two types of "Masters" variables, one indicating whether the employee had a master's degree and another indicating whether the employee had a specialized technical master's valued by ProfServ. To control for differences in the nature of initial team project assignments, we include controls for the average number of coworkers across all initial assignments (Team Size) and a dummy for whether the new hire was initially assigned to at least one priority project.[8] Finally, δ_j denotes the office by year of hire fixed effect (thereafter office $\times$ year fixed effect), and ϵ_{ij} is the error term. We cluster the (robust) standard errors at the office $\times$ year level. We also estimate Equation 1 interacting the gender of the new hire with their race to test for intersectional differences in turnover and promotion.

We then turn to estimating the effect of a change in the share of White coworkers on the turnover of new hires. Leveraging the conditional random assignment of new hires to teams, which we formally test for in the next section, we run the following model for each of our outcome variables (turnover and promotion):

$$1_{ij} = \alpha + R_i'\beta_0 + W_{-i}\beta_1 + W_{-i}R_i'\beta_2 + X_i'\gamma + \delta_j + \epsilon_{ij} \quad (2)$$

Compared to Equation 1, this model introduces W_{-i}, that is, the (leave out) share of White coworkers that new hire i works with in their first project assignments.[9] β_2 is then our vector

[8] A priority project is defined by the firm itself, and relates to a ranking of how valuable a given project is to the business operations of the firm.

[9] For more details on how this variable is constructed, see the Independent variables paragraph in Section 3.2.

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 (Black, Asian and Hispanic), relative to its impact on White new hires (captured by β_1). The vector X_i' now also contains the share of Asian, Black, Other race,[10] and female coworkers in first project assignments, and separately controls for the share of missing race of coworkers.[11] We also estimate Equation 2, controlling for the gender of the new hire and adding a three-way interaction between race, gender, and the share of White coworkers to test for intersectional differences in the impact of White coworkers on turnover and promotion.

Second, we run Cox proportional hazard models, stratified at the office × year level so that each office has its own flexible, baseline hazard function. We use the same covariates as in the OLS regression, and the likelihood function is then formed by first calculating for each duration time t the conditional probability that, of all new hires employed at a given office for at least t days, a particular new hire i leaves (or is promoted) on day t; and by then taking the product of these conditional probabilities (Cox 1975).[12]

4.2. Randomization Check

Our identification strategy depends on observing a sample of newly hired employees whose assignment to projects early in their career is as good as random, conditional on the office in which they work. We are particularly interested in confirming that newly hired employees' race and gender does not predict their team assignment within an office.

We first explore this assumption quantitatively. Table II Panels A and B reports a series of random assignment tests regressing employee characteristics that were determined prior to their entry—their racial and gender identity, education, and age—on the racial composition of their initial teams, controlling for office × year fixed effects. We do not observe a systematic relationship between observable pre-hire characteristics of employees and the racial composition of their

[10] The other race group pulls together coworkers that identified as either Native American, Alaska Native, Hawaiian Native, or Islander

[11] The average (median) share of missing coworker race is only 11.25% (4.3%). Our data is constructed such that the shares of Asian, Black, White and Other race in first team assignments sum to 100%, irrespective of the share of missing race of coworkers. In other words, we assume that the distribution of races among coworkers with missing race in the team is the same as the broader distribution of races in the team. However, we also separately control for the share of missing race of coworkers. The results are not sensitive to excluding the few new hires with a large share of missing coworker race, as illustrated in Section 5.3. The results are more broadly not sensitive to the addition of all the mentioned controls to X_i', as illustrated in Section 5.3.

[12] The sample for these regressions is somewhat larger because we do not limit it to individuals we can observe for at least a two-year period for turnover (and two-and-a-half years for promotion).

coworkers on teams.[13] Adding individual-level controls does not change our findings, as shown in Table C.3.

Our quantitative evidence does not preclude selection on unobservables of new hires into teams. To assuage this concern and further understand how newly hired employees are assigned to teams, we conducted 11 informational interviews with ProfServ managers. Our interviews confirmed that the primary objective of HR managers tasked with staffing assignments was to minimize non-utilized time rather than to maximize "fit" between newly hired professionals and their team assignments, which would have heightened concerns about correlations with unobserved characteristics of coworkers and projects. Our interviewees stated that two characteristics of newly hired professionals were taken into account when making staffing decisions: their city and the department into which they were hired. When we probed about other factors that influenced newly hired employees' assignments to teams, one manager simply stated that "a first year is a first year is a first year." Whereas more experienced professionals may have areas of specialization or distinct skills, first-year junior employees lacked any such distinguishing characteristics. Thus, while a newly hired professional's assignment to teams was conditional on their city, department, and hiring cohort, qualitative interviews suggested these assignments were orthogonal to other characteristics of the project.

Since the quality of the first projects may shape individual turnover and promotion independently from the racial composition of the team, we would ideally also have random assignment of projects to teams. While that is not the case, we can still explore whether the racial composition of teams is predictive of some observable characteristics of the projects on which a team works. Specifically, we use an indicator of project "quality" to confirm that the racial composition of teams is orthogonal to how important a project is to the firm. We used data about each project's level of priority to the firm (from 1 to 4, where 1 is highest priority) to construct the average project rank variable for each employee. Panel C of Table II reports that the average priority rank of an employees' project portfolio is not systematically related to the racial composition of their team. Although this does not eliminate concerns about a correlation between unobservable characteristics of projects and the racial composition of one's coworkers, our results demonstrate that there is not a relationship between either (a) observable pre-hire characteristics of employees and team racial composition, or (b) observable project characteristics and team racial composition in our sample.

[13] The only significant coefficient is the one on the share of Asian coworkers in Column 3 of Panel A, where the dependent variable is a dummy equal to 1 if the new hire is an Asian woman.

5. Results

5.1. Racial gaps in early career attainment

The racial turnover gap. We begin by examining the main effect of race and the interaction of race and gender on turnover. Table III Column 1 reports results from linear probability models regressing turnover on employees' race, including controls for individual and project characteristics, and office × year fixed effects; Column 2 adds the new hire's gender as a control. Column 2 documents that Black employees are 6.7 percentage points ($p < 0.05$) more likely to exit within two years than their White counterparts, whose average turnover rate is 20.9 percentage points. Column 3 disentangles the effects of race and gender. Neither Black, Asian, nor Hispanic men have turnover rates that are significantly different from their respective same-race female counterparts. Black women are 8.9 percentage points ($p < 0.05$) more likely to turn over than their White women counterparts, whose turnover rate is the lowest, at 17.5 percentage points. Columns 4, 5, and 6 of Table III report results from Cox proportional hazard models estimating employees' time to exit as a function of their race and gender. All results are consistent with OLS regression results.

The racial promotion gap. We now turn to the main effect of race and the interaction of race and gender on promotion. Table IV Column 1 reports results from linear probability models regressing promotion on employees' race, including controls for individual and project characteristics, and office × year fixed effects; Column 2 adds the new hire's gender as a control. Column 2 of Table IV reports that Black employees receive on-time promotions at the lowest rate in ProfServ, with a on time promotion rate 18.7 percentage points ($p < 0.01$) lower than their White counterparts. Asian employees are also less likely to be promoted on time than White employees, but only by 5.0 percentage points ($p < 0.01$). Column 3 interacts the gender and race of the new hire and reveals that neither Black nor Asian men receive promotions at rates that are statistically significantly different from their same-race women counterparts. Black women are 20.3 percentage points ($p < 0.01$) less likely to be promoted on time than their White female counterparts, who have the highest promotion rate, at 76.8%. Results from Cox proportional hazard models in Table IV are consistent with our OLS regression results.

To summarize, we find strong evidence of a consistent racial hierarchy across racial groups and heterogeneity among peoples of color (Hurtado 1989; Purdie-Vaughns and Eibach 2008; Ray 2019a): White employees, and in particular White women, have the highest retention and promotion rates. Black employees have the lowest retention and promotion rates relative to their White, Asian, and Hispanic colleagues, with the largest relative turnover and promotion gap between White women

and Black women. In contrast, Hispanic employees—a group similar in size to Black new hires—are statistically indistinguishable from their White colleagues in terms of their early career attainment.

5.2. Asymmetric Peer Effects at Work

Effects of the share of White coworkers on turnover and promotion. Tables V and VI report how the share of White coworkers interacts with an employee's race and gender in predicting career attainment. The effect of the share of White coworkers on Black employees is both statistically significant and economically meaningful. Table V, Column 2, shows that for Black new hires, a one percentage point increase in the share of White coworkers is associated with a 0.46 percentage point increase in the likelihood of leaving the firm within two years ($p < 0.01$).[14] Put differently, a one standard deviation (14.0 percentage point) increase in White coworkers is associated with a 6.4 percentage point increase in turnover for Black employees. This effect is driven by the impact on Black women: a one percentage point increase in the share of White coworkers is associated with a 0.76 percentage point increase in their turnover rate within two years ($p < 0.01$). Put differently, a one standard deviation (14.0 percentage point) increase in White coworkers is associated with a 10.6 percentage point increase in turnover for Black female employees. This is approximately the same size as the overall turnover gap between White and Black women. To correct for multiple hypothesis testing, the bottom panel of Tables V and VI show the Bonferroni corrected p-value on the Black × % White Coworkers coefficient, adjusting for the fact that we are performing four different tests in Column 2 (namely testing the significant of the coefficient on % White Coworkers and its two-way interaction with three races) and eight different tests in Column 3 (namely testing the significant of the coefficient on % White Coworkers, its two-way interaction with Male, its two-way interaction with three races and its three-way interaction with Male and all three races). The Bonferroni corrected p-values are all below 0.05, confirming the significance our results even after a multiple-comparison correction. Finally, the corresponding Cox hazard models in Column 5 and 6 display similar effects.

This effect is asymmetric: we do not observe statistically significant impacts of having more White Coworkers for any of the other race and gender groups, even when considering similarly sized minority groups like Hispanic employees. Further, we perform successive Wald tests of the difference between the effect of White coworkers on Black women and the effect on each of the other seven racial and gender groups: White women, White men, Black men, Asian women, Asian men,

[14] This is obtained by adding β_1, the coefficient on the share of White coworkers, to the coefficient on the share of White coworkers interacted with the Black dummy (equal to 1 when the new hire is Black).

Hispanic women and Hispanic men. We find p-values below 0.05 for all these tests, confirming that the effect on Black women is distinct from the effect on all other groups.

Table VI follows the same structure as above but considers "on time" promotion as the main outcome. We do not detect a significant difference in the effect of more White coworkers on the on-time promotion of other racial groups, whether Hispanic, Asian or Black. However, Column 3 shows that Black women's on-time promotion likelihood is 0.55 percentage points lower for every percentage point increase in White coworkers ($p < 0.01$). This is equivalent to a 7.7 percentage point reduction in on-time promotion for a one standard deviation increase in White coworkers. The corresponding Cox hazard models in Columns 5 and 6 display similar effects. Similar to our turnover findings, these effects are asymmetric in that we do not observe a statistically significant impact of having more White coworkers on the likelihood of on-time promotion for other race and gender groups and successive Wald tests of the difference between the effect of White coworkers on Black women and the effect on each of the other seven racial and gender groups; all have p-values below 0.10.

Effects of White women and men on Black turnover and promotion. To deepen our intersectional understanding of the main findings, we further investigate two questions about the impact of White coworkers on Black hires: (a) whether this effect is differentially driven by either White men or White women coworkers; and (b) whether Black men or Black women are differentially affected by either White men or White women. Figure IV plots key coefficients from individual models that separate out the share of White women and the share of White men.[15] The figure reveals that White coworkers influence Black women's turnover in different ways: While both White men and women influence the turnover of Black women, the point estimate for the effect of White men coworkers is almost twice as large as that of White women coworkers and only White men coworkers have a significant effect on Black women's promotion. We do not detect any heterogeneity for Black men, whose turnover and promotion is neither impacted by White women nor White men coworkers.

Effects of Asian, Hispanic, and Black coworkers on turnover and promotion. The tables

[15] The specification in Panel (a) is the same as in Table V Column 3, except we interact, respectively, with White male coworkers and White female coworkers shares, instead of White coworkers share, and we control for the other race shares separately by gender as well, such that we no longer control for the total share of female coworkers and omit the female Hispanic category. Panel (b) repeats this exercise for promotion. Plotted coefficients are the marginal effect of having either more White female (on the left) or White male (on the right) coworkers. For instance, for Black Male, the plotted coefficient is the sum of the coefficient on % White Female Coworkers, its interaction with Black and with Male. Similarly, for Black Female the plotted coefficient is the sum of the coefficient on % White Female and its interaction with Black.

presented above already point to one type of asymmetric peer effect: in contrast with Black female employees, none of the other race and gender groups are significantly affected by exposure to more White coworkers. Further, a series of Wald tests indicate that the effect of White coworkers on Black women is statistically distinct (textitp < 0.05) from that on other race and gender groups. We now investigate the effect of Asian, Black, and Hispanic coworkers on the turnover of new hires, by race and gender. Figure V illustrates these additional effects by plotting interaction coefficients from separate models that consider coworkers' racial composition on employees' turnover. The first eight coefficients (to the left of the graph) correspond to the regression in Table V Column 3, where each plotted coefficient is the sum of the coefficient on % White Coworkers, its interactions with the employee's own race (if not White) and gender (if not female), and the three-way interaction when applicable. The next eight correspond to a specification where we replace White coworkers with Black coworkers, otherwise keeping the same specification as in Table V Column 3.

Two patterns emerge from this analysis. First, an increase in the share of Black coworkers does not significantly impact the turnover of White employees (nor of Hispanic or Asian employees).[16] Second, we find that having more Black coworkers significantly decreases the turnover of Black female employees, and no other gender and race group. This is in line with a common finding in the literature that having more similar peers (in this case, Black coworkers) can have a positive effect on retention. While we are powered ($p < 0.05$) to detect, with a Wald test, that the positive effect of Black coworkers on Black women's retention is distinct from that of the (null) effect of Black coworkers on White men and women, we are not powered to detect whether the positive effect of Black coworkers on Black women's retention is distinct from that on other minority groups, such as Black men.

We repeat this exercise in the third panels, replacing in our main analysis the share of White coworkers with that of Asian coworkers. Having more Asian coworkers also significantly increases the retention of Black women, and does not negatively impact the turnover of any racial and gender group. We caution, however, that some of these effects may be mechanical: the shares of Black, White, Asian, Hispanic (and Other) coworkers sum to 100% such that the negative effect of White coworkers on Black female retention will be partly mechanically reflected in positive effects of other groups (e.g., the most likely replacement of a White coworker is an Asian coworker). In

[16] One caveat of this analysis is that the distributions of White and Black coworkers do not have the same support. White employees are not exposed to a very large share of Black coworkers, rendering a direct comparison of the coefficients difficult. There are too few instances of common support between the White and Black coworkers distributions to perform an analysis on that subset.

the last panel, we look at the effect of the share of Hispanic coworkers on new hires: while Hispanic coworkers have a directionally positive effect on Black new hires' retention (and Hispanic employees' retention), we cannot conclusively distinguish these effects from the effect on other racial groups.

Manager and non-linear effects. Given past research findings that managers influence junior employees' careers through project assignments, training, and performance evaluations (Castilla 2011; Giuliano et al. 2011; McGinn and Milkman 2013; Srivastava and Sherman 2015; Abraham 2017), we also explore whether the race of one's manager in their initial assignments has any effect on their later turnover and promotion. Table C.4 reports results from an OLS regression and Cox hazard models of turnover on initial share of managers' race as well as interacted with a newly hired employees' racial identity. No substantive or significant effects are detected in turnover (or promotion, not reported), failing to provide evidence that managers' racial identities influence newly hired employees' early attainment within the firm. This may be context-specific: further inquiry with ProfServ revealed that managers in their project-team based organizational structure tend to have less of a singular influence over junior employees than in other hierarchical structures.

Our main findings are modeled as a linear relationship between exposure to White coworkers and Black turnover. However, it is possible that the effects are nonlinear in important ways. For example, in models not shown, we interact Black employees with a squared term for the share of White coworkers. We do not find statistically significant effects of our key interaction with the squared term, providing no evidence that the relationship between Black employees and their share of White coworkers is curvilinear. Also, theories of tokenism suggest that Black employees who are the only Black people on their teams are likely to experience greater isolation, resulting in stronger negative peer effects than Black employees working with at least one other Black coworker (Turco 2010). To explore whether our main finding is driven by tokenism, we remove teams in which only one Black employee is present and re-run our main model specifications. Our main results hold (Table C.5), suggesting that tokenism is not driving the results.

5.3. Robustness checks

We estimated additional models to probe the robustness of our findings to alternative specifications. First, we consider team size. Based on guidance from ProfServ, we exclude in our main analysis projects with more than 60 employees because these projects likely reflect distinct administrative functions and should not be conceptualized as employees working on the same time. However, we also verify that our results are robust to varying this censoring of team size. In Figure B.3, we study

models that vary the cutoff of projects excluded from the calculation of the share of White (and other race) coworkers, from 40 to 80 coworkers. The figure plots the resulting coefficient on Black × % White Coworkers (left panel), with otherwise the same specification as in Table V Column 2, and Black × % White Coworkers, with otherwise the same specification as in Table V Column 3 (such that it can be interpreted as the coefficient on Black (Female) × % White Coworkers). The coefficients are virtually the same regardless of the cutoff we pick. Second, in Figure B.4, we explore how varying the time window of initial team assignments shapes our findings. Our key coefficients of interest have the same magnitude and statistical significance whether we consider as "initial" assignments the projects that are in the first two, three, four, or six months at the firm. Third, in Figure B.5, we vary the controls of our main specification, considering models with no controls, no individual-level controls, and adding share of White (and other race) manager controls to our baseline specification. The key coefficients are again unaffected. Fourth, while our main estimate on turnover considers a 24 month (2 year) window, our results remain qualitatively similar if we estimate turnover in windows between 12 and 30 months as illustrated in Figure B.6. Our results also remain effectively unchanged when considering promotion within 2 years, 2.5 years, and 3 years of the start date, as illustrated in Figure B.7. Finally, in Figure B.8 we restrict our sample to new hires for whom the share of missing coworker race is less than 2%, 5%, and 10% and show that our main results are unchanged. Lastly, we also explored whether a higher proportion of White coworkers is confounded by individual characteristics of coworkers that may be driving our results. For example, given that diversity has improved in the company over time, it is possible that Whiter teams are also older, on average. We therefore ran additional models controlling for the median and maximum age of other coworkers on new hires' teams, and they do not change our results.

6. Exploring Mechanisms

To explain our key findings, we aim to identify possible causal pathways through which the share of White coworkers influences Black women's retention and promotion outcomes in their first few years. In this section, we use extant theories to generate three plausible pathways that could both explain our results and point to organizational processes that are suitable candidates for intervention. We then probe each of these possibilities to narrow to a set of most likely explanations. Under the same identifying assumptions discussed above, we can explore the effect of the share of White coworkers on intermediate outcomes in the administrative data, after the first assignment and before turnover and promotion decisions. Specifically, we explore formal task assignment in subsequent

periods, such as the number of projects per month, and the relative importance of those projects; employees' engagement and participation measured through detailed time-use data and engagement survey participation; and, finally, performance evaluations which occur at the year mark. We note that these pathways are not necessarily mutually exclusive. Yet if we fail to find that one's initial exposure to a larger share of White coworkers is associated with variation in these intermediate outcomes, then we argue that these outcomes are likely not the main pathway to explain the impact of Whiter teams on Black women. In contrast, if we observe a significant impact, this points to potential mechanisms and organizational interventions that require further investigation.

To contextualize these results, we also conducted semi-structured interviews with 18 employees exploring how employees have experienced their interactions and relationships with their coworkers as they strive to succeed in the firm.[17] Although these personal accounts are more illustrative than conclusive, in part because we were unable to interview employees who had already exited the firm, they are important because a key element of "theorizing involves describing what abstract concepts or relationships might look like on the ground, in the particular context one is studying" (Espeland 2009, p. 65). Moreover, while we do lean on rich administrative data to explore potential pathways, there are inevitably team dynamics on the ground that are not reflected in administrative data.

6.1. Formal task assignment

One potential pathway through which the share of initial White coworkers may shape Black women's career outcomes is by influencing characteristics of subsequent project portfolios (that is, after the initial 3 month period when they are quasi-randomly assigned to projects). Both our interview respondents and research partners at ProfServ consistently described specific characteristics of employees' project portfolios—namely, working on visible, high priority projects where newly hired employees could clearly demonstrate their contributions to the project and team—as critical to success in the firm. Since subsequent staffing relies on informal—and therefore unobservable, but also susceptible to bias—referrals and networks from their initial project teams, such initial project experiences can influence the nature and number of subsequent project teams that employees join. For instance, after initially working with a greater share of White coworkers, Black employees may not receive subsequent opportunities to work on enough projects, work on enough high priority

[17] Our partners at ProfServ helped us recruit interview participants from a sample of 600 employees stratified by broad business area, race, ethnicity, and gender. For instance, we oversampled Black employees because we aimed to learn more about their experience with coworkers, in particular. Thus, seven participants (41.2%) in our sample identified as Black; of which four identified as women and three identified as men. Our interviews were all conducted on Zoom between June and July 2021 and were 46 minutes long, on average. For further details about our qualitative methodology, see Appendix A.

projects, or may work on too many low priority projects to achieve long-term success at the firm.

To preliminarily test hypotheses about a greater share of White coworkers shaping subsequent formal task assignment, we constructed two intermediate dependent variables that were observed after the initial project team staffing and prior to turnover and promotion decisions: (1) monthly average number of project teams (White mean was 4.2), and (2) monthly average project portfolio priority ranking (White mean was 3.2). Columns 1 through 4 of Table VII report our main model specifications with these two intermediate dependent variables. We do not detect any significant coefficient on our key interaction term (Black × Share of White Coworkers). We also do not detect a statistically significant main effect for Black (female or male) employees on either intermediate outcome.

Despite the lack of statistically significant evidence from our quantitative analyses on formal task assignment, previous studies suggest numerous possible mechanisms that would be difficult to detect in archival administrative data: initial experiences in project teams with a greater share of White coworkers may impact newly hired Black employees' informal roles within their teams, assignment to less profitable or less challenging tasks, or some combination of these mechanisms (De Pater et al. 2009; Lehmann 2011; Babcock et al. 2017; Tomaskovic-Devey and Avent-Holt 2019; Hurst et al. 2021).

Moreover, our interview respondents suggested that racialized differences in employees' project portfolios were in fact a key factor shaping employees' career trajectory. One Hispanic female participant shared her observation about the initial impact of having White coworkers on the project portfolios of employees of color. She (ID 6) stated, "people of color sit on the bench longer than their White counterparts, which means they aren't getting the [good] projects, which means there's already this separating very early on…." Similarly, a Black female participant (ID 11) described how such challenges with their project portfolios influenced turnover decisions for women of color. She said, "They [women of color] have said that doing the work they want to do doesn't seem to be coming as easily … and they leave… They were finding it harder to get asked to work on [projects] and proposals that might have been a large enough deal." Thus, we caution that it is possible that our quantitative measures of formal project characteristics are too coarse to identify "good" projects or projects with team dynamics that enable sufficient opportunities for an employee to demonstrate their individual contribution.

6.2. Engagement and participation

A second way that initial experiences with a greater share of White coworkers could affect Black employees' turnover and promotion is by shaping their subsequent engagement and participation within projects, following initial project assignments. Black employees' initial team experiences with a greater share of White coworkers may diminish their sense of belonging in later project teams, increase their efforts to manage their racial identity to make their White coworkers comfortable, dilute their motivation to participate, and negatively impact their satisfaction with their work, team, and supervisors.

We test this second set of potential mechanisms with two types of data from ProfServ's (1) annual engagement survey and (2) staffing records detailing how employees' time use after the initial period. In models that are not reported, we test for evidence of any association between our key interaction term and various engagement survey questions measuring employees' sense of fair treatment, feeling respected, and satisfaction with their team, supervisor, and work-life balance. We do not find evidence of any significant statistical relationships in these engagement survey response data. However, our participants described a link between their team dynamics and subsequent willingness to engage and participate. For example, a Black female (ID 15) participant reported, "What I have to say carries less meaning than my White counterparts. So a lot of the time, I don't speak up unnecessarily, I don't give my opinion, because even though she [a White colleague] is saying something that doesn't make sense...it doesn't matter what you're saying, I don't bother…" At the same time, it is possible that differences in response rates to engagement surveys, as opposed to the scores themselves, are a more accurate predictor of employees' experiences at work (Zaslavsky et al. 2002; Klein et al. 2011). As such, Models 5 and 6 of Table VII report results from OLS regressions of a binary indicator of engagement survey completion on our main model specifications. While Black women are indeed the least likely to complete the company's annual engagement survey, being on Whiter teams is not associated with lower response rates for Black women.

We further investigated potential participation mechanisms underlying our main finding by constructing four additional intermediate outcomes that measure how employees report spending their time, on average, across subsequent months leading up to their two-year anniversary at ProfServ (or the length of time before exit, if less than two years): average monthly (1) total hours (sample mean = 158.6), (2) billable hours (sample mean = 136.2), (3) non-client facing hours (sample mean = 15.7), and (4) training hours (sample mean = 6.7). Figure VI depicts coefficients for Black (Fe-

male) × Share White Coworkers across four different regressions with each of these intermediate dependent variables, and otherwise specified the same as our main models (Column 3 of Table V). For Black women, compared to White women, we find that the initial share of White coworkers is associated with 8.7 more training hours per month, 18.8 fewer billable hours per month, and 15.3 fewer total hours worked overall (all $p < 0.05$). The coefficient on non-client facing hours is not statistically different from zero.

These preliminary findings are consistent with the personal accounts of time use that our interview participants shared with us and shed some light on possible interpretations. A Black female participant (ID 25) explained how she underreported her billable hours in an attempt to manage her colleagues' perceptions about how efficient she was, especially early in her career: "I've had times where I would work ridiculous hours, I would stay online super late, I would even sign off so people didn't know I was working that late, I just wanted them to see that the output was there…. There were times when I would work 50 hours and charge 40 just because I was inefficient and I would take that internally; 'Well I wasn't that efficient, that was my fault and wasn't doing the job as well as I could have done'. I think I do it much less now than I did when I was younger in the firm…"

6.3. Performance review

The last possible explanation for our key finding focuses on how Black women's performance is labeled in formal performance reviews, which typically take place after one year of full time work. Black women who initially work with a greater share of White coworkers may receive lower performance evaluations, which in turn, influence their likelihood of turnover and promotion. Changes to the racial composition of a Black women's coworkers can influence performance evaluations in at least two ways, which we cannot disentangle from one another (Tsui and O'Reilly 1989; Castilla 2011). First, evaluators may assess their work differently in a context with more White coworkers or when making relative comparisons to more White coworkers. Second, Black employees may conduct their work differently in a context with more White coworkers, as we have described above.

We test for evidence of this causal pathway using one intermediate outcome from ProfServ's formal performance evaluation process, a binary flag identifying the employee as a low performer. Columns 8 of Table VII shows that Black male and female employees are both, on average, 5.6 percentage points more likely to be flagged as low performers than their White counterparts ($p < .01$), in their first performance review.

Crucially, we find a large, negative effect of Whiter teams on Black women's first performance review: a one standard deviation (14.0 percentage point) increase in the share of initial White coworkers is associated with a 2.4 percentage point increase in the probability that they are labeled as low performers in their first performance evaluation. Given the low baseline rate of low performance flags (only one percent of White women are flagged as such), the magnitude of these effects is very large.

Our interviews corroborated the quantitative evidence that performance reviews are a plausible causal pathway. A Black female participant (ID 11) described her discomfort with the performance evaluation system: "It's [performance review process] still a little bit unclear for everyone, it goes back to how all those [labels] are getting assigned. When you are being told, 'hey, your performance is with your peers, but you're [Average], you're not [Outstanding].' Does that mean all your peers are [Average], not [Outstanding]? … I'd rather not have a [performance] label to be honest. I'd rather not be labeled with anything." Her confusion about how performance is evaluated was shared by another White female respondent (ID 18) who said: "They aren't going to be able to promote everybody at the same time. It would be better if they explained why." We also heard about employees' frustrations with a lack of feedback needed to improve their performance. Another Black female participant (ID 15) elaborated, "No one is ever willing to give you the frank, negative feedback…I constantly asked for feedback…'No you're doing great,' but then when you rate me, you rate me [low]. And I ask the question [why?]. 'You need to take on more responsibility.' What do you mean? Because this whole year, all I've been asking is to give me more responsibility." Lastly, Black employees described how this evaluative team context gave rise to their felt need for impression management and to see themselves through the eyes of their colleagues (for double consciousness, see Du Bois 1935). A junior Black male (ID 26) shared, "I always think, 'how do people experience me at work?', so I've always been very conscious of that. How am I supposed to bring my authentic self to work if I'm still feeling very self conscious...because of the team dynamic?"

Taken together, this exploration of mechanisms begins to paint a clearer picture. When Black women work in Whiter teams early in their careers, they are more likely to be labeled as low performers and to report fewer billable hours in subsequent projects, both of which are predictors of higher turnover and lower promotion for all employees (as illustrated in Table C.6). Black women who initially work with more White coworkers report more subsequent training hours, yet this too is correlated with lower promotion for all employees. Further, in models not shown, we

find that reporting fewer billable hours predicts the likelihood of being labeled a low performer for all employees. Yet, the association between fewer billable hours and being labeled a low performer is significantly larger for Black women than their White counterparts ($p < 0.05$).

7. Discussion

This paper estimates the causal effect of early assignment to a greater share of White coworkers on subsequent turnover and promotion for Black, Asian, and Hispanic women and men in high-wage jobs in a large professional services firm. In pursuit of this primary goal, we also identify potential mechanisms through which initial White peers could conceivably influence these longer-term career outcomes.

We begin by documenting that, within offices and after controlling for individual characteristics, Black employees are 6.7 percentage points (32%) more likely to turn over within two years of their hire and 18.7 percentage points (26%) less likely to be promoted on time than their White counterparts. The largest turnover gap is between Black and White women, at 8.9 percentage points (51%). We then leverage the quasi-random assignment of inexperienced new hires to initial teams to provide causal evidence on the impact of the racial composition of one's initial team on turnover and promotion. We find that a one standard deviation increase (14 percentage point) in the share of White coworkers early in an employee's career increased Black women turnover by 10.6 percentage points and reduced the likelihood of promotion of Black women by 7.7 percentage points. These effects are asymmetric: No other employees of color, even similarly sized numerical minorities such as Black men or Hispanic women and men, were negatively affected by their initial White coworkers. Further, we find no evidence that White employees' turnover or promotion is affected by the share of their initial racial minority peers. To explain these findings, we explore three potential causal pathways–subsequent formal task assignment, engagement and participation, and performance evaluation–using administrative data on these intermediate outcomes. We find no evidence that Black women are, on average, formally assigned to a different number or different quality of projects. However, Black women who were initially assigned to teams with a higher share of White coworkers subsequently report less billable hours and more training hours, and are more likely to be flagged as low performers.

Our research makes a number of contributions. First, we contribute directly to the literature on how peer effects impact racial inequality at work. Past studies about the effect of White peers on their racial minority colleagues has offered mixed evidence about the nature of such peer ef-

fects, mainly focusing on managers' effects, immediate or short-term performance and productivity, and primarily studying low-wage work (Sørensen 2004; Leonard and Levine 2006; Cornelissen et al. 2017; Glover et al. 2017). By drawing on longitudinal administrative data in a high-wage firm where initial teams vary exogenously, we move beyond short-term performance outcomes to identify the longer-term causal effects of peers on two critical labor market outcomes, turnover and promotion. Our granular time-use, staffing, and performance data also expands our understanding of the possible mechanisms through which White peers can affect careers in a relatively understudied high-wage context. Since differences at the top decile of the income distribution disproportionately shape economic inequality (Saez 2008), understanding racial differences in career trajectories for prestigious jobs can help identify a key mechanism underlying broader labor market inequality.

Finally, our findings contribute directly to the practice of managing and supporting diversity in elite firms. We are not the first to show that race shapes routine daily interactions at work. Yet we point to the critical role of seemingly neutral organizational staffing practices in determining how these daily interactions differentially affect Black employees, and Black women in particular. Creating a staffing and recognition system that depends on peers by design may amplify existing inequities in how coworkers shape costly firm outcomes, such as turnover and promotion rates. Yet it would be reckless to conclude from this evidence that racial segregation engenders career benefits for Black employees. Rather, our research points to the negative consequences of placing peer relationships at the center of career advancement systems. Our preliminary exploration of potential mechanisms also points to various policy interventions that may be key to mitigating the effect of White coworkers on Black women's turnover and promotion. For example, if formal task assignment obfuscates informal roles and opportunities for participation on promotable (billable) tasks within project, practitioners and researchers can test different levers aimed at improving informal team dynamics, such as initiatives that enhance psychological safety on teams and equitably distribute task assignments within teams, which could include feedback, training, and accountability mechanisms for team leads. Similarly, if early exposure to a greater share of White coworkers is associated with receiving a low-performance label, then testing modifications to performance evaluation processes may be needed—for example, by changing who people are compared to (Bohnet et al. 2016; Chang et al. 2020).

Notwithstanding its contributions, this research has several notable limitations. First, although we leverage exogenous assignment of newly hired employees to teams, supporting a causal interpretation of peer effects, the possibility remains that unobservable factors shape why some teams have

higher shares of White coworkers, which may independently influence newly hired employees' outcomes. Future experimental research designs employing random assignment of people to teams and teams to projects could resolve this issue. Second, we study a single company in the professional services industry, which limits the generalizability of our findings. Although there are compelling theoretical reasons why Black, Asian, and Hispanic employees' experiences in high-wage jobs should generalize to other organizational contexts, we expect our findings to be most applicable to other knowledge-worker settings where informal networks are central to career success. Future research can explore the extent to which our findings generalize to other firm contexts, such as globally distributed teams or fully remote firms. Third, our estimated effects are valid for the range of racial coworker compositions we observe, but we are limited in our ability to extrapolate our effects to the (arguably few) high-wage work settings in which White coworkers are a minority. Last, while we posit potential mechanisms through which coworkers affect Black employees' turnover, we cannot adjudicate between voluntary and involuntary turnover, nor can we follow new hires after they leave the firm. Thus, we are also limited in our understanding of what other labor market opportunities may co-occur with turnover at one firm. Future research studies of fine-grained longitudinal data across firms can help identify precise mechanisms that would expand our understanding of truly voluntary and involuntary career outcomes.

Retaining Black employees in elite jobs is as important as recruiting them. Our findings call for an increased scholarly and managerial focus on the longer-term impact of conventional staffing and promotion systems that inherently rely on peers, shedding light on their role in perpetuating racial inequalities in the workplace.

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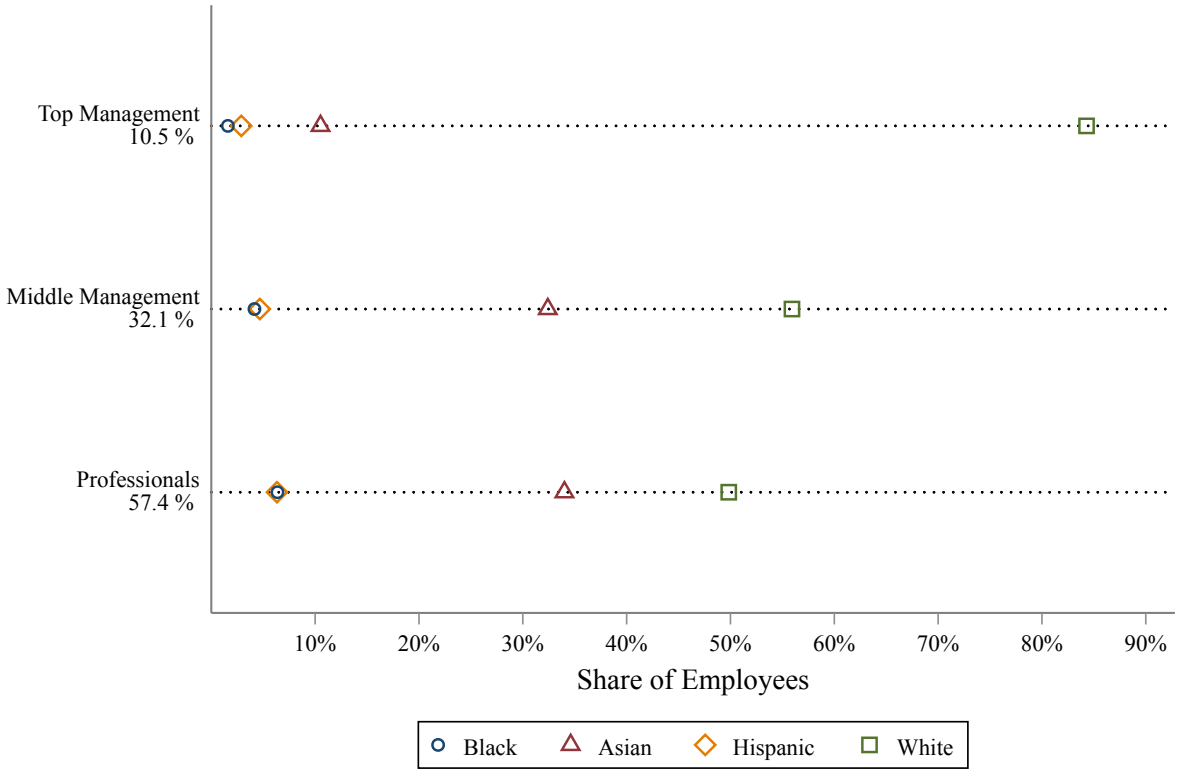
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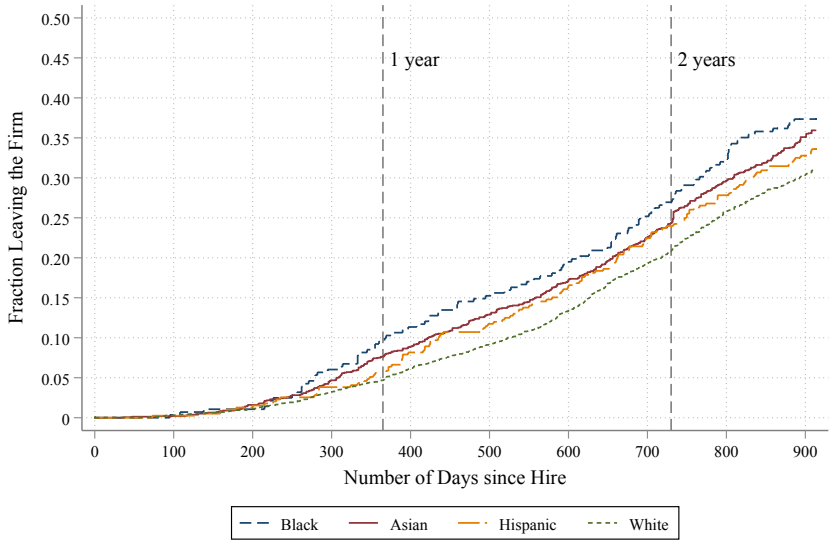
Figures

Figure I: Share of Employees by Race and Job Level

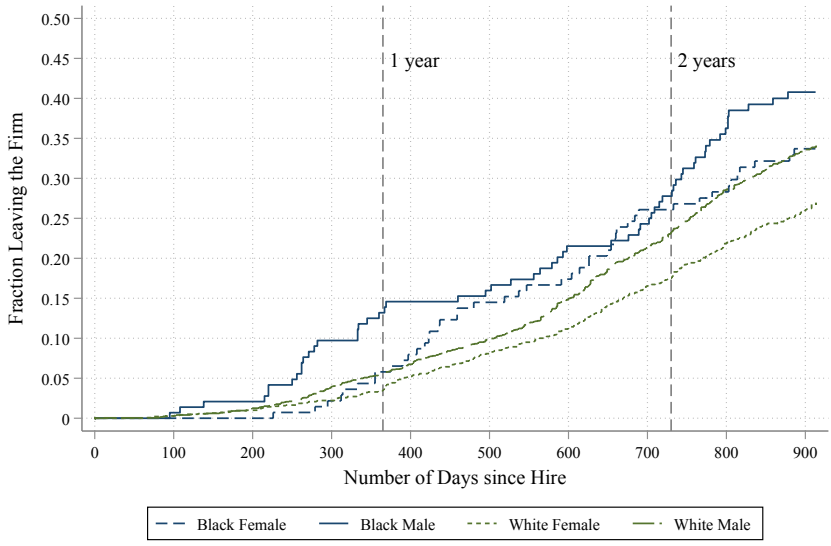


Notes. Using the full sample of more than 50,000 U.S. employees - not only new hires -, this figure plots the racial composition, i.e., the share of employees of each race, at three levels of seniority: *Professionals*, *Middle Management* and *Top Management*. The representation of these levels of seniority as a share of the total workforce is shown below the categories in the vertical axis. The figure illustrates the increasing racial stratification at the firm along the job ladder. For instance, White employees represent only half of Professionals, but more than eighty percent of the Top Management. Since employees from "Other Race" are omitted from the plot, percentages may not add up to 100% for a certain seniority level.

Figure II: Kaplan Meier Failure Estimates



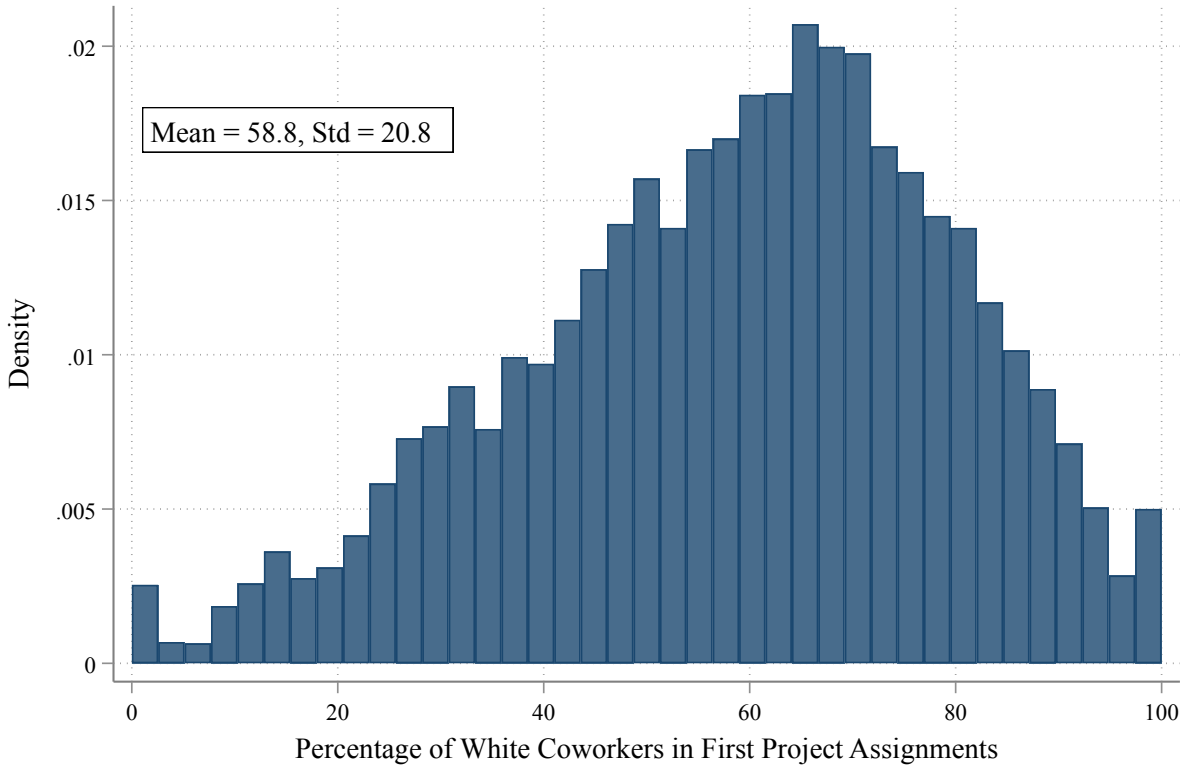
(a) by New Hire Race



(b) by New Hire Race and Gender

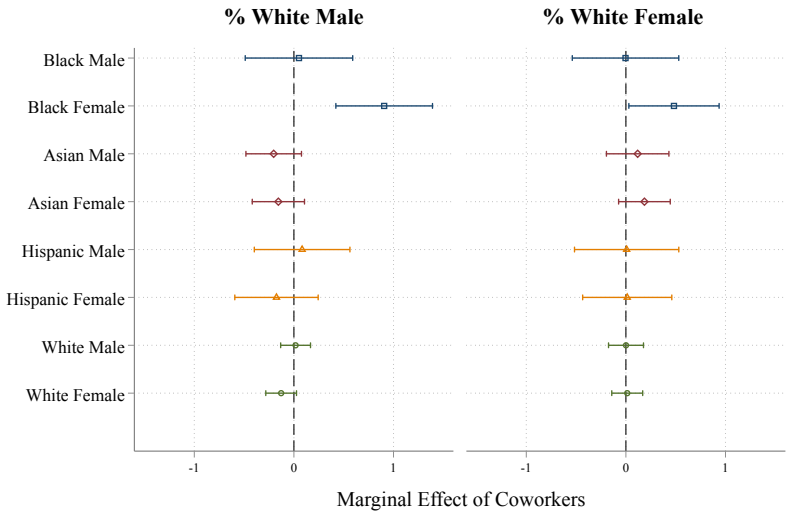
Notes. This figure shows the estimated Kaplan–Meier failure curves for employees by race and gender. In Panel (a), all 5,619 new hires (excluding "Other Race" category) that we have observed for at least two years are considered, and the estimation is done separately for each race. In Panel (b), we only consider the 3,667 Black and White new hires from our sample that we have observed for at least two years, and the estimation is done separately for each combination of race and gender. The y-axis represents the cumulative fraction of employees that have left the firm at a given point in time. The x-axis depicts the number of days since the hiring date.

Figure III: Distribution of the Share of White Coworkers

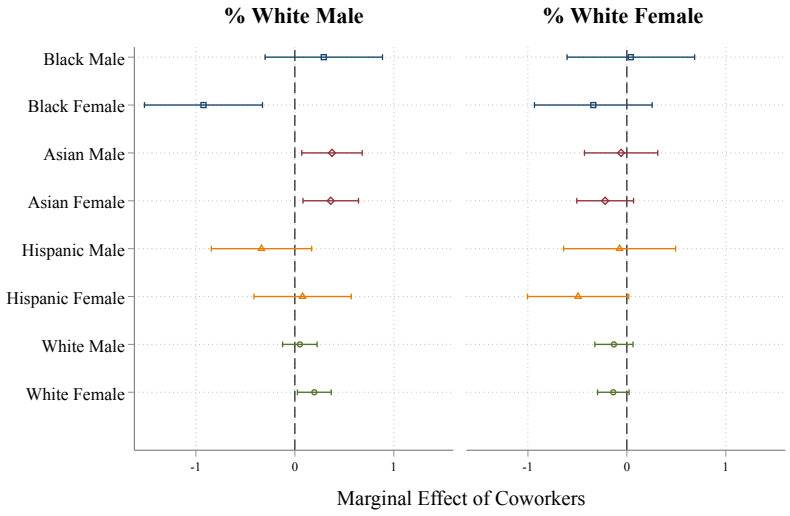


Notes. This figure shows the distribution of a focal employee's share of White coworkers in their first project assignments. This figure is drawn using the full sample of 9,037 new hires.

Figure IV: Marginal Effect of White Coworkers



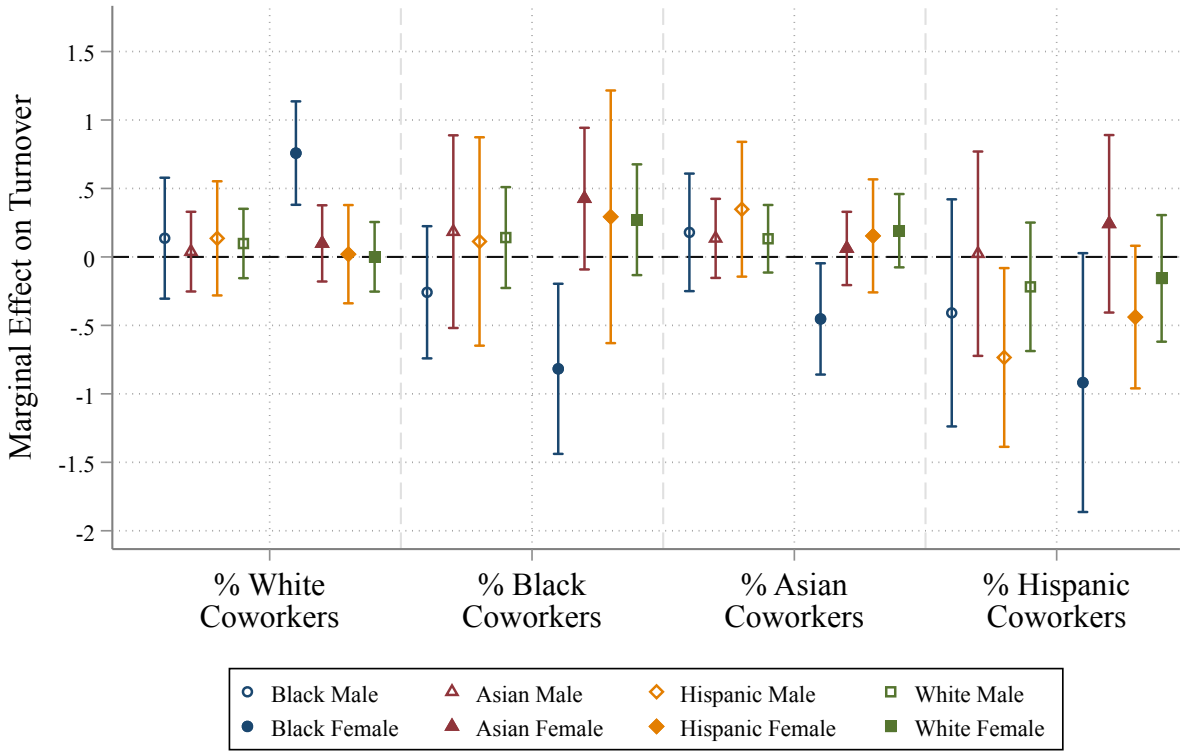
(a) Turnover



(b) Promotion

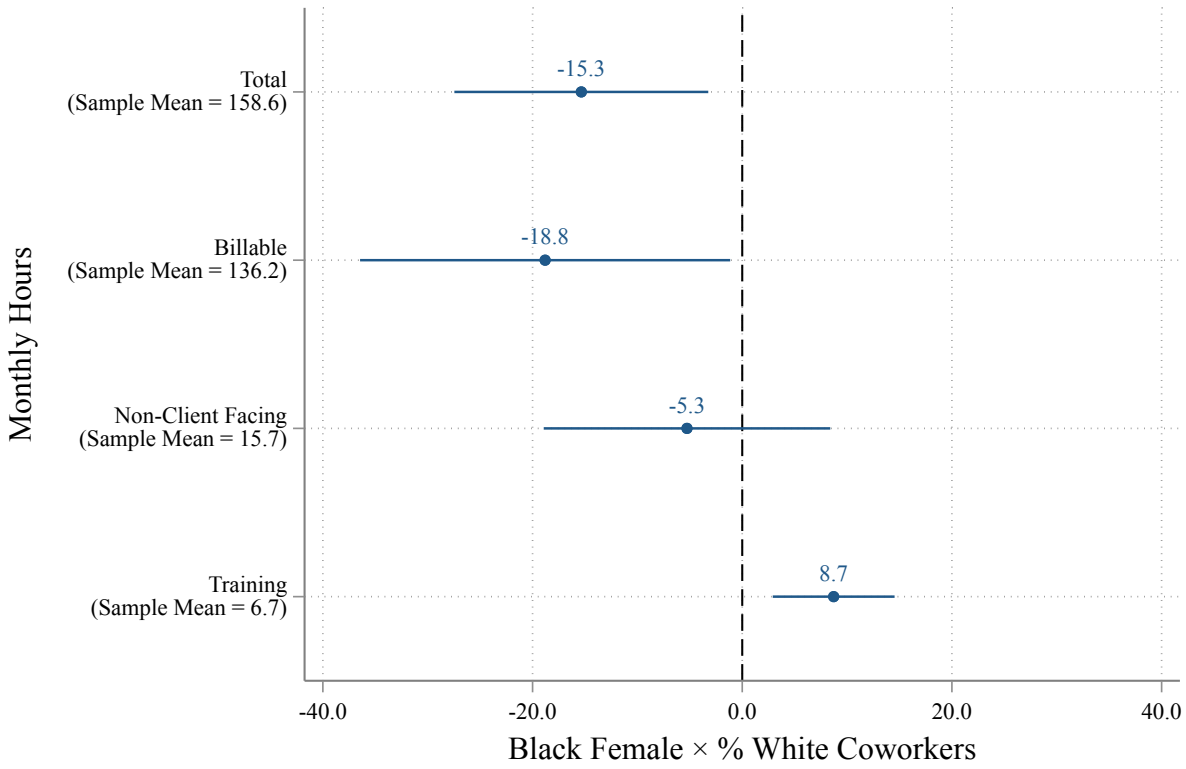
Notes. This figure separates out the effect of having more White male (on the left) or White female (on the right) coworkers on turnover (Panel (a)) and promotion (Panel (b)). The specification in Panel (a) is the same as in Table V Column 3, except we interact, respectively, with the share of White male coworkers and the share of White female coworkers, instead of the share of White coworkers, and we control for the other race shares separately by gender. We therefore no longer control for the overall share of female. Similarly, the specification in Panel (b) is the same as in Table VI Column 3, except we interact, respectively, with the share of White male coworkers and the share of White female coworkers, instead of the share of White coworkers, and we control for the other race shares separately by gender. We therefore no longer control for the overall share of female. Plotted coefficients are the marginal effect of having either more White female (on the right) or White male (on the left) coworkers. For instance, for Black Male the plotted coefficient on the right panel is the sum of the coefficient on % White Female Coworkers, its interaction with Black, with Male, and with both Black and Male. Similarly, for Black Female the plotted coefficient on the right panel is the sum of the coefficient on % White Female Coworkers and its interaction with Black. All standard errors are robust and clustered at the office × year level. 95% confidence intervals are reported.

Figure V: Asymmetric Effect of Coworkers on Employees' Turnover



Notes. This figure shows the effect of having more White, Black, Asian, and Hispanic coworkers on the turnover of male and female new hires. The first eight coefficients (to the left of the graph) correspond to Table V Column 3 estimation, where each coefficient is the sum of the coefficient on % White Coworkers, its interactions with the employee's own race (if not White) and gender (if not female), and the three-way interaction (when applicable). The next eight correspond to a specification where we replace White coworkers with Black coworkers, otherwise keeping the same specification as in Table V Column 3. We repeat the exercise with Asian and Hispanic coworkers. All standard errors are robust and clustered at the office × year level. 95% confidence intervals are reported.

Figure VI: Mechanism: Engagement



Notes. This figure shows the effect of having more White Coworkers on Black Females' monthly hours of work, compared to White women. The independent variables are the same as in Table V Column 3. The plotted coefficient is that on Black (Female) × % White Coworkers. From top to bottom, the dependent variables are monthly averages of: the total number of hours worked, the total number of billable hours worked, the total number of hours worked on non-client facing activities, and the total number of hours reporting on training. The monthly averages are calculated over the first two years of work at the firm (or a shorter amount of time if the employee leaves earlier). The dependent variables' sample means are expressed in parentheses. All standard errors are robust and clustered at the office × year level. 95% confidence intervals are reported.

Tables

Table I: Employee and Project Summary Statistics

Panel A: Sample Size					
	Total				
Number of Employees	>50,000				
Number of New Hires	9,037				
Time Span	2014-2020				
Panel B: New Hires Summary Statistics					
	Mean	Sd	Median	P25	P75
Age at Hire	25	3	24	23	25
Share in Top 20 U.S. Schools	0.12	0.32			
Share in Top 21-100 U.S. Schools	0.30	0.46			
Share with a Masters Degree	0.27	0.44			
Share with a Specialized Degree	0.14	0.35			
Panel C: Project Summary Statistics					
	Mean	Sd	Median	P25	P75
Number of Projects per Month	3	3	2	1	3
Number of Coworkers per Project	28	20	24	15	36
Number of Hours per Project	187	227	120	60	231
Share of Priority Hours	0.22	0.38	0.00	0.00	0.34
Share of Billable Hours	0.71	0.38	0.93	0.49	1.00

Notes. **Panel A** of this table displays the number of employees, the number of new hires, and the time span of the data. **Panel B** displays new hires' age and education characteristics. **Panel C** displays statistics about the projects initially assigned to new hires. *Number of projects per month* corresponds to the number of distinct first projects the new hire worked on each month. *The share of priority hours* is the share of hours spent on projects classified as priority (rank = 1) over the total number of first assignments' hours. *The share of billable hours* represents the share of hours that are billable to the client over the total hours that the new hire spent on first assignments. Statistics are estimated over our 9,037 new hires sample.

Table II: Test of Random Assignment

	Panel A: Employee Race and Gender							
	Black Female	Black Male	Asian Female	Asian Male	Hispanic Female	Hispanic Male	White Female	White Male
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
% White Coworkers	-0.030	-0.005	0.014	-0.016	0.048	0.001	-0.010	-0.031
	(0.039)	(0.028)	(0.065)	(0.064)	(0.058)	(0.044)	(0.077)	(0.091)
% Black Coworkers	0.030	-0.005	0.066	-0.059	0.040	-0.054	0.064	-0.126
	(0.053)	(0.051)	(0.084)	(0.087)	(0.070)	(0.053)	(0.112)	(0.120)
% Asian Coworkers	-0.029	-0.001	0.159**	0.067	0.015	-0.066	-0.081	-0.095
	(0.036)	(0.030)	(0.067)	(0.067)	(0.059)	(0.045)	(0.079)	(0.093)
	Panel B: Additional Employee Characteristics							
	Master Degree	Technical Master	Top 20 School	Top 20-100 School	Top 100-1000	Age		
	(1)	(2)	(3)	(4)	(5)	(6)		
% White Coworkers	0.089	-0.000	0.039	0.076	0.057	-1.157		
	(0.073)	(0.058)	(0.050)	(0.081)	(0.091)	(0.525)		
% Black Coworkers	0.078	0.019	-0.053	-0.006	0.153	-1.197		
	(0.090)	(0.064)	(0.060)	(0.118)	(0.126)	(0.656)		
% Asian Coworkers	0.109	-0.012	0.002	-0.004	0.094	-0.615		
	(0.077)	(0.058)	(0.055)	(0.083)	(0.091)	(0.536)		
	Panel C: Project Characteristics							
	Avg. Project Rank							
	(1)							
% White Coworkers	0.074							
	(0.281)							
% Black Coworkers	-0.054							
	(0.386)							
% Asian Coworkers	0.114							
	(0.273)							
Individual controls								
Office × Year FE	X	X	X	X	X	X	X	X
Nb. obs	9037	9037	9037	9037	9037	9037	9037	9037

Notes. **Panel A** presents OLS estimates of a linear model where we regress the employee's own race and gender on their coworkers' race. **Panel B** presents OLS estimates of a linear model where we regress employee's characteristics on their coworkers' race. Projects are internally ranked on a scale of 1 to 5, according to how crucial they are to the company's business. **Panel C** presents OLS estimates of a linear model where we regress the average project rank over an employee's first assignments on their coworkers' race. All specifications include office × year fixed effects and control for the share of Other race. All specifications also include the percentage of employees from "Other Race", which is omitted from the table. All standard errors are robust and clustered at the office × year level.

Table III: The Race and Gender Turnover Gap

	OLS			Cox		
	(1)	(2)	(3)	(4)	(5)	(6)
Black	0.064**	0.067**	0.089**	1.331***	1.350***	1.196
	(0.029)	(0.028)	(0.038)	(0.124)	(0.126)	(0.170)
Asian	0.019	0.026	0.025	1.120**	1.154***	1.171**
	(0.016)	(0.016)	(0.021)	(0.057)	(0.059)	(0.081)
Hispanic	-0.005	-0.002	0.010	0.976	0.988	1.138
	(0.026)	(0.026)	(0.038)	(0.080)	(0.081)	(0.139)
Male		0.042***	0.045***		1.198***	1.216***
		(0.011)	(0.014)		(0.049)	(0.066)
Black × Male			-0.042			1.243
			(0.052)			(0.230)
Asian × Male			0.004			0.973
			(0.028)			(0.090)
Hispanic × Male			-0.021			0.783
			(0.049)			(0.126)
White Mean Turnover	0.209	0.209		0.209	0.209	
White Female Mean Turnover			0.175			0.175
Individual controls	X	X	X	X	X	X
Office × Year FE	X	X	X	X	X	X
Nb. obs	5839	5839	5839	9037	9037	9037

Notes. Columns 1 to 3 present OLS estimates of a model where the dependent variable is a dummy that equals one if an employee left the company within two years of his/her hire. Column 1 regresses it on employee's race dummies, Column 2 adds the employee's gender dummy, and Column 3 adds the interaction between the two. Individual controls are included in every specification. Those are the age of the employee, a dummy for whether the employee has a master, a dummy for whether the employee has a specialized master, a categorical variable of university ranking (top 20, top 21-100, top 101-1000 and beyond top 1000), the average number of colleagues across all first project assignments and, finally, whether the new hire was initially assigned at least one priority project. All regressions also control for office × year fixed effects. Continuous predictors are mean-centered. Finally, Columns 4, 5, and 6 present Hazard ratios from Cox proportional hazard models, stratified by office. Individual controls are the same as for Columns 1, 2, and 3. All standard errors are robust and clustered at the office × year level and reported in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table IV: The Race and Gender Promotion Gap

	OLS			Cox		
	(1)	(2)	(3)	(4)	(5)	(6)
Black	-0.183***	-0.187***	-0.203***	0.747***	0.739***	0.716***
	(0.037)	(0.037)	(0.050)	(0.068)	(0.067)	(0.089)
Asian	-0.044**	-0.050***	-0.061***	0.873***	0.858***	0.843***
	(0.018)	(0.018)	(0.022)	(0.040)	(0.040)	(0.051)
Hispanic	0.034	0.030	-0.014	1.040	1.029	0.965
	(0.029)	(0.029)	(0.043)	(0.077)	(0.076)	(0.104)
Male		-0.039***	-0.052***		0.895***	0.876***
		(0.013)	(0.017)		(0.032)	(0.040)
Black × Male			0.031			1.065
			(0.068)			(0.189)
Asian × Male			0.020			1.033
			(0.030)			(0.087)
Hispanic × Male			0.080			1.126
			(0.056)			(0.160)
White Mean Turnover	0.725	0.725		0.725	0.725	
White Female Mean Turnover			0.768			0.768
Individual controls	X	X	X	X	X	X
Office × Year FE	X	X	X	X	X	X
Nb. obs	5354	5354	5354	9037	9037	9037

Notes. Columns 1 to 3 present OLS estimates of a model where the dependent variable is a dummy that equals one if an employee was promoted within two years and a half of his/her hire. Column 1 regresses it on employee's race dummies, Column 2 adds the employee's gender dummy, and Column 3 adds the interaction between the two. Individual controls are included in every specification. Those are the age of the employee, a dummy for whether the employee has a master, a dummy for whether the employee has a specialized master, a categorical variable of university ranking (top 20, top 21-100, top 101-1000 and beyond top 1000), the average number of colleagues across all first project assignments and, finally, whether the new hire was initially assigned at least one priority project. All regressions also control for office × year fixed effects. Continuous predictors are mean-centered. Finally, Columns 4, 5, and 6 present Hazard ratios from Cox proportional hazard models, stratified by office. Individual controls are the same as for Columns 1, 2, and 3. All standard errors are robust and clustered at the office × year level and reported in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table V: The Effect of White Coworkers on New Hires' Turnover, by Race and Gender

	OLS			Cox		
	(1)	(2)	(3)	(4)	(5)	(6)
Black	0.063**	0.067**	0.077**	1.318***	1.337***	1.075
	(0.029)	(0.029)	(0.036)	(0.124)	(0.126)	(0.162)
Asian	0.015	0.022	0.018	1.107**	1.140**	1.145*
	(0.016)	(0.016)	(0.021)	(0.057)	(0.059)	(0.082)
Hispanic	-0.008	-0.004	0.003	0.959	0.972	1.114
	(0.026)	(0.026)	(0.038)	(0.080)	(0.081)	(0.138)
Male		0.042***	0.039***		1.194***	1.199***
		(0.011)	(0.015)		(0.049)	(0.070)
Black × Male			-0.030			1.381*
			(0.050)			(0.266)
Asian × Male			0.007			0.984
			(0.029)			(0.094)
Hispanic × Male			-0.015			0.791
			(0.050)			(0.129)
% White Coworkers	0.072	0.069	0.001	0.999	0.998	0.997
	(0.122)	(0.122)	(0.130)	(0.004)	(0.004)	(0.004)
Male × % White Coworkers			0.097			1.002
			(0.084)			(0.003)
Black × % White Coworkers	0.387***	0.388***	0.758***	1.014***	1.014***	1.032***
	(0.134)	(0.135)	(0.170)	(0.005)	(0.005)	(0.008)
Asian × % White Coworkers	0.008	0.012	0.098	1.000	1.001	1.001
	(0.082)	(0.082)	(0.110)	(0.003)	(0.003)	(0.004)
Hispanic × % White Coworkers	0.020	0.015	0.019	1.004	1.004	1.008
	(0.138)	(0.138)	(0.176)	(0.004)	(0.004)	(0.006)
Black × Male × % White Coworkers			-0.719***			0.971***
			(0.261)			(0.009)
Asian × Male × % White Coworkers			-0.157			0.999
			(0.149)			(0.005)
Hispanic × Male × % White Coworkers			0.018			0.993
			(0.234)			(0.008)
White Mean Turnover	0.209	0.209		0.209	0.209	
White Female Mean Turnover			0.175			0.175
Bonferroni Corrected p-value		0.016	0.000			
Individual controls	X	X	X	X	X	X
Office × Year FE	X	X	X	X	X	X
Nb. obs	5839	5839	5839	9037	9037	9037

Notes. Columns 1 to 3 present OLS estimates of a model where the dependent variable is a dummy that equals one if an employee left the company within two years of his/her hire. Column 1 regresses it on employee's race dummies and the share of White coworkers in his/her initial project assignments, interacting these variables. Column 2 adds the employee's gender dummy. Column 3 adds the three-way interactions between employee's race, gender, and share of White Coworkers. Every specification includes office × year fixed effects and individual controls, which are the same as in Table III. In addition, we control for the share of Asian, Black, Other Race, and female coworkers in first project assignments, as well as separately the share of missing race coworkers. Finally, Columns 4, 5, and 6 present Hazard ratios from Cox proportional hazard models, stratified by office. Individual controls are the same as for Columns 1, 2, and 3. All standard errors are robust and clustered at the office × year level and reported in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table VI: The Effect of White Coworkers on New Hires' Promotion, by Race and Gender

	OLS			Cox		
	(1)	(2)	(3)	(4)	(5)	(6)
Black	-0.184***	-0.187***	-0.189***	0.745***	0.737***	0.723**
	(0.038)	(0.037)	(0.049)	(0.068)	(0.067)	(0.092)
Asian	-0.041**	-0.047***	-0.056**	0.874***	0.859***	0.851***
	(0.018)	(0.018)	(0.023)	(0.040)	(0.040)	(0.052)
Hispanic	0.035	0.032	-0.009	1.049	1.038	0.985
	(0.030)	(0.030)	(0.044)	(0.079)	(0.078)	(0.107)
Male		-0.040***	-0.047***		0.896***	0.892**
		(0.013)	(0.017)		(0.032)	(0.043)
Black × Male			0.021			1.050
			(0.068)			(0.188)
Asian × Male			0.019			1.025
			(0.032)			(0.089)
Hispanic × Male			0.075			1.108
			(0.057)			(0.159)
% White Coworkers	0.049	0.053	0.123	1.001	1.001	1.003
	(0.139)	(0.139)	(0.147)	(0.003)	(0.003)	(0.004)
Male × % White Coworkers			-0.093			0.997
			(0.089)			(0.002)
Black × % White Coworkers	-0.246	-0.252	-0.675***	0.995	0.995	0.982***
	(0.160)	(0.161)	(0.234)	(0.005)	(0.005)	(0.006)
Asian × % White Coworkers	0.132	0.128	0.039	1.003	1.003	1.000
	(0.096)	(0.097)	(0.127)	(0.002)	(0.002)	(0.003)
Hispanic × % White Coworkers	-0.219	-0.215	-0.270	0.995	0.995	0.993
	(0.148)	(0.148)	(0.195)	(0.004)	(0.004)	(0.006)
Black × Male × % White Coworkers			0.866**			1.027***
			(0.339)			(0.010)
Asian × Male × % White Coworkers			0.175			1.006
			(0.164)			(0.004)
Hispanic × Male × % White Coworkers			0.080			1.003
			(0.244)			(0.007)
White Mean Turnover	0.725	0.725		0.725	0.725	
White Female Mean Turnover			0.768			0.768
Bonferroni Corrected p-value		0.472	0.029			
Individual controls	X	X	X	X	X	X
Office × Year FE	X	X	X	X	X	X
Nb. obs	5354	5354	5354	9037	9037	9037

Notes. Columns 1 to 3 present OLS estimates of a model where the dependent variable is a dummy that equals one if an employee was promoted within two and a half years of his/her hire. Column 1 regresses it on employee's race dummies and the share of White coworkers in his/her initial project assignments, interacting these variables. Column 2 adds the employee's gender dummy. Column 3 adds the three-way interactions between employee's race, gender, and share of White Coworkers. Every specification includes office × year fixed effects and individual controls, which are the same as in Table III. In addition, we control for the share of Asian, Black, Other Race, and female coworkers in first project assignments, as well as separately the share of missing race coworkers. Finally, Columns 4, 5, and 6 present Hazard ratios from Cox proportional hazard models, stratified by office. Individual controls are the same as for Columns 1, 2, and 3. All standard errors are robust and clustered at the office × year level and reported in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table VII: Mechanisms: Formal task assignment, Engagement and Performance Evaluation

	Monthly Avg.							
	Nb. of Projects		Project Rank		Took Engagement Survey		Low Performance	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Black	-0.148	-0.106	-0.026	-0.015	-0.093***	-0.139***	0.056***	0.056***
	(0.097)	(0.119)	(0.053)	(0.078)	(0.027)	(0.041)	(0.013)	(0.018)
Asian	-0.057	-0.169*	-0.016	-0.028	-0.112***	-0.127***	0.008*	0.012**
	(0.078)	(0.091)	(0.033)	(0.043)	(0.016)	(0.022)	(0.004)	(0.005)
Hispanic	-0.203**	-0.332**	0.000	-0.033	-0.023	-0.015	-0.004	0.003
	(0.100)	(0.159)	(0.052)	(0.070)	(0.023)	(0.032)	(0.008)	(0.009)
Male	-0.288***	-0.353***	-0.011	-0.022	0.004	0.000	0.008**	0.010***
	(0.052)	(0.062)	(0.024)	(0.034)	(0.011)	(0.013)	(0.003)	(0.004)
Black × Male		-0.077		-0.023		0.090		-0.001
		(0.178)		(0.108)		(0.056)		(0.027)
Asian × Male		0.242*		0.024		0.032		-0.010
		(0.140)		(0.059)		(0.027)		(0.009)
Hispanic × Male		0.225		0.060		-0.016		-0.013
		(0.186)		(0.087)		(0.043)		(0.014)
% White Coworkers	0.002	0.069	0.321	0.344	-0.100	-0.066	0.023	-0.005
	(0.596)	(0.661)	(0.242)	(0.260)	(0.093)	(0.095)	(0.036)	(0.037)
Male × % White Coworkers		-0.107		-0.043		-0.062		0.050**
		(0.375)		(0.173)		(0.066)		(0.021)
Black × % White Coworkers	0.348	-0.107	-0.179	-0.149	0.022	-0.055	0.148**	0.186**
	(0.483)	(0.649)	(0.263)	(0.361)	(0.137)	(0.190)	(0.060)	(0.077)
Asian × % White Coworkers	-0.309	-0.643	-0.019	-0.054	-0.014	-0.039	0.022	0.051*
	(0.325)	(0.475)	(0.165)	(0.228)	(0.086)	(0.115)	(0.023)	(0.027)
Hispanic × % White Coworkers	-0.438	-0.879	-0.017	-0.081	0.052	0.002	0.018	0.076*
	(0.480)	(0.686)	(0.320)	(0.394)	(0.112)	(0.170)	(0.039)	(0.042)
Black × Male × % White Coworkers		0.836		-0.084		0.164		-0.059
		(0.829)		(0.486)		(0.239)		(0.115)
Asian × Male × % White Coworkers		0.746		0.062		0.040		-0.046
		(0.625)		(0.317)		(0.148)		(0.044)
Hispanic × Male × % White Coworkers		0.862		0.114		0.093		-0.101
		(0.791)		(0.450)		(0.212)		(0.065)
White Mean Dep. Var.	4.23		3.21		0.92		0.02	
White Female Mean Dep. Var.		4.37		3.29		0.93		0.01
Individual controls	X	X	X	X	X	X	X	X
Office × Year FE	X	X	X	X	X	X	X	X
Nb. obs	5824	5824	5816	5816	4580	4580	5570	5570

Notes. This table presents OLS estimates of linear models where the dependent variables are: employees' average number of projects per month in the first two years– or less if they exited the firm before two years – (Columns 1 and 2), employees' average project rank per month in the first two years – or less if they exited the firm before two years – (Columns 3 and 4), a dummy indicating if the employee opted to take the survey in his/her first year (Columns 5 and 6), and the first performance review received at the firm (Columns 7 and 8). Columns 1, 3, 5, and 7 have the same controls as Column 2 in Table V. Columns 2, 4, 6, and 8 have the same controls as Column 3 in Table V. The number of observations in each exercise may slightly deviate from the 5,839 new hires sample we observe in Table V. For Columns 1 to 4 this is due to missing values for the dependent variable for just a few (less than 30) new hires. For the engagement survey and performance review, we only have data on new hires that were offered to participate in the engagement survey and the performance review process. All standard errors are robust and clustered at the office × year level and reported in parentheses.* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

A. Appendix Qualitative Methods

Despite facing challenges due to the global pandemic, we conducted 18 semi-structured interviews on zoom between June and July 2021. With our partners at ProfServ, we aimed to conduct 50 interviews from a sample of 600 employees stratified by broad business area, race, and gender. To align our qualitative sample with our quantitative study of archival data, our stratified sample of employees was proportional to the actual size of each business area and 75% of employees were hired in the same period as the quantitative records under study. Within each business area, we stratified the sample by race (Black, Asian, and White each representing one third) and gender. We also ensured that at least 15% of the sample in each business area identified as Hispanic.

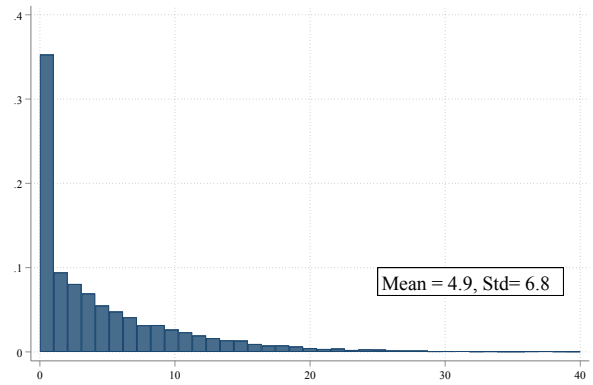
Employees were invited to participate in interviews exploring how employees interact and collaborate with each other. Participation was voluntary, anonymous, and did not impact their employment. Given numerous factors associated with the global pandemic, participation in our qualitative study was very low–only 17 employees (2.8%) participated out of the 600 we invited. Relative to our quantitative study data, our qualitative sample broadly aligned in business area within the firm, and 52.9% were were hired in the same study period. We collected data on participants' identity characteristics when possible. We oversampled Black employees because we aimed to learn more about their experience with coworkers, in particular. Thus, seven participants (41.2%) in our sample identified as Black; of which four identified as women and three identified as men. We compared these to interviews with three Asian participants, three White Hispanic participants and three White non-Hispanic participants. 58.8% of our sample identified as women, which was slightly higher than the 45.6% of women in our quantitative study sample.

Conversations, averaging 46 minutes in duration, were semi-structured using interview questions pertaining to the nature of participant's work, their interactions and experiences with coworkers, and team contexts that promote or inhibit their participation and performance. With participants' consent, all interviews were recorded and transcribed. We note that our interviews with current employees can only reflect the experiences of those who are still employed at ProfServ, and does not speak to the experiences of those who have exited and were, therefore, not able to be invited for participation. It is unclear how successfully "surviving" early experiences at ProfServ shapes employees' perspectives, reflections, and recollections. For instance, Black employees who have "survived" may have had more positive experiences than those who have already exited, or have developed a set of coping strategies that are different than those who have already exited. It is equally likely, however, that current Black employees' perspectives may reflect a broader range of

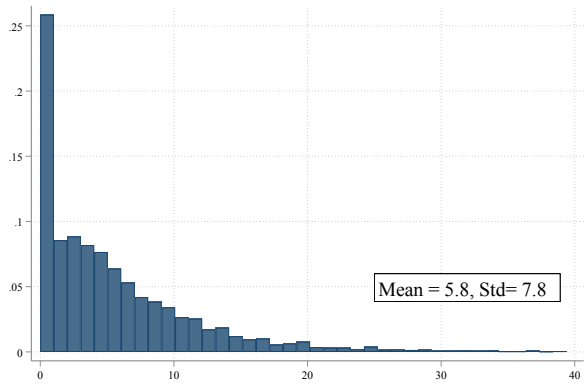
experiences because of more time in the firm or may be more linked to recent institutional changes in the firm.

B. Appendix Figures

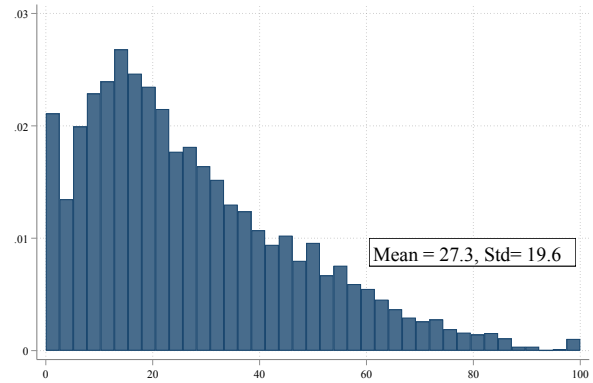
Figure B.1: Racial and Gender Composition of Teams



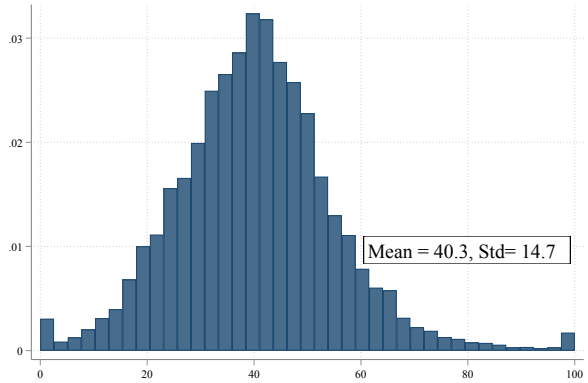
(a) % of Black Coworkers in first project assignments



(b) % Hispanic Coworkers in first project assignments



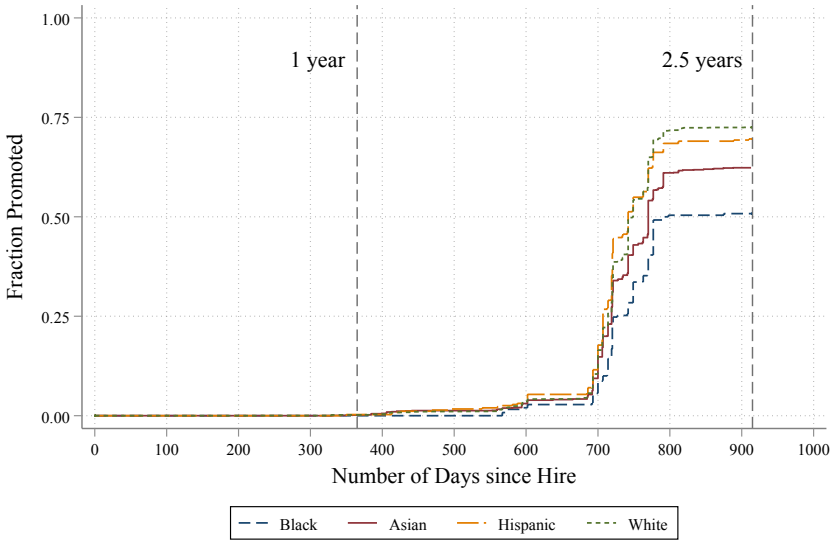
(c) % of Asian Coworkers in first project assignments



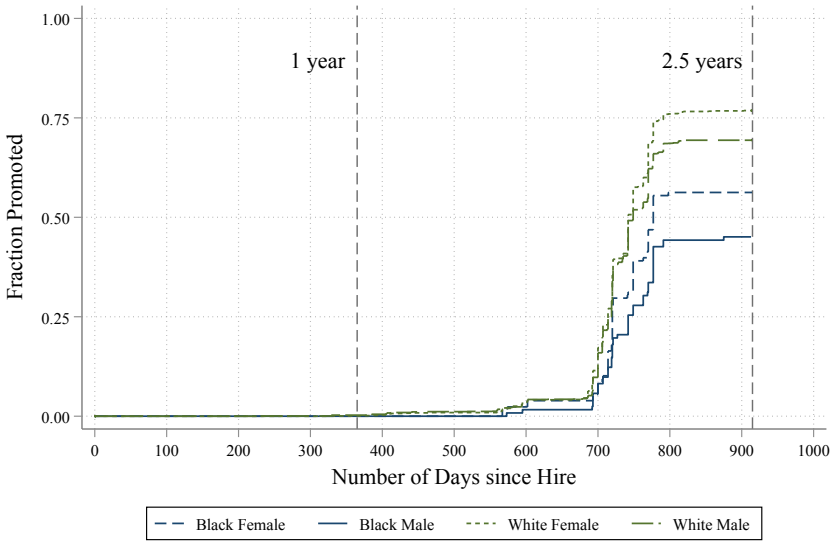
(d) % of Female Coworkers in first project assignments

Notes. This figure shows the distribution of new hires' average percentage of (a) Black Coworkers, (b) Hispanic Coworkers, (c) White Coworkers, and (d) Female Coworkers in initial project assignments. The underlying data is our full sample of 9,037 new hires.

Figure B.2: KM Survival Rates for Promotion



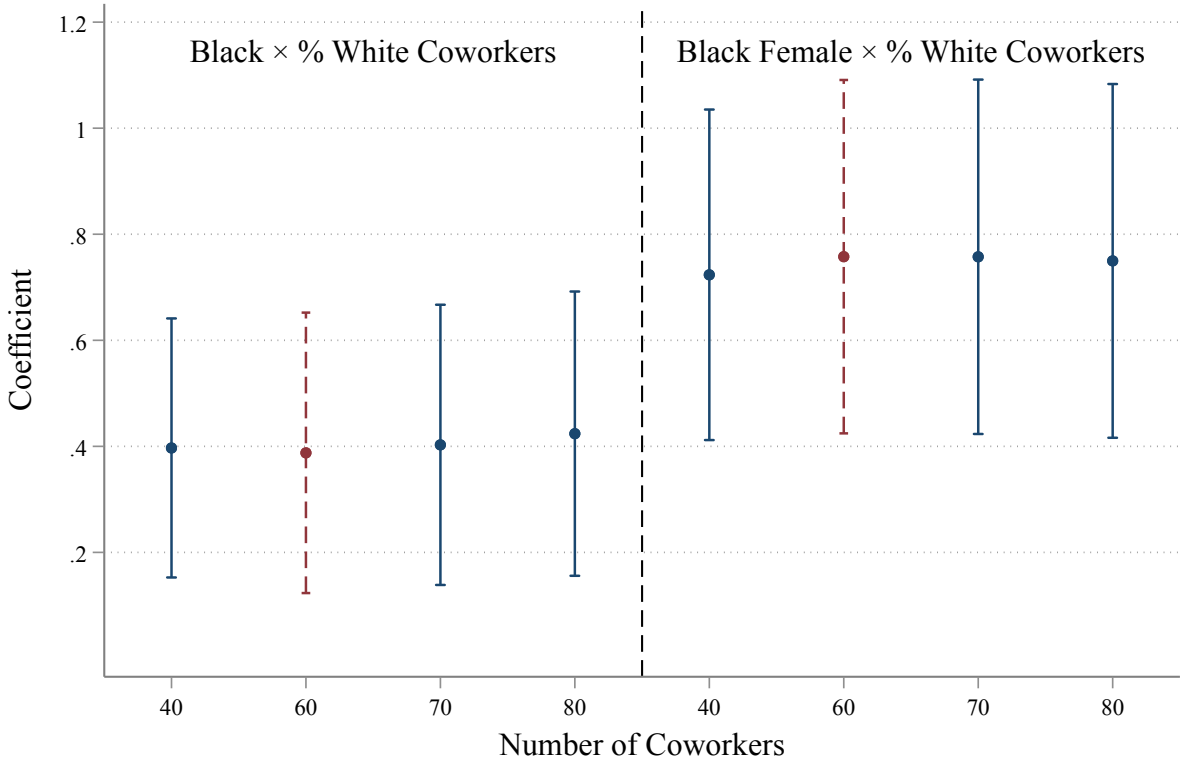
(a) by New Hire Race



(b) by New Hire Rance and Gender

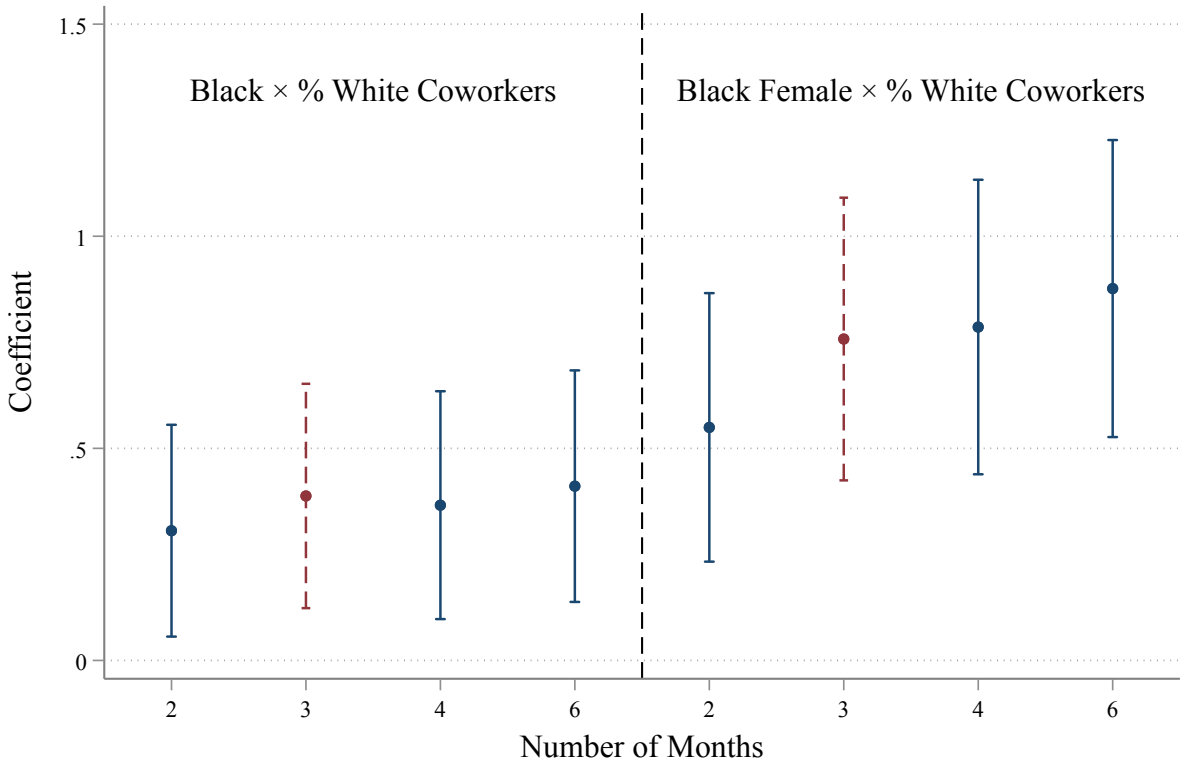
Notes. This figure shows the estimated Kaplan–Meier survival rates curves for employees by race and gender. In Panel (a), all 5,152 new hires (excluding "Other Race" category) that we have observed for at least two and a half years are considered, and the estimation is done separately for each race. In Panel (b), we only consider the 3,390 Black and White new hires from our sample that we have observed for at least two and a half years, and the estimation is done separately for each combination of race and gender. The y-axis represents the probability that an employee of a given race will become promoted. The x-axis represents the number of days since the hiring date.

Figure B.3: Robustness of Turnover Results: Varying Measure of Initial Project Assignment



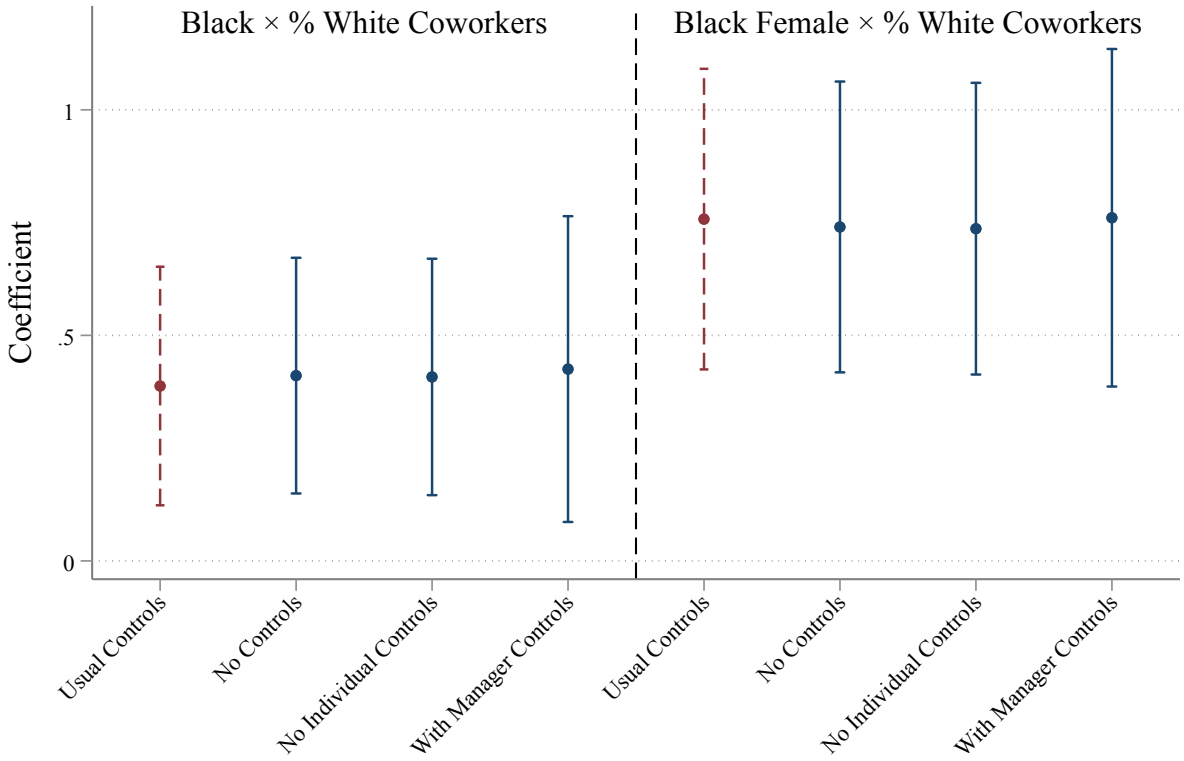
Notes. This figure shows the results of a robustness check where we alter the threshold of coworkers above which a project is excluded from the list of initial project assignments of a given new hire. In the main analysis (Table V), only projects with up to 60 coworkers are considered. Here, we vary this cutoff (from 40 to 80 coworkers) and plot the resulting coefficient on Black × % White Coworkers (left panel), with otherwise the same specification as in Table V Column 2, and Black (Female) × % White Coworkers, with otherwise the same specification as in Table V Column 3. As a benchmark we plot in red (and dashed confidence interval) the coefficients from Table V, respectively Column 2 for the left panel and Column 3 for the right panel. 95% confidence intervals are reported.

Figure B.4: Robustness of Turnover Results: Varying Time-Window of Initial Project Team



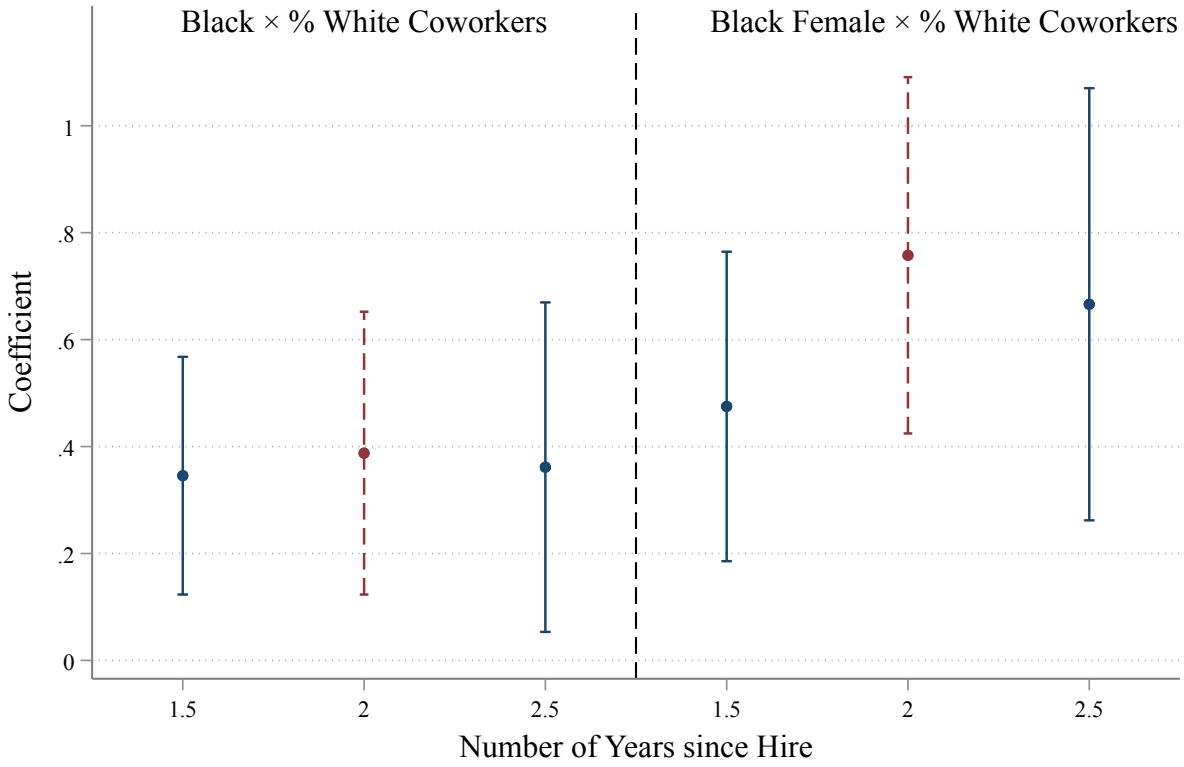
Notes. This figure shows the results of a robustness check where we alter the time window during which we consider assignments to initial projects. In the main analysis (Table V), initial projects are defined as the projects that the new hire was assigned to in the first three months since their hire. Here, we vary this cutoff (from 2 to 6 months) and plot the resulting coefficient on Black × % White Coworkers (left panel), with otherwise the same specification as in Table V Column 2, and Black (Female) × % White Coworkers, with otherwise the same specification as in Table V Column 3. As a benchmark we plot in red (and dashed confidence interval) the coefficients from Table V, respectively Column 2 for the left panel and Column 3 for the right panel. 95% confidence intervals are reported.

Figure B.5: Robustness of Turnover Results: Varying Controls



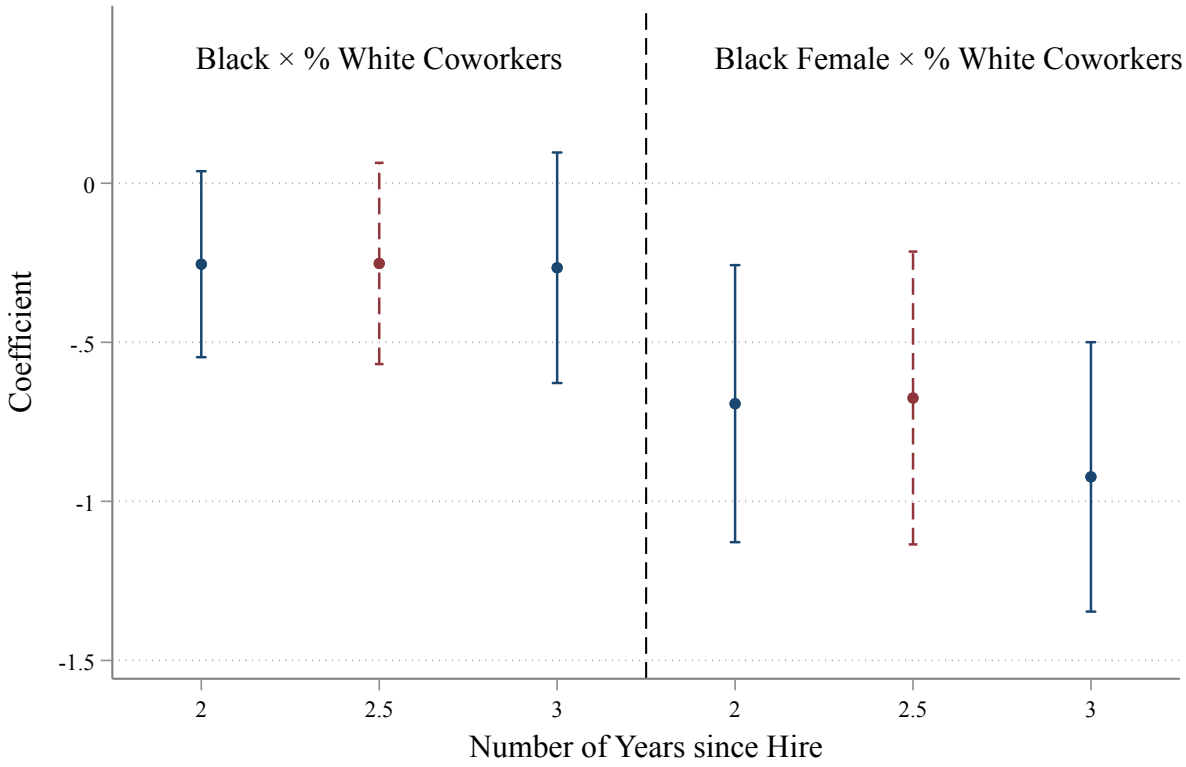
Notes. This figure shows the results of a robustness check where we alter the controls used in the main regression (Table V). On the left panel, we show the coefficient on Black × % White Coworkers from the same specification as in Table V Column 2, except we alter the controls as follows: (1) is the benchmark "Usual Controls" specification, that is, estimated with the same controls - and therefore has the same coefficient - as in Table V Column 2; (2) removes all the controls from the "Usual Controls" specification; (3) removes individual controls from the "Usual Controls" specification; and (4) adds to the "Usual Controls" specification controls for the share of White, Asian, Black, Other Race and female managers in first project assignments, as well as the share of missing race managers. We repeat this exercise on the right panel, this time altering the controls from Table V Column 3 and showing the coefficient for Black (Female) × % White Coworkers. 95% confidence intervals are reported.

Figure B.6: Robustness of Turnover Results: Varying Measure of Turnover



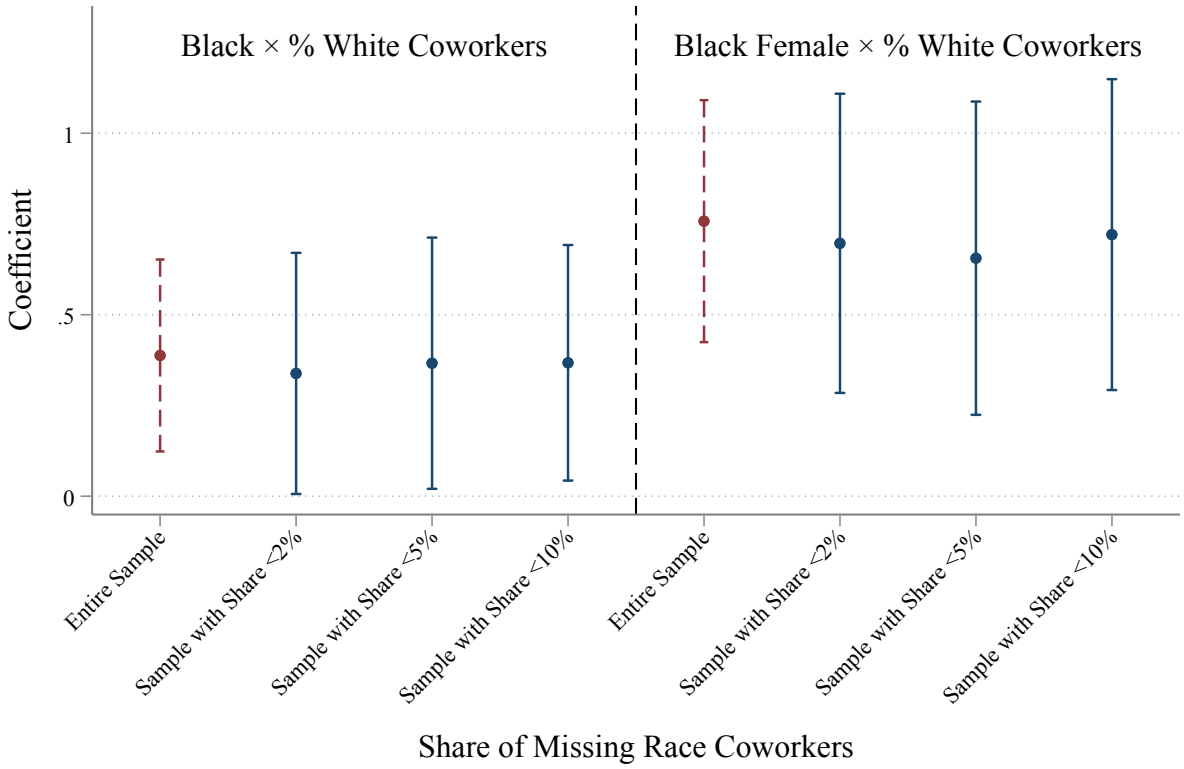
Notes. This figure shows the results of a robustness check where we vary the measure of turnover. In the main analysis (Table V), turnover is defined as a binary variable indicating whether an employee has left the company within two years. Here, we vary the two-year cutoff and also consider turnover within one and a half and two and a half years and plot the resulting coefficient on Black × % White Coworkers (left panel), with otherwise the same specification as in Table V Column 2, and Black (Female) × % White Coworkers, with otherwise the same specification as in Table V Column 3. As a benchmark we plot in red (and dashed confidence interval) the coefficients from Table V, respectively Column 2 for the left panel and Column 3 for the right panel. 95% confidence intervals are reported.

Figure B.7: Robustness of Promotion Results: Varying Measure of Promotion



Notes. This figure shows the results of a robustness check where we vary the measure of promotion. In the main analysis (Table VI), promotion is defined as a binary variable indicating whether an employee is promoted in the company within two and a half years. Here, we vary the two-and-a-half-year cutoff and also consider promotion within two years and three years and plot the resulting coefficient on Black × % White Coworkers (left panel), with otherwise the same specification as in Table VI Column 2, and Black (Female) × % White Coworkers, with otherwise the same specification as in Table VI Column 3. As a benchmark we plot in red (and dashed confidence interval) the coefficients from Table VI, respectively Column 2 for the left panel and Column 3 for the right panel. 95% confidence intervals are reported.

Figure B.8: Robustness of Turnover Results: Varying Samples based on Share of Coworkers with Missing Race



Notes. This figure shows the results of a robustness check where we vary the sample, restricting it to employees with low shares of missing race coworkers. In the main analysis (Table V), we use the entire sample, regardless of the share of coworkers for whom we miss the race. Here, we restrict the sample to those employees with a share of missing race coworkers below 2%, 5%, and 10%, and plot the resulting coefficient on Black × % White Coworkers (left panel), with otherwise the same specification as in Table V Column 2, and Black (Female) × % White Coworkers, with otherwise the same specification as in Table V Column 3. As a benchmark we plot in red (and dashed confidence interval) the coefficients from Table V, respectively Column 2 for the left panel and Column 3 for the right panel. 95% confidence intervals are reported.

C. Appendix Tables

Table C.1: Descriptives: Race and Gender

Panel A: Race and Gender of Employees					
	Share				
% Black Female	2.3				
% Black Male	2.4				
% Asian Female	15.7				
% Asian Male	12.1				
% Hispanic Female	3.1				
% Hispanic Male	3.9				
% White Female	24.5				
% White Male	31.8				
Panel B: Race and Gender of Coworkers					
	Mean	Sd	Median	P25	P75
% Female Coworkers	40.3	14.7	40.1	31.1	48.8
% White Coworkers	58.8	20.8	60.9	45.0	74.0
% Asian Coworkers	27.3	19.6	22.7	12.5	39.1
% Hispanic Coworkers	5.8	7.8	3.9	0.9	8.0
% Black Coworkers	4.9	6.8	2.6	0.2	7.0
% Other Race Coworkers	3.2	4.9	1.6	0.0	4.7

Notes. **Panel A** of this table reports the race and gender of the new hires. In this panel, shares do not add up exactly to 100% because we omit new hires that identify as Native American, Alaska Native, Hawaiian Native, or Islander (pulled in the analysis as "Other Race"). **Panel B** reports statistics on the racial and gender composition of the new hires' coworkers in the first assigned projects. The values are computed over our 9,037 full new hires sample.

Table C.2: Turnover and Promotion, by Race and Gender

	% Turnover (2 yr)		% Promotion (2.5 yr)	
	Mean	Sd	Mean	Sd
Panel A: Overall	22.3	41.6	68.4	46.5
Panel B: by Race				
Black	27.0	44.4	50.8	50.1
Asian	24.4	42.9	62.3	48.5
Hispanic	24.0	42.8	69.6	46.1
White	20.9	40.7	72.5	44.7
Panel C: by Race and Gender				
Black Female	26.1	44.1	56.3	49.8
Black Male	27.8	44.9	45.1	50.0
Asian Female	22.7	41.9	65.3	47.6
Asian Male	26.5	44.2	58.6	49.3
Hispanic Female	22.3	41.8	70.7	45.7
Hispanic Female	25.4	43.6	68.6	46.5
White Female	17.5	38.0	76.8	42.2
White Male	23.3	42.3	69.4	46.1

Notes. This table reports the average and standard deviation of employees' turnover (within two years) and promotion (within two years and a half). **Panel A** reports these statistics for the full sample. Then, Turnover's (left side) statistics are computed over our 5,839 sample, and Promotion's (right side) over our 5,354 sample. **Panel B** reports statistics separately by race, and **Panel C** separately by gender and race. In these panels, Turnover's statistics (left side) are computed over a sample of 5,619 new hires (excluding "Other Race") that we have observed for at least two years, as in Figure IIa. Promotion statistics (right side) are computed over a sample of 5,152 new hires (excluding "Other Race") that we have observed for at least two years and a half years, as in Figure B.2a.

Table C.3: Test of Random Assignment II

	Panel A: Employee Race and Gender							
	Black Female	Black Male	Asian Female	Asian Male	Hispanic Female	Hispanic Male	White Female	White Male
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
% White Coworkers	-0.024	0.002	0.008	-0.024	0.049	0.005	-0.019	-0.026
	(0.038)	(0.028)	(0.065)	(0.063)	(0.059)	(0.045)	(0.077)	(0.091)
% Black Coworkers	0.033	0.000	0.061	-0.057	0.041	-0.050	0.049	-0.122
	(0.052)	(0.050)	(0.085)	(0.087)	(0.071)	(0.053)	(0.111)	(0.119)
% Asian Coworkers	-0.027	0.003	0.149**	0.058	0.016	-0.065	-0.085	-0.083
	(0.035)	(0.030)	(0.068)	(0.067)	(0.059)	(0.045)	(0.079)	(0.093)
	Panel B: Project Characteristics							
	Avg. Project Rank							
	(1)							
% White Coworkers	0.069							
	(0.280)							
% Black Coworkers	-0.061							
	(0.387)							
% Asian Coworkers	0.117							
	(0.272)							
Individual controls	X	X	X	X	X	X	X	X
Office × Year FE	X	X	X	X	X	X	X	X
Nb. obs	9037	9037	9037	9037	9037	9037	9037	9037

Notes. This table presents the same estimates as Table's II Panels A and C, with additional controls for new hires' characteristics. These controls consist of all the dependent variables from Panel B of Table II.

Table C.4: The Effect of First Managers Race Composition on Turnover, by Race and Gender

	OLS			Cox		
	(1)	(2)	(3)	(4)	(5)	(6)
Black	0.076**	0.079**	0.101**	1.324***	1.333***	1.271
	(0.034)	(0.033)	(0.040)	(0.141)	(0.142)	(0.202)
Asian	0.017	0.025	0.028	1.100*	1.132**	1.164**
	(0.017)	(0.017)	(0.023)	(0.061)	(0.063)	(0.087)
Hispanic	-0.013	-0.010	-0.007	1.029	1.036	1.180
	(0.029)	(0.029)	(0.040)	(0.091)	(0.092)	(0.156)
Male		0.050***	0.052***		1.168***	1.199***
		(0.012)	(0.015)		(0.052)	(0.070)
Black × Male			-0.040			1.104
			(0.058)			(0.233)
Asian × Male			-0.005			0.945
			(0.031)			(0.098)
Hispanic × Male			-0.006			0.793
			(0.051)			(0.138)
% White Managers	0.011	0.007	-0.011	0.998	0.998	0.998
	(0.038)	(0.038)	(0.042)	(0.001)	(0.001)	(0.002)
Male × % White Managers			0.030			1.000
			(0.039)			(0.001)
Black × % White Managers	0.036	0.035	0.117	1.003	1.003	1.005
	(0.070)	(0.070)	(0.088)	(0.003)	(0.003)	(0.004)
Asian × % White Managers	0.013	0.015	0.067	1.000	1.000	1.001
	(0.035)	(0.034)	(0.045)	(0.001)	(0.001)	(0.002)
Hispanic × % White Managers	-0.044	-0.043	-0.088	1.000	1.000	0.998
	(0.062)	(0.062)	(0.084)	(0.002)	(0.002)	(0.003)
Black × Male × % White Managers			-0.170			0.996
			(0.141)			(0.005)
Asian × Male × % White Managers			-0.115*			0.998
			(0.069)			(0.002)
Hispanic × Male × % White Managers			0.088			1.005
			(0.109)			(0.004)
White Mean Turnover	0.209	0.209		0.209	0.209	
White Female Mean Turnover			0.175			0.175
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	5016	5016	5016	7743	7743	7743

Notes. This table is equivalent to Table V, but we replace the share of coworkers of a given race with the share of managers of a given race.* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table C.5: The Effect of First Team Composition on Turnover: Beyond Tokenism

	OLS			Cox		
	(1)	(2)	(3)	(4)	(5)	(6)
Black	0.071**	0.075**	0.101**	1.378***	1.403***	1.203
	(0.032)	(0.032)	(0.040)	(0.139)	(0.141)	(0.190)
Asian	0.011	0.017	0.018	1.128**	1.164**	1.181**
	(0.019)	(0.019)	(0.023)	(0.066)	(0.069)	(0.097)
Hispanic	0.008	0.011	0.014	1.045	1.062	1.242
	(0.030)	(0.030)	(0.045)	(0.096)	(0.098)	(0.172)
Male		0.045***	0.047***		1.226***	1.256***
		(0.012)	(0.016)		(0.057)	(0.082)
Black × Male			-0.058			1.237
			(0.055)			(0.252)
Asian × Male			-0.003			0.970
			(0.033)			(0.106)
Hispanic × Male			-0.006			0.766
			(0.056)			(0.139)
% White Coworkers	0.122	0.115	0.007	0.998	0.998	0.995
	(0.146)	(0.147)	(0.156)	(0.005)	(0.005)	(0.005)
Male × % White Coworkers			0.163*			1.004
			(0.094)			(0.004)
Black × % White Coworkers	0.366**	0.362**	0.783***	1.014***	1.013***	1.034***
	(0.150)	(0.151)	(0.197)	(0.005)	(0.005)	(0.008)
Asian × % White Coworkers	0.030	0.034	0.126	1.002	1.002	1.001
	(0.099)	(0.099)	(0.130)	(0.003)	(0.003)	(0.004)
Hispanic × % White Coworkers	-0.051	-0.061	-0.068	1.000	0.999	1.002
	(0.164)	(0.164)	(0.221)	(0.005)	(0.005)	(0.007)
Black × Male × % White Coworkers			-0.796***			0.968***
			(0.289)			(0.010)
Asian × Male × % White Coworkers			-0.150			1.005
			(0.170)			(0.006)
Hispanic × Male × % White Coworkers			0.031			0.996
			(0.285)			(0.010)
White Mean Turnover	0.208	0.208		0.208	0.208	
White Female Mean Turnover			0.166			0.166
Bonferroni Corrected p-value		0.066	0.001			
Individual controls	X	X	X	X	X	X
Office × Year FE	X	X	X	X	X	X
Nb. obs	4724	4724	4724	7179	7179	7179

Notes. This table presents the same regressions as Table V, but restricted to the sample of new hires who have at least one Black coworker in their initial team assignments. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table C.6: Predictors of Turnover and Promotion

	Turnover (2 yr)	Promotion (2.5 yr)
	(1)	(2)
Billable	-0.004***	0.004***
	(0.001)	(0.001)
Non-Client Facing	-0.002**	0.000
	(0.001)	(0.001)
Training	0.001	-0.003**
	(0.001)	(0.002)
Nb. of Projects	-0.005	0.011**
	(0.004)	(0.005)
Project Rank	-0.005	-0.008
	(0.008)	(0.009)
Took Engagement Survey	-0.033*	-0.003
	(0.020)	(0.022)
Low Performance	0.653***	-0.764***
	(0.059)	(0.064)
Dep. Var. Mean	0.16	0.74
Individual Controls	X	X
Office × Year FE	X	X
Nb. obs	4424	4118

Notes. This table presents OLS estimates of two models where the dependent variables are our main outcomes. In Column 1, the dependent variable is a dummy that equals one if an employee left the company within two years of his/her hire. In Column 2, it equals one if an employee was promoted within two and a half years of his/her hire. In both columns, we regress on the same independent variables from our mechanism section. From top to bottom, they are: the monthly average of a) billable hours worked, b) hours worked on non-client facing activities, c) hours spent on training or education, d) number of projects, e) project rank. All these variables are computed over the first two years at the firm – or less if they exited the firm before two year. Then f) a dummy indicating if the employee opted to take the survey in his/her first year, and, finally, the first performance review received at the firm. Both Columns include office × year fixed effects and controls for new hires' characteristics, i.e., all the dependent variables from Panel B of Table II. Standard errors are clustered at the office × year level and reported in parenthesis. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.