# The Class Gap in Career Progression at a US Tech Company

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Using internal personnel data from a US tech company, we find a meaningful class-background gap in career progression. First-gen college grads are less likely to be promoted, and more likely to be terminated, than their colleagues in the same job from more advantaged backgrounds. These gaps are bigger than gender gaps at the firm and a similar size to racial gaps. The class gap is not driven by performance: promotion and termination gaps exist even comparing employees with the same performance rating. Class gaps are disproportionately big for middle-rated employees, emerge primarily in the managerial nomination phase (not the calibration committee), and exist even with manager fixed effects, suggesting an important role for managerial discretion or bias. We also find that first-gen employees are more likely to be assigned to teams with less senior and less effective managers, suggesting that first-gen employees are less able to successfully navigate career ladders within the firm. Qualitative interviews suggest that first-gen employees are less likely to "play politics" within the firm, which could help explain these gaps.

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# 1 Introduction

Organizations have long recognized that gender and race can matter for career progression. Socioeconomic background, or class background, on the other hand is almost never considered. Surveying over 700 large US firms' DEI public goals and reporting in September 2024, Stansbury and Rodriguez (2026) found that the vast majority of firms mentioned gender, race/ethnicity, disability, veteran status, and LGBTQ status, but less than 5% made any mention of socioeconomic background. Similarly, academic research on career progression almost never considers socioeconomic background - in contrast to the voluminous literature on gender and race. And US federal employment discrimination laws protect against discrimination based on sex, race, religion, sexual orientation, national origin, age, and disability – but not based on socioeconomic background.

This reflects a widespread assumption that socioeconomic background does not matter for career progression – that once someone has achieved a specific educational credential, and perhaps got a good first job, any lingering effects of their background have been washed out. But a recently emerging academic literature shows that this is often not the case: that even comparing people with the same (often elite) educations, people from less advantaged backgrounds get worse jobs and do worse in their careers.

Our paper contributes to this debate by looking in detail at the class gap in career progression within a single firm. To our knowledge, we are the first paper to use a firm's internal personnel data to quantify class gaps in career progression for people in the same job at the same firm. We obtain restricted-access internal personnel records from a large US tech company, which we call "Nulix". These records span 2021-2025, and cover all US corporate employees of the firm. We can observe employee demographics, very detailed information about their position within the firm, their

career outcomes within the firm (including promotion, termination, voluntary quits, and lateral moves), and their performance ratings. We can also match employees with their managers.

Nulix runs an opt-in employee demographic survey with a high response rate. Unusually for an American company, this survey collects not just gender and race/ethnicity, but also a proxy for socioeconomic background: the highest level of parental education. Parental education is a good proxy for socioeconomic background in the US context: it can proxy both for average household income/wealth in childhood, as well as for the non-material resources that a highly-educated household can confer in terms of cultural capital and social capital (Stansbury and Rodriguez, 2026). We compare outcomes for three groups of employees: "first-gen" college graduate employees (with no parent with any college degree), college-parent employees (with a parent with a college degree but no graduate degree), and graduate-parent employees (with a parent with a graduate degree).

Is there a class gap in career progression at Nulix? To answer this question, in section 3 we estimate whether there are gaps in promotion and (involuntary) termination for employees who are employed in the same job but are from different backgrounds. Our regressions include job fixed effects (job level by family by function – comparing employees who are at the same level doing the same type of work, but not necessarily in exactly the same team), as well as fixed effects for race/ethnicity (and gender) to avoid attributing to socioeconomic background gaps that are driven by race.

We find a large class gap. Each year, 19% of Nulix employees receive a promotion; but first-gen employees are 2.6 percentage points (or 13%) less likely to receive a promotion than graduate-parent colleagues in the same job. Similarly, each year 6% of Nulix employees are terminated by the company; and first-gen employees are 1.7 percentage points (or 31%) more likely to be terminated than graduate-parent

colleagues in the same job. Notably, first-gen employees are also less likely to quit Nulix voluntarily than their graduate-parent colleagues in the same job: this suggests that the class gap in career progression is not a Nulix-specific phenomenon (because, if it was, these overlooked first-gen employees would go to another firm where they had better prospects).

Comparing outcomes for people in the same job, the class gap in career progression at Nulix is bigger than the gender gap: in fact, we find no disadvantage for women in either promotion or termination at Nulix. The class gap is similar-sized to the Hispanic-White and Asian-White gaps at Nulix, but smaller than the Black-White gap.

What explains the class gap? In section 4, we examine performance. We cannot observe employees' actual performance, but we do have data on their performance evaluations: specifically, whether the employee received a Top, Middle, or Bottom rating. First-gen employees receive lower ratings than graduate-parent employees in the same job – but this explains less than half of either the promotion or termination gaps, which remain large and statistically significant even when comparing employees in the same job with the same performance rating. Moreover, there are no objective metrics of performance at the firm: the performance evaluation process is subjective and likely subject to similar biases as promotion or termination decisions, meaning that conditioning on evaluated performance is a very conservative test of the "true" role of performance in explaining the class gap.

Strikingly, we find that the promotion and termination gaps are both biggest among Middle-rated employees. Half of Top-rated employees are promoted within the year; and more than half of Bottom-rated employees are terminated within the year. In contrast, promotion and termination are both relatively rare outcomes for Middle-rated employees (14% and 4%, respectively). The fact that the class gap in

promotion and termination is particularly large among Middle-rated employees therefore suggests that the class gap emerges most strongly where managerial discretion is important.

For promotions, we can also separately evaluate whether the class gap emerges at the nomination stage – where managers nominate which team members they think should be promoted – vs. at the calibration stage – where a senior leadership team reviews these nominations and makes decisions. The large majority of the class gap emerges at the nomination stage, again pointing to the importance of employees' direct managers in generating the class gap.

Both these findings suggest a crucial role for managers in driving the class gap at Nulix. In section 5 we examine the role of managers in more detail. Including manager fixed effects in our main specifications closes the class gap in promotion by about a half and in termination by about one third. This means that much of the class gap exists within manager: a specific manager is less likely to promote, and more likely to terminate, the first-gen employees on their team. We examine whether this is driven by homophily (are graduate-parent managers disproportionately likely to promote graduate-parent employees?) and find suggestive evidence of this, but sample sizes are too small for a conclusive assessment. It also means that some of the class gap is driven by different assignment of employees to managers. We show that first-gen employees work for managers who are less senior, are progressing more slowly at the firm, and manage less successful teams (as proxied by promotion, termination, and performance ratings).

Finally, we briefly review evidence from forty-nine in-depth qualitative interviews that we carried out with employees and managers at Nulix – evidence which we analyze in detail in our companion paper, Friedman and Stansbury (2026). These interviews strongly suggest an important role for "playing politics" in explaining the

class gap in career progression at Nulix: specifically, first-gen employees are less aware of the need to play politics to get ahead at Nulix, and, when they are aware of it, are less able to do it effectively or less willing to do it in the first place. "Playing politics", at Nulix, involves building visibility, building a strong network across senior leaders and across functions, self-promotion, and strategic help-seeking. Interestingly, unlike the qualitative findings from Stansbury and Rodriguez (2026)'s work in US academia, and unlike Friedman and Laurison (2020) and Friedman (2023)'s findings in the UK, we find very little role at Nulix for class-coded norms of speech, dress, or behavior in affecting first-gen employees' ability to get ahead.

Overall, our findings show that large class gaps in career progression can exist even in an ostensibly meritocratic, modern, setting like an elite US tech company. These gaps, we find, are particularly large for ambiguous decisions where there is greater managerial discretion – decisions which leave room for subconscious biases to creep in, or, perhaps more importantly in our setting, leave room for employees' own attempts to "play the game" successfully to pay off via self-promotion, building visibility, and ingratiating themselves with their networks. Our findings emphasize that socioeconomic/class background should be a core part of organizations' diversity, equity, and inclusion efforts – and of academics' efforts to understand career progression within organizations.

**Related literature.** This paper contributes to the very small but growing literature on the role of class/socioeconomic background in career progression within specific organizations. Stansbury and Rodriguez (2026) focus on US PhD recipients, finding that among US academics, class background matters for tenure outcomes even when you compare people on the tenure track at the same university (and even when you control for publication and citation record). Friedman and Laurison (2020) and Friedman (2023), in qualitative analyses, find evidence of a "class ceiling" in five

different elite UK employers: the civil service, accounting, architecture, acting, and broadcasting/TV production. There is also growing evidence of class gaps in hiring: Rivera (2012) and Rivera and Tilcsik (2016) find that perceived cultural fit – which is affected by perceived class origin – affects hiring at elite US professional services firms, Dilnot, Macmillan, and Tyler (2025) find that UK elite employers are less likely to make job offers to lower-class-origin candidates even conditional on educational attainment, and Shukla (2022) finds caste-origin gaps in hiring at US multinationals in India, driven by differences in perceived cultural fit. On the hiring side, several studies including Zimmerman (2019), Michelman, Price, and Zimmerman (2022), Staiger (2023) and Engzell and Wilmers (2021), show the importance of family or social networks – which are highly related to class background – for getting jobs at high-paying firms.

This work also builds on the documentation of class-origin earnings gaps. In several different countries, authors have found evidence of class origin pay gaps conditional on occupation and broad measures of educational attainment (e.g. Laurison and Friedman, 2024; Witteveen and Attewell, 2017; Torche, 2011; Falcon and Bataille, 2018; Hällsten, 2013). A smaller number of papers also find class earnings gaps in aggregate data, conditional on specific measures of educational attainment:Britton, Dearden, Shephard, and Vignoles (2019) and Diniz, Egyei, Stansbury, and Thwaites (2026) in the UK, Chetty, Friedman, Saez, Turner, and Yagan (2020) in the US, and Núñez and Gutiérrez (2004) for a specific university in Chile.

More broadly, our work relates to the large literature on diversity in organizations, and whether and how demographic characteristics like gender or race affect career progression within organizations. This includes work that examines the role of perceived potential or aptitude (Benson, Li, and Shue, 2024; Coffman, Exley, and Niederle, 2021), confidence, self-promotion, and promotion aspirations (Exley and

Kessler, 2022; Exley and Nielsen, 2024; Azmat, Cuñat, and Henry, 2023; Fernandez-Mateo and Fernandez, 2016), and negotiations (Biasi and Sarsons, 2022), networks and endorsements (Fernandez and Fernandez-Mateo, 2006; Miller and Schmutte, 2021; Castilla, 2022), and homophily (Linos, Mobasseri, and Roussille, 2023; Giuliano, Levine, and Leonard, 2011). In finding important roles for managerial discretion in affecting the class gap in career progression, we also contribute to the large literature looking within organizations at the role of managers on performance and other outcomes (e.g. Bloom, Sadun, and Van Reenen, 2016; Minni, 2026).

# 2 Data

Our setting is a U.S. technology company, which we call "Nulix." Nulix provided us with restricted-access personnel data covering all U.S.-based salaried corporate employees from 2016 to 2025; performance and promotion records begin with quarter one of 2021. Our Data Use Agreement with Nulix requires that the firm remain anonymous; we therefore do not report any information which could identify the firm, including sample sizes, firm-specific position titles, or identifying details on the firm's business.

Nulix has 5,000–15,000 employees, split across four lines of business — Technology, Operations, Sales, and Corporate — and based in several U.S. cities. Nulix's personnel records contain quarterly data for each employee, including demographics (age, gender, race/ethnicity, own education, and parental education), position (job title, job level, department, and function), location, and, for employees who leave the firm, the reason for departure. Nulix also provided compensation data — base salary, bonus, and equity for each employee — and performance evaluation data, which record each employee's performance rating in every evaluation round, as well as whether the employee was nominated for and received a promotion. For each employee, we observe

the anonymized identity of their manager. We can link these managers to their own personnel records, meaning we can observe each manager's demographics, position, performance, and career outcomes. Demographic characteristics come from an opt-in survey; we describe response rates in Section 2.1.

We measure socioeconomic background using parental education, defined as the highest level of education attained by an employee's parents or caregivers. We divide employees into three categories. The first is *high school or less*; we refer to these employees as "first-gen" throughout.[1] This category includes respondents who selected "Secondary education / High school," "Primary education / Elementary or middle school," or "No education" for their parents' or caregivers' highest level of education. The second category is *college*, corresponding to respondents who selected "Post secondary education / Undergraduate degree / Bachelor's degree." The third category is *graduate degree*, which includes employees who selected "Masters or equivalent" or "Doctorate or equivalent." Our classification differs somewhat from conventional definitions of "first-generation" college graduates in the literature: employees whose parents have a post-secondary education qualification (like an associate's degree from a community college) but no bachelor's degree would often be classified as first-generation college graduates, but Nulix's survey combines post-secondary education and bachelor's degrees into a single response category, so we cannot distinguish these employees from those whose parents hold bachelor's degrees.

Our main unit of analysis is the employee-year. Nulix's U.S. corporate employees receive a three-category performance rating in the first quarter of each year: "Top" (17%), "Middle" (78%), or "Bottom" (5%). Our main analysis sample consists of employee-years in which the employee received a rating, across the five annual evalu-

[1]Since 98% of Nulix's U.S. corporate employees hold at least a bachelor's degree, nearly all employees in this category are first-generation college graduates in the conventional sense; the label is approximate for the small minority who do not themselves hold a college degree.

ation cycles from 2021 through 2025. Among employees observed in the first quarter of each year between 2021 and 2025, 88% have a performance rating. Most unrated employees have been at the firm for less than one year and are therefore not yet assigned a rating; among employees with more than 12 months of firm tenure, 96% have a rating.[2]

## 2.1 Descriptive statistics

Table 1 presents summary statistics for our analysis population: US employees who received a performance rating, observed annually at the five rating cycles from 2021 through 2025. We observe parental education for 71% of employee-years: 14% of the sample has parents with a high school education or less (first-gen college grads), 28% has college-educated parents, and 29% has parents holding a graduate degree, so that among employees reporting parental education, roughly one in five is first-gen. The remainder either declined to state parental education (10%) or did not respond at all to the (opt-in) demographic survey (18%). Both non-response categories are retained in our estimation samples and enter the regressions as categorical dummies.

Nulix's workforce is elite. Among employees reporting their own education, 98% hold at least a bachelor's degree and 43% hold a graduate degree. First-gen employees are also highly educated: 93% hold at least a bachelor's degree, and a third hold a graduate degree. The workforce is 38% female and predominantly White (35%) or Asian (41%); 5% of employees are Black and 7% are Hispanic. Class overlaps with race only partially: first-gen employees are twice as likely to be Black and three times as likely to be Hispanic as graduate-parent employees, but the large majority

[2]We apply two additional sample exclusions: employee-years containing a departure for which no reason is recorded (2.4%) and employee-years containing a job-level increase without a confirmed promotion (1.6%). We exclude the former because we cannot classify the departure as employee- or employer-initiated, and the latter because we cannot determine whether the level increase represents a promotion.

of first-gen employees are White or Asian. The average employee is 35 years old with three years of firm tenure, and firm tenure is essentially identical across the three parental-education groups.

Just over half of employees (53%) are in the Tech line of business, with the remainder in Corporate (20%), Sales (14%), and Operations (12%). There is sorting of first-gen employees toward lower-paid lines of business: they are less likely to work in Tech (39%, against 49% of graduate-parent employees) and correspondingly more likely to work in Corporate and Sales. This sorting hints at the existence of wider class inequalities in occupation choice and, likely, in prior educational qualifications – but these are not the focus of our analysis, since we are looking to compare career outcomes between employees holding the same job.

## 2.2 Career progression at Nulix

We track five collectively exhaustive career events at annual frequency: promotion, termination, quit, lateral move, and remaining in the same position.

**Promotion.** Nulix runs two promotion cycles per year, in quarters one and three, and each promotion involves a nomination and a confirmation before it is finalized. First, the employee's manager must nominate them; within a year, 23% of employees receive a nomination at one of the two cycles. Second, the nomination is reviewed in a calibration meeting of senior leaders which either confirms or declines the promotion; 82% of employees who receive a promotion nomination in a given year end up with a promotion. Overall, 19% of employees receive a promotion each year. Promotion is strongly determined by the rating a employee receives: 50% of Top-rated employees receive a promotion that year, while 14% of Middle-rated employees receive a promotion that year.[3] Bottom-rated employees are essentially never nominated for a

[3] 58% of Top-rated employees receive a promotion nomination that year, and 17% of Middle-rated employees.

promotion (0.3%).

**Termination.** When an employee leaves Nulix, their reason for leaving is documented as either company-initiated or employee-initiated. We classify a departure as a termination when the recorded reason for leaving is company-initiated. Terminations are primarily either performance-related terminations of an individual employee, or the result of layoffs or reorganizations. 6% of employees are terminated in a given year, and they concentrate heavily at the bottom of the rating scale: half of Bottom-rated employees (52%) are terminated within a given year, against 4% of Middle-rated and under 1% of Top-rated employees.

**Quit.** A quit is a departure whose recorded reason is employee-initiated. 11% of employees quit in a given year. Quits also have a rating gradient: 19% of Bottom-rated employees quit in a given year, compared to 11% of Middle-rated and 8% of Top-rated employees. Combining termination and quits, a Bottom-rated employee has only a 29% chance of still being with the firm by the end of the year.

**Lateral move.** Lateral moves are intended to capture horizontal mobility—the ability of an employee to change their manager and team. In our data, we identify lateral moves as moves where there is a change of manager, but no other direct report of the previous manager moves to the same new manager.[4] Our definition separates lateral moves from manager reassignments: when multiple employees move together from the same old manager to the same new manager, the change is more likely to reflect an organizational restructuring (due to, for example, the former manager leaving their job) initiated by the firm, whereas an individual move is more likely to involve agency from the employee. This distinction matters because lateral mobility provides a potential way for employees to move out of a disadvantageous position

[4]We build the measure from manager assignments rather than change in job titles because an employee's title and department rarely change, and when they do, the change often reflects administrative renaming rather than a true change in job content or responsibility.

within the firm (or move into a position with stronger career prospects). An employee who faces a lower promotion likelihood and a higher termination likelihood, but is no more likely to make a lateral move, may lack the within-job flexibility to pivot out of that disadvantageous situation. Lateral moves occur for around 18% of employees.

**Same position.** The remaining employee-years—those with no promotion, departure, or lateral move—are classified as staying in the same position. This is the most likely outcome for the average employee in a given year, occurring about half of the time (52%). Note that our outcomes are collectively exhaustive but are not mutually exclusive: we may, for example, observe an employee with a lateral move and a promotion in the same year, or a promotion and a quit in the same year.

Figure 1 shows the likelihood of each event over time. Here, the five events are separated into seven mutually exclusive categories—separating promotions with and without a lateral move in the same year, and departures with and without another event in the same year. Promotions became less likely over the four years in the sample, with the promoted-only share falling from 22% in the 2021 cohort to 11% in 2025, and the share of employees staying in the same position growing. This reflects a firm-wide rationing of promotion over the period.

# 3 Empirical strategy and main results

## 3.1 Empirical approach

Our core question is whether career outcomes differ by class background for two employees in the same job at Nulix. For employee $i$ in year $t$, and for each career event $k \in \{\text{promotion, termination, quit, lateral move, same position}\}$ measured as a binary dependent variable over the four quarters of the year, we estimate

$$Y_{it}^{k} \;=\; \beta_1 \,\text{FirstGen}_i \;+\; \beta_2 \,\text{College}_i \;+\; X_i'\gamma \;+\; \lambda_t \;+\; \mu_{j(i,t)} \;+\; \varepsilon_{it}, \tag{1}$$

by least squares, separately for each event. The omitted socioeconomic-background group is employees with graduate-educated parents, so the coefficients of interest, $\beta_1$ and $\beta_2$, measure percentage-point gaps relative to graduate-parent employees.

We control for job fixed effects, $\mu_{j(i,t)}$. We define a job as a job level $\times$ job family $\times$ primary function combination. Job level captures the vertical position of an employee within Nulix's hierarchy.[5] Job family and primary function capture the horizontal distribution of jobs within a given level. The four job families—Tech, Corporate, Sales, and Operations—which we also refer to as lines of business, provide a broad grouping of role types. Primary function provides a second dimension of horizontal differentiation, corresponding to the service or broad department in which the employee operates, such as engineering, legal, finance, or business development. There are over 20 primary functions in total, and each contains employees from at least two of the four job families.

Nulix also records two layers of sub-function below primary function, which identify increasingly narrow areas of specialization. For example, within the Engineering primary function, the sub-functions may identify the specific product or service that an employee works on, and the particular aspect or function of that product or service. Nulix also records the specific job title of each employee. Following guidance from Nulix, we choose not to define jobs at these more granular levels in our main specifications. This is because an employee's credentials and prior experience largely determine the job family and primary function for which they can apply, while employees typically have considerably more flexibility over the particular sub-function or team in which they work. Which product team an employee enters, for example, may itself be a margin along which first-gen and graduate-parent employees make

[5]Nulix's US corporate employees are organized on a ten-rank ladder. We pool levels 1 and 2 together, and levels 7-9 together, because these endpoints are sparsely populated.

different choices or receive different opportunities. Conditioning on these narrower classifications would therefore remove some of the variation in career paths that we want to study. Our preferred definition of a job compares employees at the same level, in the same broad type of role, and performing the same primary function, while allowing them to differ in their more specific area of specialization.

We include gender and race as categorical controls, $X_i$, to separately identify the class gap from gender and racial differences in career outcomes[6]. Employees who did not report parental education remain in the sample and enter as separate categorical dummies; their coefficients are not displayed. The year fixed effects, $\lambda_t$, absorb firm-wide shocks common to Nulix's US corporate employees in a given year. We use two-way clustered standard errors by employee and job.

## 3.2 Main results: within-job class gaps in career progression

We find a meaningful class-background gap in career progression at Nulix. Table 2 presents estimates of equation (1) for the five career events. Comparing employees in the same job, first-gen employees are 2.6 percentage points less likely to be promoted in a given year than graduate-parent employees. The average annual promotion rate for graduate-parent employees is 20%, meaning that first-gen employees are 13% less likely to receive a promotion than their graduate-parent colleagues in the same job. First-gen employees are also 1.7 percentage points more likely to be terminated in a given year, as compared to grad-parent employees in the same job. Since the average termination rate for graduate-parent employees is 5.5%, first-gen employees are 31% more likely to be terminated than their graduate-parent colleagues in the same job.

[6]Gender consists of three categories: man, woman, or other/unknown. Race and ethnicity consists of White, Asian, Black, Hispanic, and Other. We group American Indian and Alaska Native, Native Hawaiian and Pacific Islander, multiracial, and Middle Eastern employees into Other due to limited sample size. Employees who declined to state their race or whose race is unrecorded are pooled into an unknown category. The unknown race and gender categories enter every regression as dummies, estimated but not displayed. The reference categories are men and White employees.

Interestingly, while first-gen employees at Nulix see worse outcomes both on the upside (promotion) and the downside (termination), they are no more likely to quit. In fact, first-gen employees are 1.1 percentage points less likely to quit than their graduate-parent colleagues in the same job, and are no more or less likely to make a lateral move within the firm. Adding these margins up, first-gen employees are 2.0 percentage points more likely than their graduate-parent colleagues to spend the year in the same position.

The class-background gap in promotion is monotonic: the promotion gap for a college-parent employee, relative to a graduate-parent employee, is about half that for a first-gen employee. In contrast, the class-background gap in termination is a first-gen-specific phenomenon: college-parent employees face no termination gap compared to grad-parent employees.

The quit gap is informative about where the class gap comes from. If Nulix's environment were disproportionately bad for first-gen employees, then we would expect first-gen employees to quit more frequently. The quit deficit instead suggests that first-gen employees' outside options are no better (and potentially worse) than their position at Nulix – consistent with the class gap being a labor-market-wide phenomenon rather than specific to the firm. The absence of a lateral-move gap also suggests that, despite facing a lower promotion likelihood and a higher termination likelihood, first-gen employees are no more likely (or able) to explore alternative within-firm progression paths by changing managers or teams, and so remain exposed to the position they are in.

Table 4 estimates the same five gaps separately by the employee's year of firm tenure, examining at 1, 2, 3, and 4+ years. The termination gap is an early-career phenomenon: first-gen employees are 2.2 percentage points more likely to be terminated in their first year at the firm (base rate 7%, a 31% difference) and 3.9 percentage

points more likely in their second (base rate 12%, a 32.5% difference), after which the gap shrinks substantially and is no longer statistically significant. The promotion gap follows the opposite pattern. Promotions rarely happen in a employee's first year (a 0.7% base rate), and there is accordingly no first-year gap; the gap appears as soon as promotion becomes possible, in the second year, and remains similarly large thereafter. The quit gap - with first-gen employees less likely to quit - does not exist in the first two years at the firm, and only emerges in year three. This may be because, after a few years at the firm, cumulative promotion prospects have become clear, and this leads some employees to seek to exercise their outside options – and, if graduate-parent employees have better outside options, this would generate a first-gen quit gap.

### 3.3 Class gaps compared with race and gender gaps

Table 3 reports the gender and race coefficients from the same regressions: parental education, gender, and race are estimated jointly. The gender gaps have a different structure from the class gaps. Women are promoted at the same rate as men and are 1.6 percentage points less likely to be terminated; they show no quit gap and are 1.1 percentage points more likely to make a lateral move. Whereas first-gen employees are promoted less and terminated more, women face neither disadvantage on these two margins.

The race gaps follow a pattern similar to the class gaps, though with varying magnitudes: relative to White employees, other races/ethnicities see lower promotion, higher termination (except among Asian employees), lower quitting, more time in the same position, and little lateral mobility. Hispanic employees look most similar to first-gen employees: they are 1.9 percentage points less likely to be promoted than White employees, 1.5 percentage points less likely to quit, and 2.2 percentage points

more likely to remain in the same position. Asian employees are 1.4 percentage points less likely to be promoted and 2.6 percentage points more likely to remain in the same position, with no termination gap. Black employees face by far the largest gaps: they are 8.4 percentage points less likely to be promoted (against the 19% base rate) and 7.3 percentage points more likely to be terminated—more than doubling the 6% base rate. Black employees are also the only group statistically significantly less likely to make lateral moves (by 2.6 percentage points). In magnitude, the class gaps in promotion and termination are comparable to the Asian-White and Hispanic-White gaps and are around a third of the Black-White gaps. Note that the race/ethnicity and class gaps are estimated in the same regression, meaning that these racial gaps are estimated holding class constant: since Black and Hispanic employees are also more likely to be first-gen, the raw Black-White and Hispanic-White gaps (which do not hold class background constant) would be larger than those reported here.

One possible interpretation of these results is that both class and race/ethnicity index an employee's distance from the dominant informal culture of the elite professional workplace—a culture historically dominated by White employees from more advantaged class backgrounds. Career progression runs in part through informal channels: being visible to one's manager, building a case for one's contributions, seeking help, connecting with employees with higher organizational authority, and attracting advocacy. Familiarity with these unwritten rules, and the ability to navigate them successfully, is unlikely to be evenly distributed. A first-gen employee with comparatively limited prior exposure to professional norms may struggle to navigate them in much the same way that an immigrant employee or a Black employee may struggle to navigate a workplace built around White professional norms, while a graduate-parent employee raised with greater exposure to those norms may play the game more natively. Women, by contrast, are not expected to be on average more

distant from professional-class culture than men of the same class and race, which is consistent with the gender gaps taking a different shape. (Another potential interpretation of the absence of a gender gap is that our data, since 2021, arises in the post #MeToo era where tech companies were seeking to improve female representation, and so promotion and termination decisions may have been made with this in mind.)

# 4 The role of evaluated performance

A possible explanation for the class gap in career progression is a gap in performance. We cannot observe employee output or value-add to Nulix directly, but we observe the firm's own measure of it through its three-category annual performance rating.

## 4.1 Class gaps in performance ratings

First, we ask whether first-gen employees receive worse performance ratings. Table 5 estimates our main specification with performance rating as the outcome. Within the same job, first-gen employees receive worse evaluations: they are 2.0 percentage points less likely to receive a Top rating (base rate 17%, about 12% less likely) and 1.2 percentage points more likely to receive a Bottom rating (base rate 5%, about a quarter more likely). As with termination, the rating gap is specific to first-gen employees: college-parent employees receive Top and Bottom ratings at the same rates as graduate-parent employees.

## 4.2 Do lower performance ratings account for promotion and termination gaps?

As described in Section 2.2, promotion is much more likely for Top-rated employees, and termination is much more likely for Bottom-rated employees. Thus, it is possible that the class gap in career progression at Nulix is mostly accounted for by

differences in rated performance. To test this, Table 6 re-estimates the five career-event regressions comparing employees who hold the same rating in the same job (Panel B), alongside the baseline estimated on the same sample (Panel A)[7]. Conditioning on performance rating explains about a third of the promotion gap, which falls from 2.6 to 1.7 percentage points, and about half of the termination gap, which falls from 1.7 to 0.9 percentage points; both remain statistically significant at the 5% level. That is, even comparing employees in the same job and with the same performance rating, there are still large class gaps in promotion and termination at Nulix.

Note that actual performance in a job is different from evaluated performance. Performance ratings and promotion nomination decisions are made in the same review cycle by the same manager, so any bias from the manager in how they evaluate an employee's performance or potential could enter both the performance rating and the promotion or termination decision. Conditioning on performance rating is therefore an overly conservative test of whether employee performance explains the class gap: the class gaps that survive are almost surely an underestimate of the class gap in promotion or termination conditional on true performance. (Note also that, even if there is a class gap in true performance by background, this does not necessarily make the class gap in promotion and termination at Nulix efficient or fair: if there are systematic differences in performance between employees hired into the same jobs, who had ex ante the same expected performance, there may be bias in the firm environment which makes it harder for first-gen employees to perform well.)

Do the remaining class gaps arise for high-performing, middle-performing, or low-

[7]Panel B's regression substitutes the job family × level × function fixed effects in our baseline with job family × level × function × Performance evaluation program × Performance rating fixed effects. Performance evaluation program is a binary categorical variable which separates engineers and non-engineers, since Nulix has a separate performance rating program for engineers.

performing employees? Tables 7 and 8 estimate our career outcome gaps separately within each performance rating bracket. Strikingly, we find that the class gaps are much larger for Middle-rated employees (78% of employees): Middle-rated first-gen employees are 1.6 percentage points less likely to be promoted than Middle-rated graduate-parent employees in the same job (against a 14% base rate, about 12% less likely), 0.8 percentage points more likely to be terminated (against a 4% base rate, about 20% more likely, significant at 10% level), 1.2 percentage points less likely to quit, and 2.4 percentage points more likely to end the year in the same position. Among Top- and Bottom-rated employees, the gaps are proportionally much smaller and statistically insignificant. The absolute promotion gap among Top-rated employees (2.4 percentage points) is larger than the Middle gap, but it is relative to a 51% base rate—a 5% proportional difference; likewise, the termination gap among Bottom-rated employees (3.1 percentage points) is relative to a 52% base rate—around a 6% difference.

Why is the class gap concentrated among Middle-rated employees? Perhaps the three-bracket rating is too coarse to capture underlying performance. Suppose first-gen employees perform worse on average than graduate-parent employees, so that they disproportionately occupy the lower end of the Middle-rating bracket. A general downward shift in underlying performance level would generate similar sorting within the other rating brackets, meaning first-gen employees should also disproportionately occupy the lower end of the Bottom and Top brackets. Managers observe performance much more finely than the rating categories and could therefore act on these within-bracket differences, meaning we should observe proportionally meaningful promotion gaps among Top-rated employees and termination gaps among Bottom-rated employees as well. We do not.

The concentration of the gaps in the Middle bracket instead is consistent with

managerial discretion playing a role. For Middle-rated employees, staying in the same job is the default (57% of Middle-rated employees end the year in the same position), while both promotion (14%) and termination (4%) are unusual outcomes (Figure 2). This is in contrast to Top-rated employees, where the default is promotion, or Bottom-rated employees, where the default is termination. Moving a Middle-rated employee away from the default of staying in the same job likely requires the manager to build an affirmative case—to nominate and advocate for a promotion, or to initiate and justify a termination. These more ambiguous promotion or termination cases likely draw more heavily on qualities that are informal and difficult to document: the visibility of the employee's contributions, the strength of their relationship with their manager, their connections to others with organizational authority, and their word-of-mouth reputation. Informal standing can work in both directions: it can attract advocacy when a promotion case is being built and protection when a termination case is being considered. Among Top and Bottom rated employees, by contrast, the performance rating itself likely carries much more of the case, leaving less room for managerial advocacy to matter at the margin.

### 4.3 Where the promotion gap enters: nomination vs. calibration

The promotion process at Nulix has two stages, which we observe separately. A promotion begins with the employee's manager nominating them in one of the year's two promotion cycles (in quarters one and three); the nomination is then reviewed in a calibration meeting with other senior leaders, where it is confirmed or rejected. We observe the outcomes of both stages: whether the employee was nominated and whether the nomination was confirmed. We aggregate to the employee-year level as before: within a given year, we count an employee as having been nominated for a promotion if the employee was nominated in either cycle, and as promoted if a

nomination was confirmed within the year. 23% of employees receive a promotion nomination each year, and 82% of nominations end in a confirmed promotion within the year.

Table 9 estimates our main specification separately for the nomination and confirmation stages. The class gap in promotion arises almost entirely at the nomination stage. First-gen employees are 3.0 percentage points less likely to be nominated for promotion than graduate-parent employees in the same job—against the 23% base rate, about 13% less likely. Among nominated employee-years, there is also a confirmation gap, but it is only 1.0 percentage points (on a base rate of 82%) and is statistically insignificant. Comparing employees with the same rating in the same job (Panel B), first-gen employees are still 2.0 percentage points less likely to be nominated, while the confirmation gap remains small and statistically insignificant. Table 10 separately estimates our main specification regressions by stage and by rating bracket. The nomination gap is concentrated among Middle-rated employees, whose nomination rate is 17%: first-gen employees are 1.9 percentage points—about 11%—less likely to be nominated. Among Top-rated employees, the majority of whom are nominated (59%), the point estimate is negative but imprecise, and the point estimate is much smaller relative to the base rate. The confirmation stage shows no class gap in either bracket.

We interpret these results as showing where the class gap enters the promotion process, not as evidence that the calibration stage itself is unbiased. Nominated first-gen employees are a selected group: if managers hold first-gen employees to a higher bar at nomination, those who clear that bar will be positively selected, and an unbiased calibration process might therefore be expected to confirm them at a higher rate than graduate-parent employees. That said, the observed pattern could also be consistent with a class-neutral calibration process. Suppose managers nominate

Middle-rated employees with similar measured performance partly on the basis of informal qualities or soft skills, while the calibration committee places substantially more weight on the formal evidence contained in the employee's record. A committee that treats comparable records identically would then confirm first-gen and graduate-parent nominees at the same rate—failing to make the upward adjustment that first-gen nominees' positive selection would warrant. Either way, our results show that the class gap in promotion enters through the manager's decision to put an employee forward. We therefore next turn to an examination of the managers themselves.

# 5 The role of managers

We established in the prior section that the key reason for the class gap in promotions is managers nominating first-gen employees at lower rates - even when evaluated performance is the same, and disproportionately for Middle-rated employees where manager advocacy is likely more important.

## 5.1 Within-manager and between-manager gaps

Why might this be? Mechanically, there are two possible channels. A given manager might be less likely to advocate for a first-gen employee on their team than for a graduate-parent employee. Or, first-gen employees may be more likely to be assigned to managers who are less influential or effective within the firm. We find that both of these are important.

Specifically, Table 11 re-estimates our promotion and termination regressions, adding manager fixed effects. Manager fixed effects absorb about half of the promotion gap, which falls from 2.7 to 1.3 percentage points, and about a third of the termination gap, which falls from 1.6 to 1.1 percentage points and remains marginally significant. That is, around half of the promotion gap and two thirds of the termination gap exists even comparing employees who have the same manager (and with job

fixed effects as before).[8] The remaining half of the promotion gap and one third of the termination gap are accounted for mechanically by first-gen employees being assigned to managers who are less effective – who have lower promotion rates or higher termination rates for all their employees.

## 5.2 Between-manager gaps: The role of manager assignment

Table 11 showed that manager assignment accounts for about half of the class gaps in promotion and a third of the gaps in termination. Mechanically, this must mean that first-gen employees in the same job level, job family, and function, are working in teams with managers who have lower rates of promotion and higher rates of termination for their whole teams.

In this section, we explore whether we can observe what kinds of managers these are. We find that first-gen employees are consistently assigned to more junior managers, managers who have not been recently promoted, and managers whose other direct reports experience worse career outcomes. Specifically, Table 13 estimates the class gap in five proxies for the standing and effectiveness of the assigned manager. In this case, our estimates are at the employee-quarter not employee-year level, because managers can change multiple times within a year, allowing us to preserve manager-employee pairings that last for less than a year. Consistent with the baseline model, we regress each measure on the employee's parental education, gender, and race, with year-quarter and job fixed effects, so the coefficients compare employees holding the same job in the same quarter. Because the outcomes are attributes of the manager and are therefore shared by every employee reporting to them, we add the manager as a third standard error clustering dimension alongside employee and job. The sam-

[8] Note that we include manager fixed effects and job fixed effects separately, rather than interacted: this is because most managers do not manage several people with the same job, so a specification with job-by-manager fixed effects would drop much of our sample.

ple includes all US employee-quarters from 2021 through 2025, with no requirement that the employee received a performance rating at the start of the year; it therefore includes newly hired employees and the first managers to whom they are assigned. The five outcomes are estimated on their respective maximum samples.

The first two measures describe the manager's own standing within the firm. Manager level is the manager's job level, measured using the same seven level codes as the employee job ladder: we find that first-gen employees' managers are 0.06 levels more junior than graduate-parent employees' managers, and college-parent employees' managers are 0.03 levels more junior. Manager promoted indicates whether the manager received a confirmed promotion within the trailing four quarters: first-gen employees' managers are 1.2 percentage points less likely to have done so, against a base rate of 18%.

The remaining three measures describe the career outcomes of the team the manager runs. We compute all three leaving the employee out.[9] Team promotions and team terminations are the number of promotions and terminations per person-quarter among the manager's reports over the trailing four quarters. First-gen employees' teammates are promoted at a rate about 4% lower than average (0.18 percentage points against a 4.1% base rate) and terminated at a rate about 10% higher than average(0.17 percentage points against a 1.8% base rate). Team top rated is the share of the manager's reports currently holding a Top rating, with each report's annual rating carried forward for up to three quarters: first-gen employees' teammates are 0.8 percentage points less likely to hold a Top rating, against a base rate of 18%. The five measures therefore tell a consistent story. Within the same job and quarter, first-gen employees report to managers who are more junior, have experienced slower recent

[9]The trailing team records require at least twelve remaining person-quarters; the top-rating share requires at least three other rated teammates.

career progression themselves, and oversee teams whose other members experience worse career outcomes. College-parent employees generally fall in between first-gen and grad-parent employees. This suggests that first-gen employees' managers may both be substantively less effective (less good at enabling their workers to do good work), and/or may be politically less influential within the firm (less good at securing promotions for their teams and themselves).

When does this differential matching arise? Table 14 separates three potential margins: the manager to whom an employee is assigned at hire, the manager received when an incumbent employee changes managers, and changes in the job level of a stable employee-manager pair. Specifically, with our dependent variable as manager level, we estimate the same specification separately for employees' first quarters at the firm (column 1), quarters in which incumbent employees are assigned to new managers (column 2), and quarters in which the manager remains unchanged (column 3, the bulk of the sample). In columns 2 and 3, we add a categorical control for the manager's level from the previous quarter. Our estimates show that the gap in manager seniority emerges both at hire and in moves within the firm: first-gen employees enter the firm under managers who are 0.06 levels more junior, compared to graduate-parent employees entering the firm in the same job type (column 1); and when employees change managers, first-gen employees move to managers who are 0.04 levels more junior than those received by graduate-parent employees, holding managers' previous quarter's levels fixed (column 2). These samples are relatively small, and so both estimates are only significant at the 10% level. Importantly, the gap in manager seniority also widens in stable employee-manager pairs (column 3): conditional on the previous quarter's manager level among stable pairings, first-gen employees' managers are 0.01 levels more junior in the following quarter, suggesting that first-gen employees are placed under managers that are on a slower trajectory of

career progression.

How much of the class gap in career progression do these differences in manager quality account for? In Table 11, we also re-estimate our promotion and termination regressions, adding fixed effects for manager level. The manager level fixed effect alone accounts for about 15% of the overall promotion gap, but explains none of the termination gap. (When we include controls for all five of our manager qualities simultaneously, the additional explanatory power above and beyond manager level is minimal). The fact that manager level matters for promotion outcomes is consistent with the explanation that an employee's manager is also their primary advocate. More senior or faster-progressing managers may have greater organizational influence, stronger networks with senior leaders, better information about how to build a successful promotion case, or greater ability to create opportunities for their reports. Through allocation biases or self-selection, employees from more disadvantaged class backgrounds find themselves under managers that are less effective in helping them progress in the firm.

Taken together, the class gap can be decomposed into roughly equal sized between-manager and within-manager class gap. First-gen employees are systematically matched to worse-positioned managers from their first quarter at the firm onward, and differences across managers account for about half of the promotion gap. But manager assignment is not the whole story: even comparing first-gen and graduate-parent employees reporting to the same manager, a 1.3 percentage point promotion gap remains. We explore this next.

## 5.3 Within-manager gaps: the role of homophily

Why might the within-manager class gap exist? One possibility is that all managers exhibit a similar bias against first-gen employees. An alternative possibility

is homophily: are first-gen employees held back because they typically work under managers from more advantaged backgrounds? Table 12 interacts the employee's parental education with their manager's, on the sample where both are reported, with nomination, confirmation, and promotion as outcomes. The manager's class background does not predict their employees' outcomes: employees under first-gen managers are nominated and promoted at similar rates to employees under graduate-parent managers. When interacting employee and manager parental education, our point estimates are suggestive of homophily, but the estimates are too imprecise to be conclusive. Specifically, a first-gen employee under a graduate-parent manager is 3.7 percentage points less likely to be nominated than a graduate-parent employee, while the corresponding gap under a first-gen manager is only 1.0 percentage point, but the difference between these gaps is not statistically significant, and the confidence interval is consistent both with no homophily and with the nomination gap disappearing entirely among first-gen manager-employee pairs. We note that the interaction for college-parent employees under college-parent managers is negative, so the point estimates do not show a consistent pattern of employees benefiting from managers who share their class background. We therefore view the evidence on class homophily as inconclusive.

# 6 Discussion

Our quantitative analysis identified a large class gap in career progression at Nulix. We found an important role for managerial discretion in the promotion and termination processes, and also found that first-gen employees were more likely to be in teams with less effective managers.

## 6.1 Qualitative evidence

To understand these processes in more detail, we carried out forty-nine forty-five-minute interviews with Nulix employees (many of whom were also managers). We focused on employees at levels 5, 5B, and 6, which are middle-management levels where promotion prospects often stall and which, in our quantitative analysis, we found were levels where the largest class gaps in promotion emerged. We carried out these interviews inductively, focusing on asking broad questions about career progression at Nulix and about the individual's own background and whether it had played into their career progression prospects.

We discuss our qualitative analysis in detail in our companion paper, Friedman and Stansbury (2026). We outline the conclusions of these analyses briefly here. We found a core role for "playing politics", which we define as the maneuvers used to get ahead in the workplace which are not directly related to the performance of the work itself: making and using influential connections within the firm, flattering more senior employees, self-promotion, etc. These behaviors are not necessarily positive or negative, but different settings differ in how important workplace politics is, and how it is played, and different people may differ both in how much they know whether they need to play politics in their workplace, and in how good they are at it.

In our interviews, we found that playing politics was a key unwritten rule of promotion strategy at the firm, through four modes: (i) building visibility, by taking on high-profile projects; (ii) network ingratiation, not only with direct managers but also higher-level managers and influential people in other teams; (iii) self-promotion, in terms of ensuring credit was given or simply taking credit for work done; and (iv) help-seeking, in terms of seeking out seniors to explain how to learn the rules of the game and get ahead at Nulix. Consistently across our interviews, we observed that

first-gen interviewees were less able and less willing to engage in political behavior at Nulix. They expressed a combination of unfamiliarity, anxiety, and moral discomfort with the political behaviors needed to get ahead.

The findings from these interviews are highly consistent with our quantitative findings on the role of performance evaluations. For high-performing employees (with Top ratings), promotion is a very likely outcome, regardless of how much they play politics. For low-performing employees (with Bottom ratings), termination is a very likely outcome, regardless of how much they play politics. For those in the middle, receiving a promotion or a termination becomes much more a function of managerial discretion: and in these circumstances, whether an employee has made themselves visible and promoted their own contributions, and whether s/he has built herself an influential network, are likely to matter much more.

Similarly, the findings from the interviews are highly consistent with our quantitative finding that first-gen employees have less effective managers. Part of playing politics within the firm involves moving laterally to jobs where progression prospects are better, and if first-gen employees are less good at knowing that they need to play this game, or at playing it, then it fits that when they do make lateral moves, they end up making worse ones (to teams with less senior or less effective managers).

## 6.2 Conclusion

This paper is the first to use a firm's internal personnel data to document quantitatively the existence of class gaps in career progression for people in the same jobs. We show that within this large US tech company, first-gen college graduate employees are substantially less likely to be promoted, and more likely to be terminated, than their colleagues in the same job who are from more advantaged backgrounds. We show that this is primarily not explained by differential on-the-job performance, and

that managerial discretion plays a large role, with the class gap becoming particularly large for on-the-margin or ambiguous decisions.

Laurison and Friedman (2024) emphasized in 2024 that, while class gaps in access to good jobs are well documented, research has lagged behind in studying class gaps in getting ahead within given employers. Alongside a few other papers, our results are some of the first to demonstrate class-origin gaps in career outcomes within a specific elite organization. Our finding that these large class gaps exist even within a US tech company - an ostensibly meritocratic, modern organization, with employees from many races and cultures, in a country which often considers itself a "classless" society - suggests that class gaps in career progression probably exist across much of the US private sector.

Meanwhile, our findings that these large class gaps are driven not by performance but by managerial discretion in who gets ahead and who does not – and this, in turn, is likely driven by employees' differential willingness and ability to "play politics" within the organization – have important implications for organizations' diversity, equity, and inclusion policies. As Stansbury and Rodriguez (2026) found for US academia, in settings where there is a "hidden curriculum" – it is difficult to know how to get ahead, and getting ahead is not based only on objective measures of performance – differential class biases or class-based norms and behaviors can play an important role in affecting career outcomes.

Finally, the fact that the mechanisms by which the class gap arises in tech seem different than those in academia suggests that more research is needed on other, specific settings. As with gender and racial gaps, class gaps look different at different points in the career and in different industries. Studying where and why class gaps emerge, and interventions to tackle them, is important not only to ensure equitable outcomes for people from all backgrounds, but also to ensure that talent is not wasted.

# Tables and Figures

Table 1: Employee composition by parental education

| | High school or less | College degree | Graduate degree | Declined | Missing | Total |
|---|---|---|---|---|---|---|
| Women (%) | 43 | 41 | 42 | 31 | 27 | 38 |
| White (%) | 33 | 38 | 43 | 28 | 27 | 35 |
| Asian (%) | 34 | 42 | 39 | 48 | 46 | 41 |
| Black (%) | 8 | 5 | 4 | 6 | 3 | 5 |
| Hispanic (%) | 16 | 7 | 5 | 6 | 3 | 7 |
| Other race (%) | 8 | 6 | 6 | 4 | 2 | 5 |
| Educ: Below BA (%) | 6 | 2 | 1 | 1 | 0 | 2 |
| Educ: BA (%) | 59 | 57 | 50 | 23 | 1 | 42 |
| Educ: MA (%) | 26 | 34 | 39 | 21 | 2 | 27 |
| Educ: PhD (%) | 7 | 6 | 9 | 4 | 0 | 6 |
| Educ: Declined (%) | 1 | 1 | 0 | 51 | 0 | 6 |
| Operations (%) | 13 | 12 | 15 | 8 | 7 | 12 |
| Corporate (%) | 29 | 22 | 22 | 16 | 12 | 20 |
| Sales (%) | 18 | 17 | 13 | 13 | 8 | 14 |
| Tech (%) | 39 | 47 | 49 | 63 | 72 | 53 |
| Age (years) | 35.7 | 34.5 | 34.1 | 34.9 | 35.8 | 34.8 |
| Firm tenure (years) | 2.9 | 2.9 | 2.9 | 2.1 | 4.7 | 3.1 |
| Share of sample (%) | 14 | 28 | 29 | 10 | 18 | 100 |

Notes: Mean characteristics of rated employee-years by parental education, US, 2021–2025. Percentages rounded to the nearest whole percent; age and firm tenure in years. Own-education shares are not conditional on responding to the own-education survey item; the race-unknown category and the own-education missing category are not displayed. Sample sizes are withheld under our data use agreement.

Table 2: The class gap in career progression

| | Promoted | Termination | Quit | Lateral move | Same Position |
|---|---|---|---|---|---|
| First-gen (HS or less) | -0.026*** | 0.017*** | -0.011** | -0.006 | 0.020*** |
| | (0.005) | (0.005) | (0.005) | (0.007) | (0.007) |
| College | -0.012** | 0.000 | -0.001 | -0.005 | 0.013** |
| | (0.005) | (0.003) | (0.005) | (0.006) | (0.006) |
| Dep. var. mean (%) | 19.1 | 6.0 | 11.1 | 18.3 | 51.7 |

Notes: OLS. Percentage-point gaps relative to graduate-parent employees. Unit is employee-years. Controls: gender and race. FE: year and job level × family × function. SE clustered by employee and job level × family × function. Sample: US performance-rated employee-years, 2021–2025, excluding years with an unclassified departure or an unconfirmed level change. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$. Sample sizes are withheld under our data use agreement.

Table 3: Class, race, and gender gaps comparison

| | Promoted | Termination | Quit | Lateral move | Same Position |
|---|---|---|---|---|---|
| *Parental education* | | | | | |
| First-gen (HS or less) | -0.026*** | 0.017*** | -0.011** | -0.006 | 0.020*** |
| | (0.005) | (0.005) | (0.005) | (0.007) | (0.007) |
| College | -0.012** | 0.000 | -0.001 | -0.005 | 0.013** |
| | (0.005) | (0.003) | (0.005) | (0.006) | (0.006) |
| *Gender (ref. men)* | | | | | |
| Woman | 0.004 | -0.016*** | -0.002 | 0.011** | 0.007 |
| | (0.006) | (0.004) | (0.004) | (0.005) | (0.005) |
| *Race/ethnicity (ref. White)* | | | | | |
| Asian | -0.014** | 0.000 | -0.006 | -0.011* | 0.026*** |
| | (0.006) | (0.004) | (0.005) | (0.006) | (0.007) |
| Black | -0.084*** | 0.073*** | -0.003 | -0.026*** | 0.021 |
| | (0.013) | (0.012) | (0.008) | (0.010) | (0.015) |
| Hispanic | -0.019*** | 0.010* | -0.015** | -0.014 | 0.022** |
| | (0.006) | (0.006) | (0.007) | (0.009) | (0.009) |
| Other race | -0.011 | 0.005 | -0.016** | 0.002 | 0.012 |
| | (0.008) | (0.006) | (0.008) | (0.009) | (0.011) |
| Dep. var. mean (%) | 19.1 | 6.0 | 11.1 | 18.3 | 51.7 |

Notes: OLS. Percentage-point gaps relative to graduate-parent, male, and White employees respectively, jointly estimated in one model per outcome. Non-response categories estimated but not shown. FE: year and job level × family × function. SE clustered by employee and job cell. Sample: US performance-rated employee-years, 2021–2025, excluding years with an unclassified departure or an unconfirmed level change. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$. Sample sizes are withheld under our data use agreement.

Table 4: Class gaps by year of firm tenure

| | Year 1 | Year 2 | Year 3 | Year 4+ |
|---|---|---|---|---|
| *Promoted* | | | | |
| First-gen (HS or less) | 0.001 | -0.038*** | -0.025 | -0.029*** |
| | (0.002) | (0.012) | (0.016) | (0.008) |
| College | -0.001 | -0.030*** | -0.007 | -0.016** |
| | (0.002) | (0.010) | (0.012) | (0.006) |
| Dep. var. mean (%) | 0.7 | 20.4 | 23.2 | 17.1 |
| *Termination* | | | | |
| First-gen (HS or less) | 0.022*** | 0.039*** | 0.010 | 0.003 |
| | (0.006) | (0.013) | (0.011) | (0.006) |
| College | 0.016*** | 0.014** | -0.003 | -0.009* |
| | (0.006) | (0.007) | (0.005) | (0.005) |
| Dep. var. mean (%) | 7.4 | 11.7 | 7.6 | 5.7 |
| *Quit* | | | | |
| First-gen (HS or less) | 0.004 | 0.001 | -0.032*** | -0.003 |
| | (0.010) | (0.011) | (0.011) | (0.008) |
| College | 0.006 | -0.005 | -0.004 | -0.004 |
| | (0.007) | (0.009) | (0.011) | (0.007) |
| Dep. var. mean (%) | 8.7 | 10.3 | 11.9 | 10.9 |
| *Lateral move* | | | | |
| First-gen (HS or less) | 0.014 | -0.014 | -0.011 | 0.009 |
| | (0.013) | (0.014) | (0.016) | (0.012) |
| College | 0.007 | 0.007 | -0.008 | -0.006 |
| | (0.008) | (0.011) | (0.012) | (0.010) |
| Dep. var. mean (%) | 13.4 | 16.0 | 18.6 | 18.1 |
| *Same position* | | | | |
| First-gen (HS or less) | -0.034** | 0.001 | 0.047** | 0.018 |
| | (0.014) | (0.014) | (0.020) | (0.013) |
| College | -0.025** | 0.010 | 0.013 | 0.026** |
| | (0.010) | (0.013) | (0.014) | (0.011) |
| Dep. var. mean (%) | 71.6 | 47.0 | 45.4 | 53.1 |

Notes: OLS. Percentage-point gaps relative to graduate-parent employees. Each observation is the employee's Nth year at the firm — conditional on the year's first quarter being in sample and the panel covering the full year. All US employees, 2021–2025 excluding tenure years with an unclassified departure or an unconfirmed level change. Controls: gender and race. FE: start quarter and job cell at the year's start. SE clustered by employee and job cell. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$. Sample sizes are withheld under our data use agreement.

Table 5: Class gap in performance rating

| | Top rating | Bottom rating |
|---|---|---|
| First-gen (HS or less) | -0.020*** | 0.012*** |
| | (0.007) | (0.004) |
| College | -0.008 | 0.001 |
| | (0.005) | (0.003) |
| Dep. var. mean (%) | 16.8 | 5.0 |

Notes: OLS. Percentage-point gaps relative to graduate-parent employees. Unit: employee-year. Ratings measured at quarter one. Controls: gender and race. FE: year and job level × family × function. SE clustered by employee and job cell. Sample: US performance rated employee-years, 2021–2025. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$. Sample sizes are withheld under our data use agreement.

Table 6: Class gaps within rating brackets

| | Promoted | Termination | Quit | Lateral move | Same Position |
|---|---|---|---|---|---|
| *Panel A: Baseline* | | | | | |
| First-gen (HS or less) | -0.026*** | 0.017*** | -0.011** | -0.006 | 0.020*** |
| | (0.005) | (0.005) | (0.005) | (0.007) | (0.007) |
| College | -0.012** | 0.000 | -0.001 | -0.005 | 0.013** |
| | (0.005) | (0.003) | (0.005) | (0.006) | (0.006) |
| *Panel B: Within rating × program × job cell* | | | | | |
| First-gen (HS or less) | -0.017*** | 0.009** | -0.011** | -0.005 | 0.020*** |
| | (0.005) | (0.004) | (0.005) | (0.007) | (0.006) |
| College | -0.009** | 0.000 | -0.001 | -0.004 | 0.010 |
| | (0.005) | (0.003) | (0.004) | (0.006) | (0.006) |
| Dep. var. mean (%) | 19.1 | 6.0 | 11.1 | 18.3 | 51.7 |

Notes: OLS. Percentage-point gaps relative to graduate-parent employees, on one common sample per outcome. Panel A: year and job cell FE. Panel B adds rating × program × job cell FE. Controls: gender and race. SE clustered by employee and job cell. Sample: US performance-rated employee-years, 2021–2025, excluding years with an unclassified departure or an unconfirmed level change. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$. Sample sizes are withheld under our data use agreement.

Table 7: Class gaps in promotion, termination, and quitting by rating bracket

| | Promoted | | | Termination | | | Quit | | |
|---|---|---|---|---|---|---|---|---|---|
| | Bottom | Middle | Top | Bottom | Middle | Top | Bottom | Middle | Top |
| First-gen (HS or less) | -0.001 | -0.016*** | -0.024 | 0.031 | 0.008* | -0.001 | -0.029 | -0.012** | 0.000 |
| | (0.001) | (0.005) | (0.020) | (0.035) | (0.004) | (0.004) | (0.029) | (0.005) | (0.012) |
| College | 0.001 | -0.009* | -0.014 | -0.014 | 0.000 | 0.001 | -0.015 | 0.002 | -0.011 |
| | (0.001) | (0.005) | (0.012) | (0.033) | (0.003) | (0.003) | (0.021) | (0.005) | (0.009) |
| Dep. var. mean (%) | 0.1 | 13.5 | 50.8 | 52.4 | 4.1 | 0.7 | 18.5 | 11.3 | 8.1 |

Notes: OLS. Percentage-point gaps relative to graduate-parent employees, estimated separately within each rating bracket. Unit: employee-year. Controls: gender and race. SE clustered by employee and job cell. Sample: US performance-rated employee-years, 2021–2025, excluding years with an unclassified departure or an unconfirmed level change. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$. Sample sizes are withheld under our data use agreement.

Table 8: Class gaps in lateral moves and staying in same position by rating bracket

| | Lateral move | | | Same position | | |
|---|---|---|---|---|---|---|
| | Bottom | Middle | Top | Bottom | Middle | Top |
| First-gen (HS or less) | -0.000 | -0.013* | 0.032* | -0.013 | 0.024*** | 0.015 |
| | (0.023) | (0.007) | (0.019) | (0.028) | (0.007) | (0.018) |
| College | -0.020 | -0.008 | 0.012 | 0.027 | 0.010 | 0.015 |
| | (0.021) | (0.007) | (0.012) | (0.022) | (0.008) | (0.014) |
| Dep. var. mean (%) | 11.4 | 18.8 | 18.0 | 21.6 | 57.4 | 34.0 |

Notes: Same specification as Table 7: gaps relative to graduate-parent employees, estimated separately within each rating bracket; controls gender and race; SE clustered by employee and job cell; US rated employee-years, 2021–2025, same sample exclusions apply. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$. Sample sizes are withheld under our data use agreement.

Table 9: Class gap in promotion nomination and confirmation

| | Nominated | Confirmation | Promoted |
|---|---|---|---|
| *Panel A: Baseline* | | | |
| First-gen (HS or less) | -0.030*** | -0.010 | -0.026*** |
| | (0.006) | (0.011) | (0.005) |
| College | -0.014*** | -0.005 | -0.012** |
| | (0.005) | (0.010) | (0.005) |
| *Panel B: Within rating × program × job cell* | | | |
| First-gen (HS or less) | -0.020*** | -0.010 | -0.017*** |
| | (0.005) | (0.011) | (0.005) |
| College | -0.012** | -0.001 | -0.009** |
| | (0.005) | (0.010) | (0.005) |
| Dep. var. mean (%) | 23.3 | 81.7 | 19.1 |

Notes: OLS. Percentage-point gaps relative to graduate-parent employees. Nominated = nominated for promotion at either promotion cycle of the year; confirmation = promoted, among nominated employee-years; promoted = confirmed promotion within the year. One common sample per stage. Panel A: year and job cell FE; Panel B adds rating × program × job cell FE. Controls: gender and race. SE clustered by employee and job cell. Sample: US performance-rated employee-years, 2021–2025, excluding years with an unclassified departure or an unconfirmed level change. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$. Sample sizes are withheld under our data use agreement.

Table 10: Nomination and confirmation by rating bracket

| | Nominated | | Confirmation | | Promoted | |
|---|---|---|---|---|---|---|
| | Middle | Top | Middle | Top | Middle | Top |
| First-gen (HS or less) | -0.019*** | -0.028 | -0.009 | -0.005 | -0.016*** | -0.024 |
| | (0.006) | (0.019) | (0.016) | (0.019) | (0.005) | (0.020) |
| College | -0.012** | -0.016 | 0.002 | -0.003 | -0.009* | -0.014 |
| | (0.006) | (0.012) | (0.012) | (0.014) | (0.005) | (0.012) |
| Dep. var. mean (%) | 17.3 | 59.0 | 78.3 | 86.3 | 13.5 | 50.8 |

Notes: OLS. Percentage-point gaps relative to graduate-parent employees, estimated separately within each rating bracket. Bottom-rated employees are omitted: their nomination rate is 0.3 percent. Stage definitions as in Table 9. Controls: gender and race. FE: year and job level × family × function. SE clustered by employee and job cell. Sample: US rated employee-years, 2021–2025, excluding years with an unclassified departure or an unconfirmed level change. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$. Sample sizes are withheld under our data use agreement.

Table 11: Manager mediation of the class gap in promotion and termination

| | Promotion | | | Termination | | |
|---|---|---|---|---|---|---|
| | Baseline | Mgr FE | Mgr level | Baseline | Mgr FE | Mgr level |
| First-gen (HS or less) | -0.027*** | -0.013** | -0.023*** | 0.016*** | 0.011* | 0.016*** |
| | (0.005) | (0.006) | (0.005) | (0.005) | (0.006) | (0.005) |
| College | -0.013*** | -0.005 | -0.010** | 0.001 | -0.002 | 0.001 |
| | (0.004) | (0.005) | (0.004) | (0.003) | (0.003) | (0.003) |
| Dep. var. mean (%) | 19.1 | 19.1 | 19.1 | 6.0 | 6.0 | 6.0 |

Notes: OLS. Percentage-point gaps relative to graduate-parent employees. Unit: employee-years. Manager is the employee's manager in the rating quarter. Per outcome, columns add the manager as fixed effects, or their job level as dummies, to year and job cell FE, on one common sample (the manager's level observed). Mid-year reassignments are not captured, so manager influence is understated. Controls: gender and race. SE clustered by employee, job cell, and manager. Sample: US performance-rated employee-years, 2021–2025, excluding years with an unclassified departure or an unconfirmed level change. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$. Sample sizes are withheld under our data use agreement.

Table 12: Manager class background and class matching

| | Nominated | Confirmation | Promoted |
|---|---|---|---|
| Worker first-gen | -0.037*** | -0.006 | -0.031*** |
| | (0.009) | (0.024) | (0.008) |
| Worker College | -0.001 | -0.001 | -0.001 |
| | (0.009) | (0.019) | (0.009) |
| Manager first-gen | -0.015 | 0.035 | -0.005 |
| | (0.015) | (0.021) | (0.013) |
| Manager College | 0.003 | 0.003 | 0.002 |
| | (0.010) | (0.019) | (0.010) |
| First-gen × mgr first-gen | 0.027 | -0.046 | 0.011 |
| | (0.020) | (0.042) | (0.016) |
| First-gen × mgr College | 0.007 | -0.000 | 0.005 |
| | (0.015) | (0.034) | (0.013) |
| College × mgr first-gen | -0.010 | 0.012 | -0.005 |
| | (0.019) | (0.027) | (0.017) |
| College × mgr College | -0.021 | -0.006 | -0.015 |
| | (0.013) | (0.025) | (0.011) |
| Dep. var. mean (%) | 22.2 | 82.4 | 18.3 |

Notes: OLS. Employee and manager parental-education dummies fully interacted; first two rows show the class gaps under a grad-parent manager. Manager is the employee's manager in the rating quarter. The Confirmation column is estimated on nominated employee-years. Sample restricted to employee-years where both the employee and the manager report a parental education; non-response and managers outside the US corporate sample excluded. Controls: employee gender and race. FE: year and job level × family × function. SE clustered by employee, job cell, and manager. US performance-rated employee-years, 2021–2025, excluding years with an unclassified departure or an unconfirmed level change. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$. Sample sizes are withheld under our data use agreement.

Table 13: Class gap in manager quality

| | Manager level | Manager promoted | Team promotions | Team terminations | Team top rated |
|---|---|---|---|---|---|
| First-gen (HS or less) | -0.056*** | -1.229** | -0.177*** | 0.169** | -0.816*** |
| | (0.017) | (0.496) | (0.063) | (0.067) | (0.309) |
| College | -0.032*** | -1.513*** | -0.081* | 0.086* | -0.166 |
| | (0.011) | (0.343) | (0.042) | (0.045) | (0.215) |
| Dep. var. mean | 5.42 | 18.16 | 4.09 | 1.76 | 18.08 |

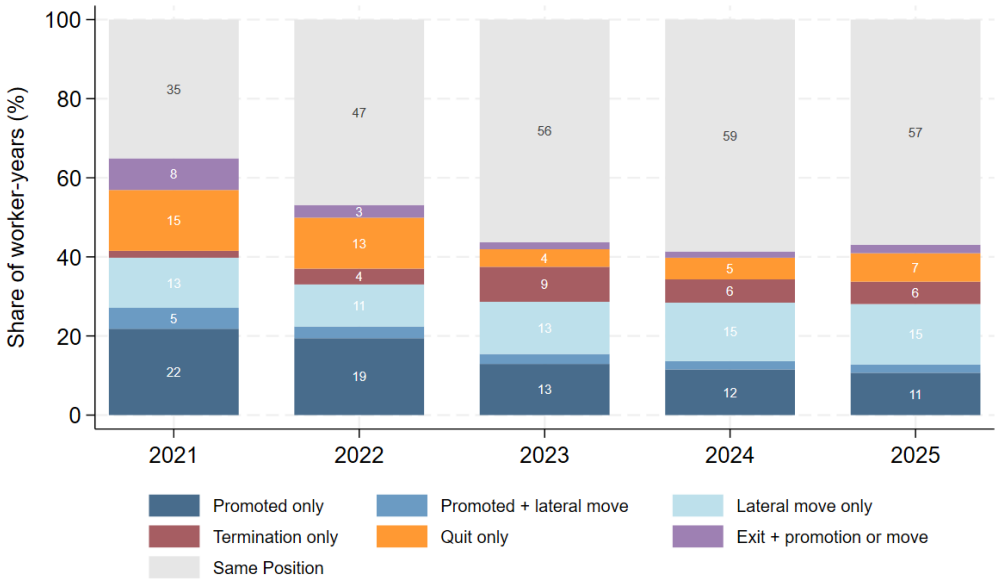
Notes: OLS. Percentage-point gaps relative to graduate-parent employees. Unit of observation is employee-quarter. Units: manager level in job-level codes (1–7); all other outcomes per 100, so gaps read as percentage points. Team records are trailing-year leave-one-out rates over the manager's other reports (at least 12 person-quarters); the top-rating share is over the ratings teammates currently hold (annual ratings carried forward up to three quarters; at least 3 other rated teammates). Columns are not estimated on the same sample. Controls: gender and race. FE: year-quarter and job cell. SE clustered by employee, job cell, and manager. US employee-quarters, 2021–2025. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$. Sample sizes are withheld under our data use agreement.

Table 14: The class gap in manager job level: at hire, at reassignment, and in place

| | At hire | Manager change | Same manager |
|---|---|---|---|
| First-gen (HS or less) | -0.061* | -0.040* | -0.010*** |
| | (0.031) | (0.024) | (0.002) |
| College | -0.014 | -0.019 | -0.005*** |
| | (0.020) | (0.017) | (0.002) |
| Origin manager level FE | No | Yes | Yes |
| Dep. var. mean (level code) | 4.89 | 5.30 | 5.50 |

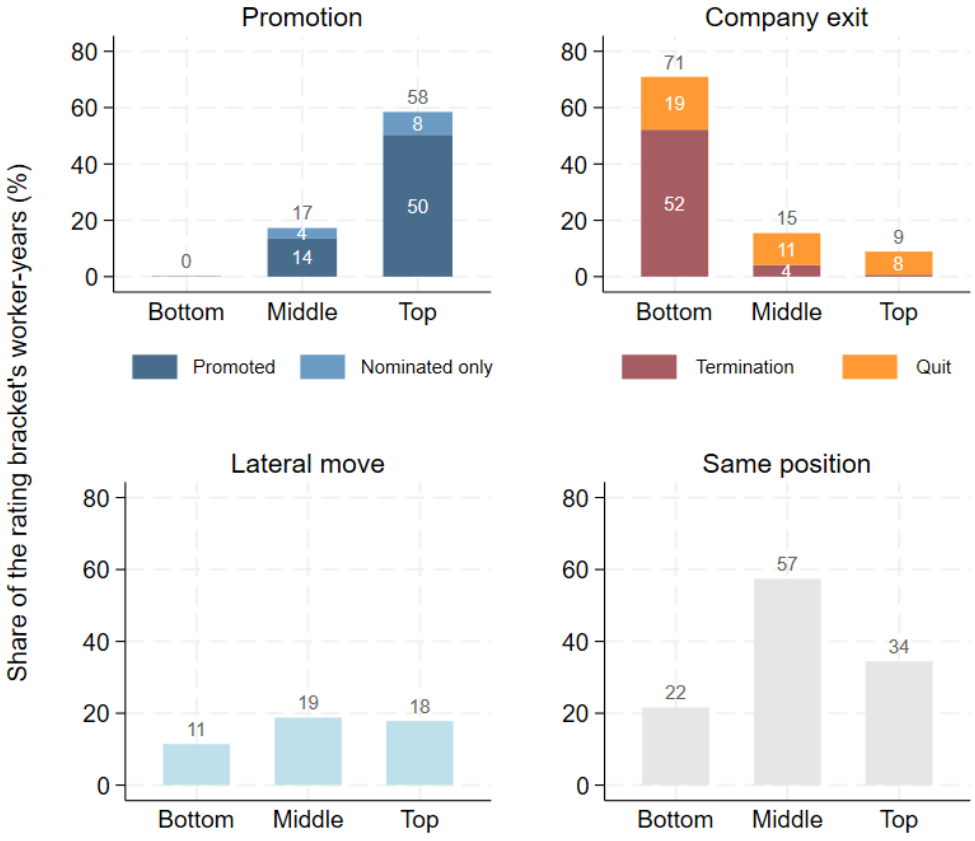
Notes: OLS. Gaps in the assigned manager's level relative to graduate-parent employees. Each column is one kind of employee-quarter: the employee's first quarter at the firm; any quarter in which an incumbent employee is assigned a new manager; and quarters under the previous quarter's manager. Columns 2–3 include fixed effects for the previous quarter's manager level. Panel re-entries and rows without an observed manager or origin level are excluded. Controls: gender and race. FE: year-quarter and job cell. SE clustered by employee, job cell, and manager. US employees, 2021–2025. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$. Sample sizes are withheld under our data use agreement.

Figure 1: Career events at Nulix




Notes: US rated employee-years by year, classified into seven mutually exclusive categories. Same position = no promotion, exit, or lateral move; lateral move = changed manager while no other direct report of the previous manager moved along. Employee-years with an unclassified departure or an unconfirmed level change are excluded. Shares rounded to the nearest percent; segments under 3 percent unlabeled.

Figure 2: Career events by rating bracket




Notes: Shares of each rating bracket's employee-years; the number above each bar is its total, rounded to the nearest percent. Nominated = nominated at either cycle of the year; lateral move = changed manager, moving alone; Same position = no promotion, exit, or lateral move. For each worker, a year can carry more than one event. US performance-rated employee-years, 2021–2025, excluding years with an unclassified departure or an unconfirmed level change.

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