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FOR EMPLOYMENT RESEARCH

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Per Scholas

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Executive Summary

Per Scholas, a non-profit organization that provides no-cost information technology (IT) job training and placement services to economically disadvantaged adults, requested that the Upjohn Institute, a non-profit research organization, conduct an analysis of the business case for its training model. Through a combination of interviews with employers that had hired Per Scholas graduates, conversations with Per Scholas staff, and quantitative analyses with comparison Census data, the Upjohn Institute investigated how the Per Scholas model could affect employers' hiring and onboarding processes, quality of hires, and turnover costs.

Our findings include:

- More than half of Per Scholas placements remain with the same employer for at least three years.
- Per Scholas hires have substantially lower turnover rates than other newly hired workers in the same industries and location. Under baseline assumptions, the quarterly separation rate for Per Scholas hires is 10.3 percent, compared with 13.2 percent for other similar hires. This is a reduction of 2.9 percentage points or 22 percent.
- Under alternative but still plausible assumptions, the difference in turnover rates is even larger: Per Scholas hires separate at 7.7 percent per quarter, compared with 15.3 percent for other similar hires. This is a reduction of 7.6 percentage points or 50 percent.
- Using starting wages of Per Scholas graduates and accepted estimates of hiring costs as a share of salary, these differences in turnover *alone* translate into annual savings per employee of between $100 and $250.
- By avoiding subscriptions to job boards, small employers could save an additional $400 per hire annually, and medium-sized employers an additional $250; these total savings range from $350 to $650 per employee annually.
- Per Scholas hires are significantly more racially and ethnically diverse than typical new hires in the same industries and locations: 87 percent are people of color, and 79 percent are minorities underrepresented in IT jobs. This compares with 52 percent and 39 percent of other newly hired workers.

- Employers who have hired Per Scholas graduates believe the customer service skills of these graduates often exceed that of their other hires, and their technical skills are as least as good, if not better.
- Although larger employers often have multiple channels through which to recruit and hire IT talent, smaller and medium-sized employers expressed that through Per Scholas, they could reach a more diverse pool of candidates, fill nearly all their hiring demand, and influence the organization's training to custom-fit their needs.
- Employers partnering with Per Scholas, especially those small-to-medium-sized, are likely to realize substantial savings through reduced turnover and less expensive recruitment, have a more diverse IT labor pool on which to draw, hire employees with superior soft, client-facing skills, and have a voice in customizing job training for their specific requirements.
- Combining the savings from reduced turnover and screening costs, and assuming just a modest gain in productivity from greater diversity, customer service skills, and custom training, employers could realize gains of between $1300–$1800 per employee per year.

Introduction and Background

Per Scholas is a non-profit organization headquartered in New York City that provides free information technology (IT) job training to underemployed and often economically disadvantaged adults in several U.S. labor market areas. Per Scholas began in the mid-1990s in New York City, donating computers and offering digital literacy classes to seniors and youth in the area. Beginning in the late 1990s and continuing into the 2000s, the organization began offering 15-week training for A+ certification, an entry-level credential recognized by the information technology industry as qualification for technical support and IT operations. In 2012, Per Scholas began expanding into other cities and as of 2018 it currently serves six metropolitan communities: Atlanta, Cincinnati, Columbus, Dallas, New York City, and Washington, D.C. (also known as the National Capital Region). Additionally, it has in the past few years both expanded its training to include other forms of certifications (notably, Network+) and accelerated its training to eight weeks in some cases.

In addition to offering IT training, Per Scholas helps place graduates of its programs in local IT businesses by providing individualized career readiness services and maintaining close partnerships with these local employers. Furthermore, Per Scholas continues to provide employment success training to its alumni for up to two years after their employment begins. Two separate, high-quality randomized controlled trials (RCTs) have been conducted to evaluate the effectiveness of Per Scholas services on individuals' outcomes; although both examined the New York City site, one took place in the early to mid-2000s, and the other between 2011 and 2013, in the aftermath of the Great Recession. Both analyses found significant and positive impacts on the earnings (27–32 percent) and likelihood of employment over the succeeding 2–3 years for individuals offered Per Scholas services.[1]

Funding for Per Scholas operations has historically derived from government and foundation grants but now increasingly comes from corporate philanthropic support. Per Scholas wishes to

[1] Maguire, Sheila, Joshua Freely, Carol Clymer, Maureen Conway, and Deena Schwartz. 2010. "Tuning into Local Labor Markets: Findings from the Sectoral Employment Impact Study." Public/Private Ventures. Hendra, R., D.H. Greenberg, G. Hamilton, A. Oppenheim, A. Pennington, K. Schaberg, and B.L. Tessler. 2016. "Encouraging Evidence on a Sector-Focused Advancement Strategy: Two-year Impacts from the WorkAdvance Demonstration." MDRC.

continue diversifying its funding sources so that it might expand the types of training it offers and the number of individuals it reaches. More specifically, the organization seeks to build a business case for its services and explore whether greater use of placement fees from partner employers or other contributions would be viable. To do so, Per Scholas would like to better understand how to quantify the potential labor cost savings to its partner employers through use of its training and placement model, including the possible channels of lower hiring costs, employee turnover, and training/onboarding costs, and thereby establish a return on investment (ROI) for potential partner employers.

This report represents the Upjohn Institute's analysis of potential labor cost savings for employers hiring entry-level IT workers through Per Scholas rather than through other, status quo channels. The analysis draws on quantitative data from both Per Scholas student job placements and information on employment dynamics produced by the U.S. Census Bureau. The quantitative investigation is complemented with several structured interviews with employer partners who have hired Per Scholas trainees as well as with Per Scholas staff directly. Both analyses focus on IT Support training, the most common program through which individuals studied and gained employment during the study period. It is important to note that Per Scholas currently offers a broader array of training, with Network+ increasingly common.

The next section of this report describes a theoretical overview of how Per Scholas could act as a more efficient facilitator for matching workers to employers. To provide context for whom Per Scholas serves, we then compare demographic profiles of Per Scholas job placements with representative placements—newly hired workers—in the same industries and service areas. We discuss findings from employer interviews, paying close attention to hiring and training experiences and how these vary before we focus on the quantitative analysis related to tenure and turnover.

A technical appendix describes all the data sources used in this report, how we construct the samples used for analysis, the interview script for employer partners, and the methodology employed for the quantitative analysis.

How Per Scholas Could Facilitate Matches Between Workers and Employers

Per Scholas, as an organization that trains, screens, and places its students into jobs with local partners, could facilitate the match between worker and employer in several ways. Three of the most likely channels include lowering search costs, reducing training costs, and improving retention. These channels would be expected to lead to better outcomes for the worker (through more time employed and at higher wages, as found by the studies noted in the previous section) and smaller costs and presumably higher profit (through greater efficiency in matching) for the employer.

Firms incur several expenses in hiring a worker. There are initial search costs that include recruiting or advertising a vacancy, interviewing or screening costs in selecting the most qualified candidate, administrative costs in adding a worker to payroll, and training costs in acclimating the worker to the position. For replacement hiring, which constitutes roughly two-thirds of all hiring[2], there are additional expenses, which may include severance payments and/or unemployment insurance premiums (for involuntary separations), as well as foregone productivity while waiting to replace the separated worker.[3]

While it would be preferable to know these expenses, say as a share of total payroll, good estimates are hard to come by. An early case study of a manufacturing firm from the middle of the last century pegged hiring costs at about 5–7 percent of payroll.[4] The economy has changed considerably since then; we have seen a shift from goods- to services-producing firms, a greater share of new hires rather than recalled workers, growth in demand for highly specific skills, and new technologies to connect workers and employers, among other factors. A more recent estimate from California covering the period from 2003 to 2008 found a slightly higher number of 9 percent.[5] For an entry-level worker making $35,000, that comes to $3,150. In these and

[2] As documented in Lazear, Edward P., and James R. Spletzer. 2012. "Hiring, Churn, and the Business Cycle." *American Economic Review* 102(3): 575–579.
[3] Having other current workers try to perform the separated worker's tasks can mitigate this loss, but only partially, especially if overtime must be paid.
[4] The firm was International Harvester, as detailed in Oi, Walter. 1962. "Labor as a Quasi-Fixed Factor." *Journal of Political Economy* 70(6): 538-555.
[5] See Dube, Arindrajit, Eric Freeman, and Michael Reich. 2010. "Employee Replacement Costs." Institute for Research on Labor and Employment Working Paper 201-10. This study also reviews other estimates.

other studies, a common finding is that this replacement cost, even as a share of salary or compensation, rises with the skill or educational requirement of the position.

Unfortunately, modern estimates do not provide a breakdown of costs by each component noted above. Given the growth in online job boards and résumé-posting sites, one might think, for example, that the search component of costs (advertising and initial screening) would be relatively small, but this may not be the case. The labor market analytics company Burning Glass Technologies uses company job boards to estimate time-to-fill for different occupations in different areas. For the occupation of computer user support specialists, the most typical type of job for a Per Scholas graduate, time-to-fill averages about one month across the six Per Scholas service areas, and is similar nationwide.[6] Moreover, this measure captures the amount of time a posting stays up and does not necessarily include interviewing and screening or delay between a job offer and a candidate's start date. Search costs continue to be relevant, even for IT-related positions, because employers still often bear verification and screening costs of confirming a candidate's skills, and this process can be relatively time-intensive. While start-ups such as ZipRecruiter and larger tech services firms like LinkedIn have made inroads in automating this process, most firms still emphasize the importance of personal trust and relationships when looking to hire, as evidenced, for example, by reliance on employee referrals and select college recruiting.[7]

The Per Scholas model emulates many of these more personal approaches. The organization's staff work closely with their students, learning individuals' relative personal and professional strengths even though training is to a common industry standard. By also working closely with local employers interested in entry-level IT talent, and developing ongoing relationships with them and understanding their different needs, Per Scholas representatives can guide effective matches from both sides—the worker's and the employer's—in a manner similar to that of a

[6] Authors' tabulations from Labor/Insight, Burning Glass Technologies, accessed 9/21/2018. There is only modest variation in time-to-fill across the Per Scholas service areas, ranging from 27 days in Columbus to 36 days in Washington, D.C. Altogether, there were some 44,000 postings for computer support specialists over the past 12 months in the six areas.

[7] For the importance of employee referrals, see https://www.shrm.org/resourcesandtools/hr-topics/talent-acquisition/pages/employee-referrals-remains-top-source-hires.aspx (Accessed 9/25/2018); for college recruiting, see https://hbr.org/2015/10/firms-are-wasting-millions-recruiting-on-only-a-few-campuses.

professional recruiter, but for entry-level positions. Because Per Scholas trains several cohorts of students in each location each year, intending to match all of them to local jobs, it effectively plays a repeated reputation game with employer partners. That is, Per Scholas representatives face a strong incentive to supply a good match so that the employer partner continues to work with them in the future, a dynamic like that of employee referrals. This means that the verification part of the search process may be easier and less costly when hiring through Per Scholas than through traditional channels.[8] Because Per Scholas generally has set training periods of fixed duration, time-to-fill may not change much (it could even increase), but there should be a reduced risk that the match will turn out to be poor.

Another component of total hiring costs is training or onboarding for new workers. This includes direct outlays on training materials (whether done in-house or outsourced) as well as time spent by incumbent employees "coaching" the hires, whether formally or informally. Some of the estimates mentioned above provided suggestive evidence that this component of hiring could be quite large, but these were generally from a context when employer-provided training was more common and tenure was longer.[9] In the current environment of employers expecting (publicly if not privately) new hires to be nearly ready from day one with technical skills, especially in IT, training costs may be somewhat smaller but are still hardly insignificant. Even if employers structure the hiring process such that new employees come in with requisite hard skills, there are almost always employer-specific rules and details that need to be learned, often through an orientation process.[10]

Consequently, the Per Scholas approach may not directly reduce an employer's training costs, if firms have already structured the hiring process to cut technical training to a feasible minimum. Although Per Scholas ensures its graduates have industry certification (e.g., A+ or Network+),

[8] Advertising costs may also be lower by reduced use of career fairs or posting on multiple job boards, but these costs are generally smaller than the screening or verification costs. On the other hand, since Per Scholas trainees tend to come from more diverse backgrounds than applicants through traditional channels, advertising costs may fall by a greater margin if firms seek to hire more diverse candidates.

[9] See the figure from Timothy Taylor's blog, reproduced from the *2015 Economic Report of the President*. Nonetheless, estimates of up to 60 days before a new hire reaches full productivity are not uncommon (Bersin by Deloitte, 2016, *Calculating the True Cost of Voluntary Turnover: The Surprising ROI of Retention*.)

[10] An Allied Workforce Mobility Survey of 500 HR professionals in 2012 estimated about two-thirds of employers had such an orientation process. In our interviews with employer partners, we found that a training/orientation period of four to six weeks for all new entry-level IT employees, regardless of hiring channel, was almost universal.

employers likely require almost all candidates to have such a credential in order to be hired, rather than offer training for it in house. Nonetheless, Per Scholas may offer two training-related advantages that could indirectly cut employer costs. First, the organization can relatively quickly respond to evolving skill demand among its employer partners, as demonstrated by rolling out Network+ certification to complement A+ certification as part of its program. By offering candidates with a package of skills for which employers have expressed demand more or less on the fly, Per Scholas's training could potentially reduce search costs, especially if talent is primarily recruited locally. Second, communication and other socioemotional skills—especially in client-facing positions—are often difficult for employers to teach or assess in the hiring process. They are also seldom taught by other providers of IT skills, whether in a formal degree program or coding boot camp. Per Scholas, however, explicitly focuses on these skills in its programs. While this may not offset training costs directly—as few employers teach "soft" skills—it could again reduce search time (if the skillset is particularly sought) and lower the risk of a poor hire who needs to be let go.

The third salient component of hiring costs is turnover, or the need for replacement hiring for workers who quit or who are involuntarily separated (laid off or fired for cause). This component is likely the most expensive of the three, as not only must the first two components be incurred (again), but there are also possibly separation costs, as noted above. The flipside of turnover is tenure, how long employees work for a given employer. The higher is average tenure, the lower is turnover. In practice, it is often easier to measure tenure, especially at the individual level. Nationally, the median tenure for a computer user support specialist is 4.5 years, which implies that, typically, 22 percent of workers in this occupation leave their employer per year.[11] However, there is a significant range: the 10 percent of computer support specialists with the shortest tenure last no more than five months, the 10 percent with the longest tenure have been with their employer for at least 19 years.[12] From an employer's perspective, a tenure of five months means having to hire for the position more than twice per year.

[11] Authors' tabulations from the Current Population Survey, Employee Tenure Supplement for 2014 and 2016. The sample is too small to examine tenure by locality.
[12] For completeness, the quarter with the shortest tenure last up 16 months; the quarter with the highest tenure last at least a decade.

Per Scholas's program may affect turnover (or, equivalently, worker tenure) at employer partners in at least a couple ways. First, as alluded earlier, the relationships that Per Scholas staff have with both trainees and employers could lead not only to better technical fit but also to better cultural fit by matching personalities and preferences on both sides. Second, Per Scholas is unusual among training providers in offering career readiness and placement support to its students not just during training but for up to two years after job placement. Through this ongoing coaching, placed employees may be able to resolve workplace issues that could otherwise lead to separation.

Although it would be ideal to quantify Per Scholas's role in all three components of search costs, hard data on the first two components (search and training) are not collected in a consistent and systematic way. Instead, we rely on the qualitative interviews to better understand how employers respond to these aspects of hiring when working with Per Scholas relative to other channels; we supplement these specific interviews with more general information on search costs from online job boards and HR staff time. The quantitative analysis focuses on the third component, turnover, for which data are more readily available. Before we turn to these analyses, we first compare the demographics of Per Scholas job placements with comparison hires into the same industries and locations.

Demographic Profiles of Per Scholas Job Matches

Per Scholas trained 3,887 individuals across its six sites over the 2012–2017 period. Of these, 3,346 completed the training, and 2,685 of these individuals were successfully placed into 3,618 jobs through June 2018.[13]

More specifically, 1,918 individuals had one job; 1,242 individuals had two jobs; 381 had three jobs; 72 had four jobs; and five had five jobs. Given that some individuals completed their training several years earlier, multiple placements are not unusual, and job changing is relatively common. Indeed, individuals completing their training in earlier cohorts are more likely to have had multiple placements than individuals trained more recently. Because the research focus is on job matching, we consider the unit of analysis to be a job placement rather than a unique individual. Using the job placement as the unit of analysis more closely accords with the Census data we use as a comparison, as well as with an employer's concept of hiring.

Although Per Scholas trains its students for IT jobs, it is worth noting that not all IT jobs are in IT companies. Per Scholas students are placed at companies in a variety of industries, including the very IT-centric computer systems design, but also banking, consulting, and retail. By examining the names of placement companies in Per Scholas student files, we identified the 15 most common industries into which students are hired. These 15 industries accounted for more than two-thirds of all placements.[14] A list of these industries, along with their 4-digit NAICS codes (the classification system for industries used by the federal statistical agencies) is shown in Table 1.

[13] The technical appendix has details on sample construction.
[14] See technical appendix for details.

Table 1: Top 15 4-digit NAICS Industries for Per Scholas Job Placements

Industry Name	4-digit NAICS code
Computer and Peripheral Equipment Manufacturing	3341
Electronics and Appliance Stores	4431
Grocery Stores	4551
Electronic Shopping and Mail-Order Houses	4541
Cable and Other Subscription Programming	5152
Wired and Wireless Telecommunications Carriers	5173
Data Processing, Hosting, and Related Services	5182
Depository Credit Intermediation	5221
Other Financial Investment Activities	5239
Specialized Design Services	5414
Computer Systems Design and Related Services	5415
Management, Scientific, and Technical Consulting Services	5416
Employment Services	5613
Business Support Services	5614
Vocational Rehabilitation Services	6243

NOTE: Industries are shown in NAICS order, not in rank of placements. The top three industries in placements are 5415, 5613, 5173. (We have combined wired telecom [5171] and wireless telecom [5172] into 5173 for analysis.)

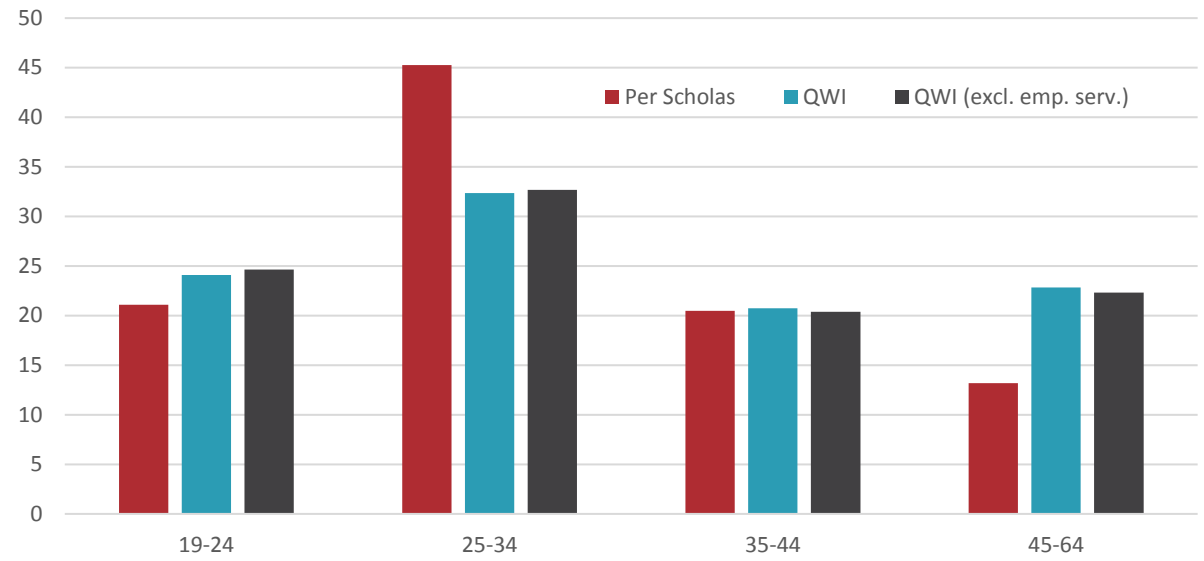
In this section, we present demographic characteristics of Per Scholas job placements—age, gender, race/ethnicity, and education—and compare these characteristics to those from all newly hired workers in the above industries in the six Per Scholas service areas (Atlanta, Cincinnati, Columbus, Dallas, New York City, and Washington D.C. metro areas). The latter comparison data are drawn from the U.S. Census Bureau's Quarterly Workforce Indicators (QWI; a description is available in the technical appendix).

The red bars in Figure 1, for example, show the age distribution of all Per Scholas job placements from the 2012–2017 training cohorts through June 2018. Twenty-one percent of placements are aged 19–24, 45 percent are aged 25–34, 20 percent are aged 35–44, and 13 percent are aged 45–64.[15] In contrast, the turquoise bars show the age distribution for all newly hired workers in the top 15 industries (as shown in Table 1) in the same six metro areas according to the QWI. The most notable difference is that a greater share of Per Scholas

[15] We treat the trivially small number of Per Scholas students who are age 65 or 66 at placement as in the 45–64 age group. We also focus on new hires younger than age 65 in the comparison QWI data.

placements are aged 25–34 (45 v. 32 percent) and a correspondingly smaller share are aged 45–64 (13 v. 23 percent).

Figure 1: Age Distribution of Per Scholas Placements and QWI Newly Hired Workers



SOURCE: Authors' calculations from Per Scholas and Quarterly Workforce Indicators data.
NOTE: The QWI data in turquoise represent newly hired workers (those not at the employer in the previous calendar quarter) in the 15 industries shown in Table 1, and in the six metro areas serviced by Per Scholas, averaged over the period 2012 through the third quarter of 2017, the most recent available at the time of the analysis. The QWI data in dark gray are similar, except they exclude workers hired into the employment services (temp) industry.

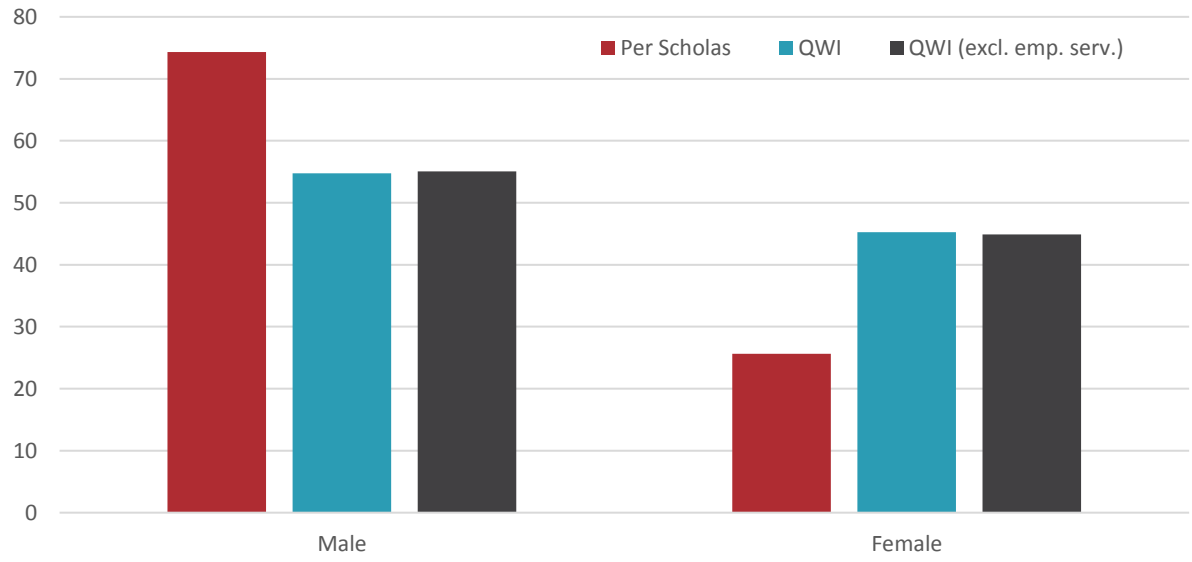
The dark gray bars in Figure 1 also show the age distribution from QWI, with one modification: they include hires from 14 industries, leaving out employment services (NAICS 5613). This latter industry, also known as temporary help or staffing firms, accounts for more than half of all new hires in the 15 industries combined. Due to the nature of the industry, jobs tend to be of short duration and there is high turnover.[16] The industry is also highly variable in the types of workers employed, ranging from relatively unskilled construction and office support workers to skilled professions in accounting and IT. Moreover, many of the employment services firms that hire Per Scholas graduates are combined IT management and staffing companies, and these employers may be quite different from a typical temporary help firm. For all these reasons, we also show the distribution of new hires leaving out this one industry. In the case of age, this distinction tends not to matter much: the age of new hires is similar whether employment

[16] It should be noted that turnover here means leaving the employment services firm (e.g., Kelly Services), not the client employer.

services is included or not. The upshot is that Per Scholas placements are somewhat younger than the typical new hire in the same industries. This would be expected if Per Scholas graduates are more likely to be entry-level workers, although this is something that we unfortunately cannot differentiate in the data.

Figure 2 shows the gender composition of placements from Per Scholas and comparison numbers from the QWI. Roughly three-quarters of Per Scholas placements are men and one-quarter women. Although this gender ratio is not uncommon in IT jobs, the comparison data show a less pronounced skew, with only 55 percent men. Part of the difference may stem from greater placement of Per Scholas graduates into specific industries that are heavily male, such as computer systems design (about 65 percent male in QWI), but this is unlikely to explain fully the difference. Rather, the gap may in part be due to the specific *occupations* for which Per Scholas prepares its students, which are more heavily male than the industries as a whole.[17]

Figure 2: Gender of Per Scholas Placements and QWI Newly Hired Workers

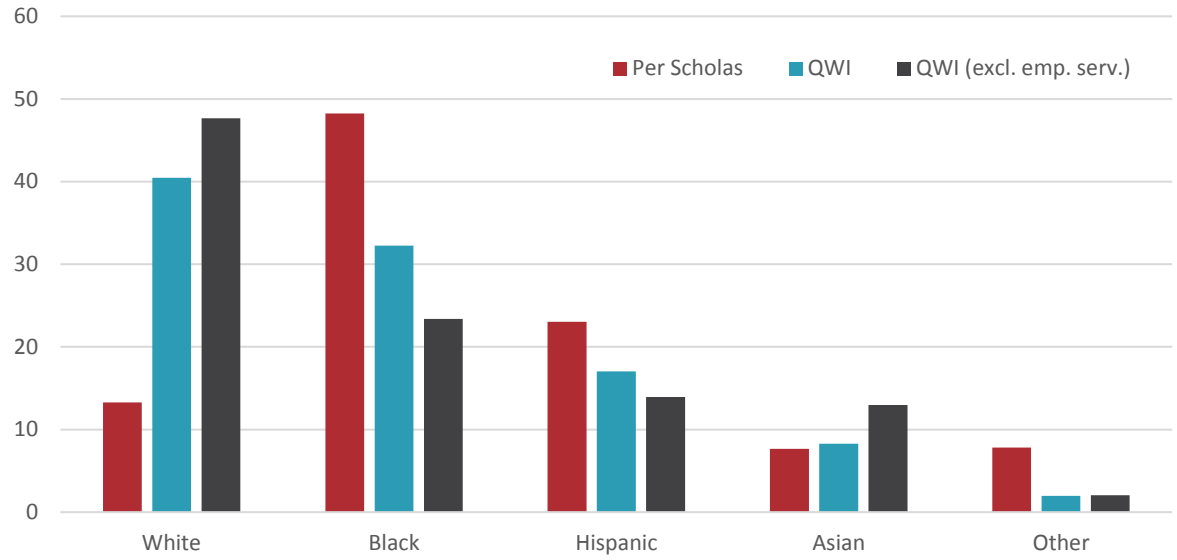


SOURCE: Authors' calculations from Per Scholas and Quarterly Workforce Indicators data.
NOTE: See note to figure 1.

[17] According to authors' tabulations from the Current Population Survey, approximately three-quarters of computer occupations are held by men, in line with the Per Scholas numbers.

We compare the racial and ethnic distribution of Per Scholas hires to the QWI industry benchmarks in Figure 3. Per Scholas hires are considerably more diverse than the benchmark hires into the 15 industries. Nearly half (48 percent) of Per Scholas hires are Black, and nearly another quarter (23 percent) are Hispanic or Latinx; only 13 percent are White, non-Hispanic. In contrast, the typical hire into these IT fields are about one-third Black, one-sixth Hispanic/Latinx, and two-fifths White, non-Hispanic.[18] These patterns are even more stark if we focus on the QWI industries leaving out employment services or temporary help. For the remaining 14 industries, 52 percent of new hires are individuals of color, but just 39 percent are underrepresented minorities (Blacks, Hispanics, and the Other category, which includes Native Americans and the multiracial). The Per Scholas figures are, respectively, 87 and 79 percent.

Figure 3: Race and Ethnicity of Per Scholas Placements and QWI Newly Hired Workers

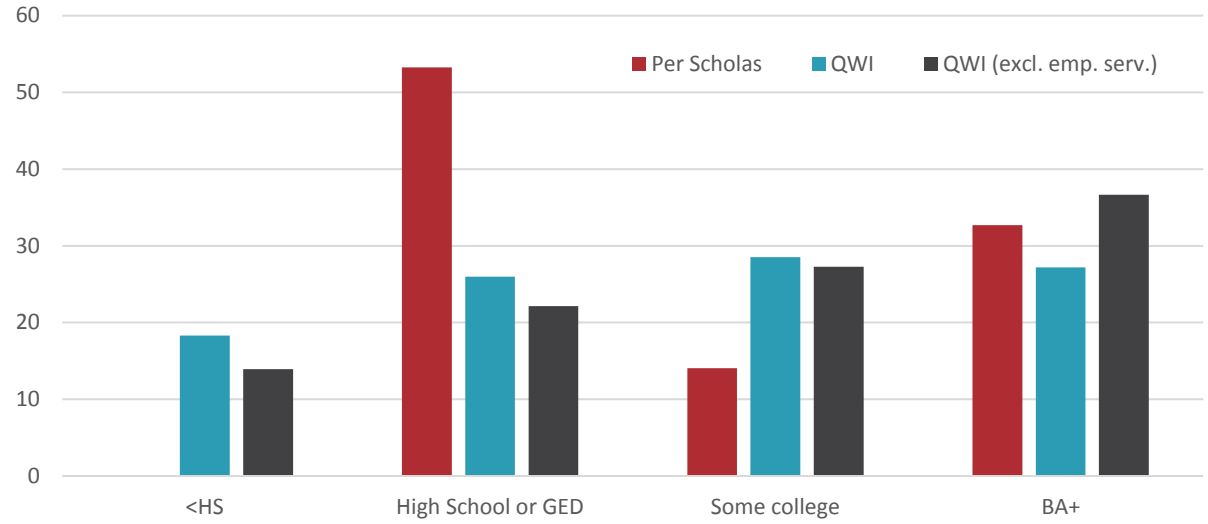


Finally, we examine the educational distribution of both groups of hires in Figure 4. Due to Per Scholas requirements, all individuals receiving program training have at least either a high school diploma or a GED, and a little over half of placements have exactly this level of education, although about one-third have at least a bachelor's degree. Focusing on the comparison group in the QWI that excludes employment services, new hires are slightly more

[18] Again according to our tabulations from the Current Population Survey, typical new hires nationally into a computer occupation (rather than industry) are 9 percent Black, 8 percent Hispanic, and 59 percent White, non-Hispanic; 21 percent are Asian-American.

educated (with 64 percent having at least some college, relative to 47 percent for Per Scholas), although a nontrivial fraction are also hired without a high school credential.

Figure 4: Education of Per Scholas Placements and QWI Newly Hired Workers



SOURCE: Authors' calculations from Per Scholas and Quarterly Workforce Indicators data.
NOTE: See note to figure 1.

In summary, Per Scholas hires are more racially and ethnically diverse than typical new hires into similar industries in the six service areas, although they are slightly more likely to be male. Also, in line with their training into entry-level IT positions, they tend to be somewhat younger and less likely to have attended college than a typical industry hire, which would include more experienced positions.

Lessons from Employer-Partner Interviews

To gain a more complete understanding of Per Scholas and its impact, we interviewed representatives from twelve companies who have interacted with the program, most of which are employer partners. Each of these companies has hired Per Scholas graduates, and several have provided monetary and non-monetary support for Per Scholas. The companies interviewed were a mix of small, medium, and large organizations. They comprised several industries, including IT staffing and services, IT infrastructure, IT management, utility construction, banking, and telecommunications. They also collectively covered all the Per Scholas training locations: Atlanta, Cincinnati, Columbus, Dallas, New York City, and Washington D.C. area. The specific individuals interviewed were typically middle- to senior-level leaders who were involved in the hiring or supervision of Per Scholas graduates, such as talent recruiters, department supervisors, or managers. Although no attempt was made to interview a random sample of Per Scholas employer partners, we believe our conversations were broadly representative of companies either looking, or potentially looking, to place Per Scholas graduates.

In general, the interviewees had a positive impression of Per Scholas and its graduates. Many interviewees noted specific benefits of the Per Scholas program, such as access to talent who have already attained industry certifications, initial screenings for company fit, and a more diverse talent pool than available from other hiring channels.

For nearly every employer we spoke to, new IT hires usually receive internal training and education about the details of a position and an organization's culture, regardless of prior experience, knowledge, or hiring channel. Interviewees reported that Per Scholas graduates acclimated quickly and, in all cases, at least comparable to similar new hires. For example, several companies reported the need to train new hires on customer services techniques; most of those companies stated that Per Scholas hires had customer service skills in addition to some technical skills. This combination of customer service skills and technical skills are attractive to many employers. Even though employers agreed that hiring through Per Scholas does not directly reduce training time or cost, because of the fixed training practices for all new hires in similar positions, many expressed that Per Scholas still offers indirect benefits to companies by producing graduates with the soft skills and the temperament to fill needed roles.

Another benefit of working with Per Scholas noted by some interviewees was an easier search process and reduction in turnover due to targeted preparation. Most of the companies noted that Per Scholas graduates are ready and eager to work, able to learn and adapt, and fit their hiring profile. While no employers explicitly reported that initial search costs were significantly lowered, they felt Per Scholas graduates' previous experience with customer service, job preparation, and industry certification made job turnover less likely in their experience.[19] One employer partner said that, for Per Scholas graduates, their work is "not just a job, it's a career." Others commented that, given how many Per Scholas graduates fill positions such as IT help desk or service support representative, there is an important aspect of troubleshooting that blends technical and people skills, and that Per Scholas graduates are well-prepared and tend to perform highly in this area.

Interviewees also indicated that Per Scholas' initial candidate screening and familiarity with the needs of their employer partners effectively reduced candidate search time. One employer partner, for instance, reported that he was "blown away by the quality of candidates." Additionally, some employer partners mentioned that recruiting candidates from overlooked communities is vital, and that Per Scholas could connect them with candidates from these communities.

Although reviews of Per Scholas and their graduates were positive, some employer partners benefit more from Per Scholas than others. For example, the large IT companies and staffing agencies we spoke to described quick access to job candidates (as compared to other hiring mechanisms or job boards) as the primary advantage of working with Per Scholas. They did not believe that Per Scholas played a vital role in helping them find talent, however, as many cited several other channels through which they search for IT talent in the volume they need. These other hiring mechanisms include other third-party job facilitators, such as Indeed, Career Builder, and ZipRecruiter, as well as internally curated and proprietary databases. Because of these companies' scale and their need for a greater number of employees than Per Scholas could fill in a graduating class, maintaining (and paying for) these other channels is cost-effective for

[19] Indeed, we confirm this belief empirically in the next section.

these large employer partners, who often hire hundreds or even thousands of people per year. Nonetheless, larger companies did report that they would be willing to hire more Per Scholas graduates if more were available to them in each graduating class.

In contrast, medium- and small-sized companies realized a broader benefit by working with Per Scholas. These companies noted that through their involvement with Per Scholas, they were able to reach a more diverse pool of candidates, could fill nearly all their hiring needs, and could influence the organization's training to custom-fit their needs, even if these evolved within a year. Many also voiced satisfaction in being able to provide good jobs to people from the area. Indeed, the companies often reported hiring a candidate who was from the community in which they would be working. As many of these jobs involve servicing local client businesses, the interviewees felt this good community fit made for a smoother and more stable employment transition.

The medium- and small-sized employer partners also appreciated that Per Scholas intentionally learned about their companies and their needs and sought to provide appropriate candidates. Some also noted Per Scholas's willingness to modify training to keep up with these needs. Perhaps as a consequence, along with more manageable staff volume needs, these companies were more likely to use Per Scholas for much of their IT hiring. In fact, one small company stated that 40 percent of its staff was made up of Per Scholas graduates and linked these hires to the company's growth. That representative further explained that most of the company's new hires were from Per Scholas because other avenues did not provide candidates with good fit. Another, medium-sized, company mentioned that it was in the process of funding the creation of a Per Scholas-led training program to fill *all* its hiring needs for a specific position.

Even though medium- and small-sized companies often used similar job search boards as the larger employer partners (e.g., Indeed, Career Builder, My Computer Career, Zip Recruiter), they found greater success through hiring Per Scholas candidates because of a more hands-on touch and ability to have an enduring relationship. A representative of a small company noted that Per Scolas was "the first place I turn to when I have staffing needs." A different, medium-sized, company that uses Per Scholas for less than 10 percent of its IT hiring, still commented that

hiring from that organization is less risky than through other channels; the interviewee particularly praised Per Scholas graduates' soft skills, noting that "technology is easier to teach than customer service." Like the larger employer partners, however, medium- and small-sized companies would like to see Per Scholas expand its training programs, but they also understand that this would take additional funding.

To gauge how companies plan to respond to the evolving needs for staffing in the IT field, we asked all interviewed employer partners if they would be willing to pay—in some way—for Per Scholas' service, such as through a placement fee or donation to the organization. Most larger companies voiced that a direct placement fee scheme would probably cause them to reduce hiring through Per Scholas, due to their more extensive internal hiring tools, but some would be willing to explore providing in-kind support (assisting in mock interviews, speaking at sessions, or advising on curriculum development) or occasional donations. Similarly, the medium- to small-sized companies also were reluctant to accept a placement fee model, but were more willing to provide financial support through donations. Only three out of the twelve interviewees expressed a willingness to pay Per Scholas a placement fee based on the quality of their graduates and the companies' anticipated growth.[20]

Finally, at the end of each interview, we inquired about changes or improvements that employer partners felt that Per Scholas should consider. A few employer partners wanted more personal information on upcoming graduates. These employers were interested in the educational journey and background of graduates. One employer partner from a small-sized company recommended that Per Scholas adopt the practice of My Computer Career, an online IT training school, and send out resumes and highlights of upcoming graduates to further improve matching. Other employers suggested expanding the breadth of certifications individuals could earn, although one felt that some candidates sent to interview were overqualified for an entry-level position and that less formal training was needed. Our interpretation of these remarks is that employers see value in Per Scholas offering modular training. Indeed, employers generally applauded Per Scholas for

[20] Although it did come up explicitly in the interviews, we realized that employer partners' preferences for in-kind support and especially donations over a placement fee might, in part, be due to tax consequences. While the former types of support are usually tax-deductible, placement fees generally are not.

its interaction with their companies, and often thought there was scope for increasing this interaction and helping shape curriculum.

A Quantitative Analysis of Per Scholas Turnover and Retention Benefits

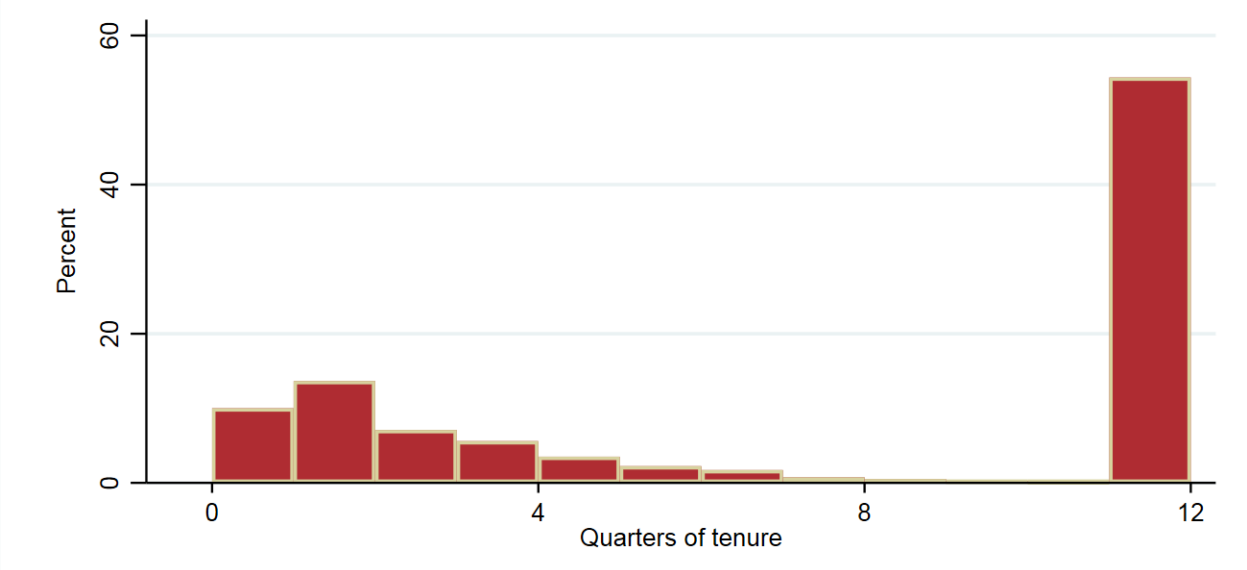
As described earlier, perhaps the most important way Per Scholas can reduce hiring costs for employers is through reducing turnover—or equivalently, by increasing average tenure. This chapter first describes the tenure distribution of Per Scholas job placements. This tenure distribution is then compared to the implied tenure distribution from representative newly hired workers in the same industries and service areas drawn from the Quarterly Workforce Indicators (QWI; see the technical appendix for a description). Examining tenure is useful because a simple relationship converts tenure to the turnover rate. If tenure is *T*, then the implied turnover rate is $p = \frac{1}{T}$. For example, if tenure is 36 months, then the implied turnover rate is 2.77 percent per month, or 8.33 percent per quarter, or 33.3 percent per year. These turnover comparisons can be combined with the estimates of hiring and turnover costs in the second section of the report, as well as compensation information, to calculate total hiring costs. The difference in these costs between the Per Scholas placements and the QWI comparison can then be used to estimate total potential savings to employers. It should be noted, however, that these savings calculations are unlikely to capture the full impact on employers of Per Scholas as a placement tool. As discussed in the previous section, Per Scholas hires may have superior customer service skills that enhance productivity in their positions, relative to the typical hire from other channels, and search costs are likely lower, especially for smaller-to-medium-sized firms. Neither of these value-added mechanisms will be reflected in the tenure analysis here. As such, we believe this quantitative analysis likely underestimates total savings from using Per Scholas to acquire IT talent.

As with the demographic profile section, we start with the 2,685 students Per Scholas trained between 2012–2017 and successfully placed into 3,618 jobs through June 2018. Since tenure on the job is the outcome of interest, however, we can use only a subset of these placements due to censoring issues. That is, for a placement that occurred in May of 2018 and was ongoing at the time of data collection, the observed tenure would be just one month. This job might continue, though, and failing to account for this censoring could severely bias downward measures of tenure. Therefore, we examine the 1,025 students and 1,339 placements that began between

January 1, 2012 and June 30, 2015.[21] With this time interval, there are at least three years elapsed since every placement until the time of data collection. While there is still likely to be censoring, it will occur at the three-year mark, and we can ascertain whether a job lasted at least that long.

Figure 5 shows the tenure distribution, in quarters, for these Per Scholas placements, capping the maximum tenure at 12 quarters, or three years.[22] More than half of placements—54 percent—last at least 12 quarters. The remaining distribution is clustered at shorter durations, with about one-quarter of placements lasting less than two full quarters (or less than six months), another 13 percent lasting between two quarters to just under one year, and about 9 percent lasting between one and three years. This bimodal distribution, with large shares of hires at either extreme but relatively few in the middle, suggests that Per Scholas hires either end up being successful with their employers (the right tail) or the worker or employer quickly realize the match is not a good fit, and separate.

Figure 5: Tenure Distribution of Per Scholas Placements, in Quarters (Capped at 12)



NOTE: The distribution covers the 1,339 placements between January 1, 2012 and June 30, 2015.

[21] The restriction implies that the bulk of placements were in the New York City area. More specifically, of the 1,339 placements, 1,025 were in New York, 141 were in Columbus, 87 were in Cincinnati, 81 were in greater Washington, D.C., 3 were in Dallas, and 2 were in Atlanta.

[22] As indicated by the name, Quarterly Workforce Indicators—the comparison data—is measured at the quarterly frequency, and so we adjust tenure to quarters for comparability. For a graph that does not cap tenure at 12 quarters, see Appendix Figure 1 in section C of the Technical Appendix.

Although sample sizes are too small to show separate distributions for each site, the patterns suggest that tenure may be shorter in New York—which for historical reasons has the majority of placements—than other locations. Whereas 44 percent of placements in the New York area last at least 12 quarters, and 29 percent last less than two quarters, in the other sites combined 90 percent of placements last at least 12 quarters, and only 7 percent last less than two quarters. Whether this discrepancy is due to site characteristics or program changes over time is hard to say, but to the extent that Per Scholas continues to expand in the other service areas and these patterns continue, the typical tenure shown in the figure above will likely increase.

The average tenure for Per Scholas hires (using the uncapped data) is 9.7 quarters, or just under 2.5 years. This would imply a turnover rate (per quarter) of 10.3 percent. However, the tenure estimate is almost certainly too low (and turnover estimate consequently almost certainly too high) if meant to capture the true mean because 54 percent of placements, as noted above, were still ongoing at the time of data collection. Some of these placements will continue and that would have the effect of raising average tenure and reducing the turnover rate.

However, we need an estimate of the mean for comparison with QWI. By underestimating the true mean of tenure (or, equivalently, overestimating the true turnover rate) from Per Scholas placements, we will effectively be calculating a lower bound of the true difference between Per Scholas placements and the QWI comparison. Put differently, true cost savings or ROI to firms are likely to be higher than what we estimate.

With that proviso in mind, we turn to the QWI data. Although these data do not contain measures of tenure, it is possible to construct average turnover rates (as detailed in the Technical Appendix). As with the demographic profiles, our preferred comparison group excludes the employment services (temporary help) industry, since it consists of many types of new hires far removed from the sector in which Per Scholas engages, and, perhaps as a result, turnover in this industry is exceedingly high.[23] This decision to focus on the other 14 industries is conservative, in the sense that it leads to smaller differences between Per Scholas and the comparison group.

[23] Average turnover in employment services across the six service areas is 66 percent per quarter; that is the average hire in this industry lasts only 1.5 quarters.

Table 2 shows the calculated average turnover rate and tenure for both Per Scholas placements and the comparison QWI data.

Table 2: Turnover Rate and Tenure (Quarters), Per Scholas vs. QWI

	Tenure	Turnover Rate
Per Scholas	9.7	10.3 percent
QWI	7.6	13.2 percent

NOTE: The QWI estimates are based on the industries shown in Table 1, *excluding* employment services.

The average Per Scholas placement lasts *at least* 2.1 quarters longer with his employer than all other new hires in the same industries and the same labor market areas. This implies a turnover rate that is lower by 2.9 percentage points, or 22 percent (2.9 ÷ 13.2).[24]

The hourly starting wage among all the Per Scholas placements between January 1, 2012 and June 30, 2018, when adjusted for inflation, is $17.66.[25] Assuming 40 hours per week, the median among Per Scholas placements, the average starting salary comes to $3,061 per month, or $9,183 per quarter. If we consider the more modern estimate of total hiring costs as a share of payroll of 9 percent from the second section of the report, it would imply that an employer looking to hire IT talent similar to a Per Scholas graduate would be expected to pay about $826.50 *per quarter per employee* in hiring costs.

For a typical employee, as measured in the QWI data, the turnover rate of 13.2 percent implies that an average replacement cost of $109.10 ($826.50 × 0.132) is paid for every employee, every quarter. For a Per Scholas hire, the cost is $85.13 ($826.50 × 0.103). Thus, there is an expected savings of about $24 in reduced replacement hiring costs each quarter for every IT employee hired through Per Scholas, relative to the typical hire as measured in the QWI. This may not sound like much, but for a small employer with 20 IT employees of the sort Per Scholas trains,

[24] Outside of the New York area, the average tenure of Per Scholas placements is 14.2 quarters, with an implied turnover rate of 7.1 percent. The QWI measures are unchanged. For these other sites, the turnover rate for Per Scholas placements is thus 46 percent lower than the comparison.
[25] We use the Personal Consumption Expenditures deflator from the U.S Bureau of Economic Analysis to adjust to year 2017 dollars.

the annual savings across all these employees per year would be about $1,920. For larger employers, the savings would grow proportionately.

Moreover, this savings estimate of just under $100 per employee per year is a minimum. There are at least three reasons why the true savings from reduced turnover costs are likely higher. First, since we cannot observe true tenure durations for Per Scholas placements—as more than half of jobs were still ongoing—we know the tenure estimate is too low, and correspondingly that the turnover estimate is too high. A straightforward adjustment to extrapolate the projected tenure for those with ongoing jobs suggests Per Scholas tenure could actually average 11.6 weeks, implying a turnover rate of 8.7 percent, and an annual cost savings per employee of $153.[26]

Second, as noted above, the Per Scholas turnover rate in New York is higher than across the other sites. Since the organization was still ramping up its expansion to other areas during the sample period of January 2012 through June 2015, New York has a disproportionate impact in the overall estimate of the turnover rate, especially if turnover were to be calculated for more recent placements. That is, the New York area accounted for 77 percent of placements in the sample period used to calculate turnover, but accounts for only 56 percent of placements since. If the estimated turnover rates by site continue to hold, but we use the distribution of placements across sites in the more recent period, the Per Scholas turnover rate falls from 10.3 percent to 9.2 percent. This increases the annual savings per employee from $97 to $135. (Outside of the New York area, the annual savings per employee are approximately $200; within New York the annual savings per employee are about $45.)

Third, to be conservative, we excluded the employment services industry when calculating turnover for the QWI comparison group. If this industry is instead included, the turnover rate in the QWI more than doubles to 23.7 percent. This estimate is too high, but it would be reasonable to partially include the industry by giving it a weight above 0 in the calculations. Including

[26] Among placements that had ended before data collection but lasted over two years, the chance of tenure lasting one more quarter, was about 60 percent. Censored placements should have an even greater chance of continuing, and assuming this "hazard rate" held, expected tenures can be calculated using geometric series. The numbers assume a hazard rate of 80 percent, which should be reasonable.

employment services at just 10 percent of its actual importance raises the turnover rate from 13.2 percent to 14.3 percent; including it at 20 percent of actual importance raises the turnover rate to 15.3 percent. These assumptions shift the annual per employee savings to $132 and $166, respectively.

Table 3 shows the costs savings under these different scenarios. If all adjustments are made, the average savings from reduced turnover is $254 per employee each year. Thus, depending on assumptions made, annual savings can range from $97 to $254.

Table 3: Annualized Turnover Cost Savings per Employee Under Different Scenarios

Scenario	Savings per Employee
Baseline	$97
Correcting for Censored Per Scholas Tenure	$153
Using Current Placement Distribution Across Sites	$135
Including Employment Services at 10 Percent Weight	$132
Including Employment Services at 20 Percent Weight	$166
All Adjustments (Emp. Services at 20 Percent)	$254

NOTE: See text for description of the scenarios.

These savings estimates are entirely from reduced risk of turnover and expected reductions in replacement hiring. Moreover, they are predicated on employers facing turnover costs *only* when an employee leaves; that is, the costs are assumed to turn on and off like a spigot for any individual employee that needs to be replaced. In reality, employers face ongoing, mostly fixed costs for hiring and training new employees, whether they are growth hires or replacement hires.

Some of these recurring costs include subscriptions to job boards, such as ZipRecruiter, Indeed, Career Builder, and LinkedIn—most of the employer partners we spoke to, including small to medium-sized ones, continued to use these services to meet additional hiring needs beyond the volume that Per Scholas could provide. If Per Scholas could replace the need for these subscriptions, additional employer savings would be large. Although these costs vary, a small employer of approximately 50 employees maintaining monthly subscriptions to ZipRecruiter,

Indeed, CareerBuilder, and LinkedIn would spend about $9,000 to $12,000 annually; a medium-sized employer in the 250–500 employee range would spend about $15,000 to $24,000 annually.[27] Based on the expected number of hires over the year from the turnover numbers in Table 2, this translate to a per-employee cost of $340–$450 for small employers and $110–$360 for medium-sized employers. That is, if these employers could meet all their hiring through Per Scholas and avoid paying the job board subscription fees, they could save these amounts annually per hire *on top* of the amounts from Table 3.

Furthermore, these savings from reduced turnover and recruiting costs do not capture other benefits mentioned in the report, such as better soft skills than other hires, on average, or lower screening costs, or a more diverse labor pool. It is difficult to quantify the value of these additional factors, which vary by employer, but if they were collectively to raise productivity by just 3 percent over the status quo, employers would realize average gains of $1100 ($9183 × 0.03 × 4) per employee annually. Stacking all these benefits together, employers could see added value of between $1300–$1800 per Per Scholas hire per year.

Indeed, many employers we spoke to already make contributions to Per Scholas because they find the investment cost-effective; our analysis indicates that other firms are also likely to find investing in Per Scholas to be worthwhile.

[27] Based on authors' calculations of subscription prices from their respective websites. ZipRecruiter and Career Builder charge monthly subscriptions, while Indeed and LinkedIn have a per-click fee schedule where employers pay more to make their postings more visible. For the calculations we assume the cheapest package at each site for the low end at small employers and the mid-range package for the high end of medium-sized employers.

Technical Appendix

A. Description of Per Scholas Placement Analysis Sample

The Upjohn Institute received anonymized, individual-level data from Per Scholas on students who participated in Per Scholas training during the years 2006–2017. These data came in three files. The first file contained information on student demographics (gender, race and ethnicity, age, education, and location of residence) and type, timing, and completion status of training for cohorts starting with Per Scholas in 2012–2017. The second file contained information on student employer placements for the same cohorts, with multiple placements per student possible. This information included, for each employer placement, start and end dates (if applicable), tenure in months, employer name, the individual's job title, weekly hours, starting and current hourly wage, and flags for the type of job (e.g., full-time, part-time, contract, intern, temp), benefits status, and nature of placement. The third file contained unified demographic, training, and placement data for the earlier cohorts of 2006–2011, which were stored in an earlier database and cover only the greater New York City service area. Because the data for employment are more complete for the later cohorts, the analysis focuses on them.

Processing of the first two files

The first two files were merged using the unique RecordID to create a unified file with demographic, training, and placement data for the 2012–2017 cohorts. There are 3,887 unique students in the first file and 4,350 employment records for 3,391 unique individuals in the second file. When merged, there are 4,891 total records: 541 are students who did not complete Per Scholas training and thus do not have job records; 62 are job records that could not be matched to RecordIDs from the first file; and 4,288 are matched job records for 3,346 unique individuals. The final analysis sample is restricted to the 2,685 unique individuals and 3,618 matched job records who successfully completed training and have a valid start date for at least one job. (There were 670 individuals out of the 3,346 matched who were not placed according to Per Scholas records.)

The table below shows the number of unique individuals who completed training, by site and separately by year, with and without valid job placements. The first numerical column represents the analytical sample.

Appendix Table 1: Per Scholas Students and Job Placements, by Site and Year

	With placements		*Without placements*	*Total*
	And Start Date	*No Start Date*		
Atlanta	106	2	22	130
Cincinnati	320	0	38	358
Columbus	300	6	67	373
Dallas	130	0	43	173
NYC	1,569	0	455	2,024
DC/NCR	260	0	28	288
2012	226	0	58	284
2013	321	4	56	381
2014	495	0	108	603
2015	478	0	80	558
2016	579	4	130	711
2017	586	4	221	809
Total	**2,685**	**8**	**653**	**3,346**

B. Description of Quarterly Workforce Indicators (QWI) Sample

Quarterly Workforce Indicators are a collection of economic statistics on employment, job creation and separation, earnings, and employment flows. They are produced by the U.S. Census Bureau through the Longitudinal Employer-Household Dynamics (LEHD) program, which links administrative data, such as unemployment insurance wage records from state unemployment insurance agencies, with other Census data products to create a matched employer-employee database for the study of workforce dynamics. The QWI are an aggregated and publicly available version of the confidential LEHD, although they still contain information on employment, hires, separations, and wages at detailed levels. More specifically, these measures are available at a quarterly frequency down to a county and Metropolitan Statistical Area (MSA) level of geography. Within this geography and time frequency, data are generally available by both worker characteristics (gender, age group, education, and race/ethnicity) and employer characteristics (industry, age, size), although not all combinations are available to protect confidentiality.

The Upjohn Institute collected QWI data from the six metropolitan areas served by Per Scholas, focusing on the 15 largest 4-digit industries into which Per Scholas graduates are placed. These

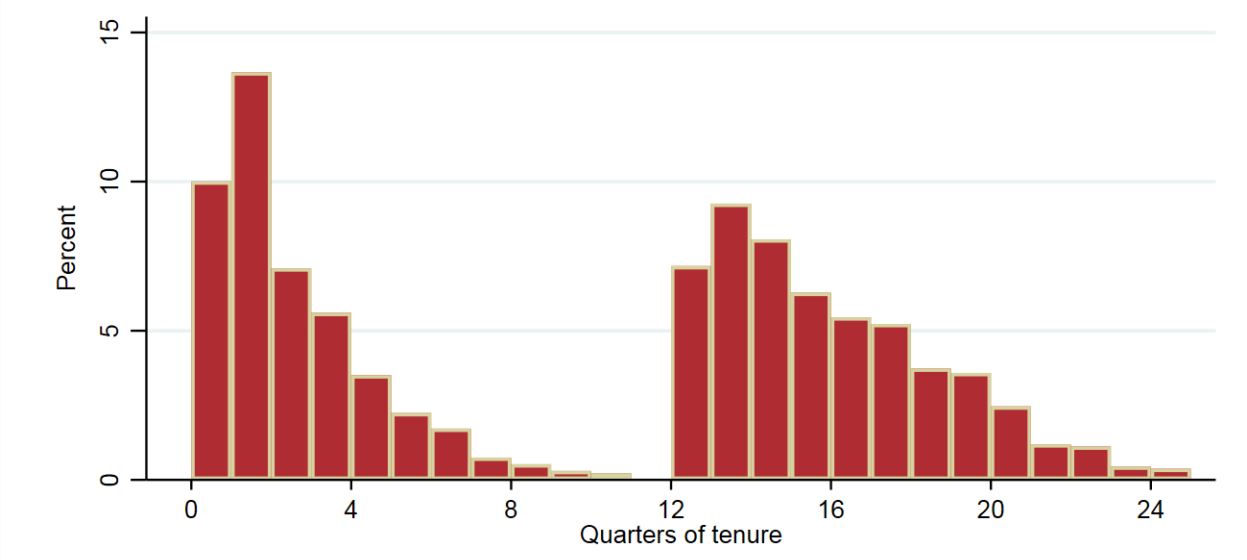
industries were determined by Upjohn Institute staff using employer name from Per Scholas records. The 15 industries include: (3341) Computer and Peripheral Equipment Manufacturing; (4431) Electronics and Appliance Stores; (4451) Grocery Stores; (4541) Electronic Shopping and Mail-Order Houses; (5152) Cable and Other Subscription Programming; (5173) Wired and Wireless Telecommunications Carriers; (5182) Data Processing, Hosting, and Related Services; (5221) Depository Credit Intermediation; (5239) Other Financial Investment Activities; (5414) Specialized Design Services; (5415) Computer Systems Design and Related Services; (5416) Management, Scientific, and Technical Consulting Services; (5613) Employment Services; (5614) Business Support Services; and (6243) Vocational Rehabilitation Services.

These data serve as benchmarks for information on hiring, turnover, and wages for the markets and types of employers that Per Scholas serves.

C. Quantitative Methodology

Appendix Figure 1 is the analogue of Figure 5, showing the tenure distribution of Per Scholas placements hired between Jan. 1, 2012 and June 30, 2015, but not capping tenure at 12 quarters.

Appendix Figure 1: Tenure Distribution of Per Scholas Placements, in Quarters



NOTE: The distribution covers the 1,339 placements between January 1, 2012 and June 30, 2015.

The distinct pattern of high shares between 0 and 1 quarters, a steep tapering off, another high share at 12 to 13 quarters, and a gradual tapering off is due to different types of behavior. The

first spike and steep tapering off stems from what was discussed in the quantitative analysis section: some Per Scholas placements end quickly, but few last for intermediate-lengths periods. The second spike and gradual tapering is a result of time censoring: while every included placement could have lasted 12 quarters, only placements before June 30, 2012 could have lasted 24 quarters, and only those before June 30, 2013 could have lasted 20 quarters, etc.

In contrast, tenure is not directly measured in the QWI. Instead, it is possible to calculate a turnover rate, and from there construct a measure of average tenure using the formula provided in the first paragraph of the quantitative analysis section. The turnover rate can be calculated in the QWI as follows:

1. Construct a variable that equals the number people hired during a quarter but not lasting to the next quarter at the same employer, divided by average employment. This variable is equal to 2*(HirA−HirAEnd) / (Emp+EmpEnd), where HirA is the QWI variable for new quarterly hires, HirAEnd is the variable for new quarterly hires that are still employed at the firm the following quarter, Emp is the total employment at the beginning of the quarter, and EmpEnd is the total employment at the end of the quarter.
2. Add the constructed variable from 1. To the QWI variable SepBegR, the number of people employed last quarter and the current quarter but not the following quarter at the same employer, as share of average quarter employment.
3. This sum is *p*, the turnover rate per quarter, capturing people hired and separated within a calendar quarter (1.) as well as the people hired previously but separated in the current quarter.

D. Employer Partner Interview Script

Thank you for taking some time to discuss your business's experience with Per Scholas. They have asked us to help evaluate the impact of the program, specifically how companies may have benefited from what Per Scholas does. We have a few questions that will help us understand the nature of your company's work, its employment experiences, and the impact Per Scholas has had on your company. We will take notes, but we will not publish or release any information specific

to your company. This discussion should take about 20 minutes. Do you have any questions before we get started?

1. We understand that your company does work in ____. Is this correct?
    a. Does your company have multiple locations? (If yes:) How many locations does your company have?
    b. Besides the IT staff you employ directly, do you also outsource some IT needs?
        i. (If yes) What is the reason or reasons you outsource IT staff?
        ii. (If yes) Would you bring any of those services in house if properly trained employees were available?
            1. How would you utilize those IT employees?

2. How did you hear about Per Scholas?
    a. What is your overall impression of the organization and employees they produce?

3. All new hires take some time at a new organization to get up to speed; do you find that Per Scholas hires are on par with your other new hires in similar positions?
    a. In terms of a fraction of worker's annual pay, how expensive is it to hire a new, entry-level IT employee?
    b. Are IT hires from Per Scholas different from this fraction? If yes, how so?
    c. Is the training time the same for Per Scholas hires and other new hires?

4. How do Per Scholas-trained employees fare relative to employees hired through other means?
    a. Do they have the same number of performance or disciplinary issues?
    b. Have you had to fire a Per Scholas employee?
    c. Would you say they are more or less likely to quit than other employees in similar positions?
    d. Do you interact with Per Scholas if a problem with an employee trained by them arises?

5. What share of your IT employees are hired through Per Scholas?
    a. For what reasons do you hire IT employees through other channels?
    b. Would you be willing to pay Per Scholas a placement fee to hire their graduates?
        i. Given the expenses of searching for an onboarding a new IT worker, what amount do you think would be reasonable?

6. If you could improve one attribute of Per Scholas, what would you change?