The Relative Returns to Education, Experience, and Attractiveness for Young Workers

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I. Introduction

Over the past 3 decades, youth unemployment rates in developing countries have been nearly three times higher than adult unemployment rates (ILO 2012). Youth who do find employment are disproportionately represented in the informal economy, where they often face difficulty transitioning into permanent, formal employment (Kvasnicka 2009; Autor and Houseman 2010). In response to these concerns, various developing countries have implemented large-scale interventions that attempt to mitigate youth unemployment through wage subsidies (Groh et al. 2016a), technical and vocational training programs (Card et al. 2011; Blattman, Fiala, and Martinez 2013; Hirshleifer et al. 2015; McKenzie and Woodruff 2017), and soft-skills training (Groh et al. 2016b; Blattman, Jamison, and Sheridan 2017). The results of these studies are mixed, with most finding that these seemingly promising and often expensive programs have little to no effect on labor market outcomes (Blattman and Ralston 2015; McKenzie 2017).

Often the impetus for and design of these interventions reflect political factors (Blattman and Ralston 2015) or self-reported employer surveys and anecdotes about necessary skills rather than those revealed through employer preference. If labor market interventions fail to provide the specific skills employers are looking for during the hiring process, then it may not be surprising that the measured impacts are small. Causal evidence on the explicit determinants of labor demand

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for young workers is limited, yet it is critical for identifying the types of programs that are likely to increase youth employment.

In this study, we causally identify employer preferences for young workers' skills and characteristics in a developing country context by conducting a randomized résumé audit study to identify the impact of gender, age, postsecondary schooling (including technical and vocational training), work experience, and physical appearance on labor market demand for recent high school graduates in the Philippines, a country with high youth unemployment. We submitted 7,172 résumés to 1,793 formal sector job postings in metropolitan Manila between October 2015 and March 2016.[1] As in many developing countries, résumés in the Philippines typically include an applicant photograph. We submitted all résumés with photos that we collected from young Filipinos, and we measured their physical attractiveness based on evaluations from Filipino raters. We focused on high school graduates because of the recent rise in secondary school graduation rates in developing countries and the high level of interest among researchers and policy makers in ensuring a smooth transition to the workplace for this group (Ryan 2001).

Conditional on meeting the minimum requirements listed in job postings, applicants with additional education and work experience may be more appealing for two reasons: their additional human capital may increase their productivity, and it also may signal that they are of higher quality (Spence 1973). Applicants' gender may be important if employers have a distinct preference for employees of a certain gender (Becker 1957) or if there is a correlation between gender and applicant productivity (Aigner and Cain 1977). In a similar fashion, attractiveness may be rewarded if it increases productivity, if it is associated with harder-to-observe traits like confidence, or if the employer has a specific taste for more attractive workers (Hammermesh and Biddle 1994; Mobius and Rosenblat 2006).

In our sample, 22.8% of applicants submitting résumés received a callback for a job interview. On one hand, looking across all applicants and occupation types, we find that neither a postsecondary technical and vocational education training (TVET) diploma nor 2 years of college affect the likelihood of receiving a callback. Work experience, on the other hand, increases callback rates by 2.4 percentage points (11%). The returns to work experience are nearly identical for 1 and 2 years

[1] We consider these postings as representative of entry-level, formal sector, non–call center positions, for which we define formal sector as being advertised online and in newspapers and requiring a résumé for application, as opposed to positions advertised through word of mouth and informal networks and not requiring a résumé for application.

of experience, suggesting either that the returns to human capital gained on the job beyond the first year are relatively small or that the returns to experience are primarily a signal of unobservable worker quality rather than accumulated human capital. Physically attractive applicants are 2.0 percentage points (9%) more likely than unattractive applicants to receive a callback, a magnitude similar to the work-experience premium.

As in other developing countries, the Filipino entry-level labor market is highly segregated by gender, with nearly two-thirds of postings requesting applicants of a specific gender.[2] Most gender-specific occupations are open only to men; as a result, only 45% of all jobs are open to women, whereas 91% are open to men. However, after conditioning on these explicit gender preferences among employers, we find no overall effect of applicant gender on callback rates within postings open to both genders.

We compare the returns to education, experience, and attractiveness across occupation sector (i.e., service and administration, laborers, skilled trades, call centers), gender requirement (i.e., men only, women only), type (i.e., blue collar, white collar), and skill and wage levels. We find that the zero returns to TVET mask considerable heterogeneity. Workers with a TVET certification in fields such as electrical installation and automotive servicing applying to blue-collar jobs are 2.1 percentage points (10%) more likely to receive a callback, whereas workers with certification in fields such as entrepreneurship and office administration see no such return when applying to white-collar jobs.

We find that work experience is most important for service and administrative workers and for skilled-trade workers. Further, the returns to attractiveness are large and statistically significant (5.3 percentage points, or 24%) in service and administrative occupations such as sales, food service, and receptionist positions; there is zero effect of attractiveness for all other employment sectors and for jobs open only to men. Finally, we find that for job postings open to both genders in blue-collar occupations, men are 6.4 percentage points (31%) more likely than equally qualified women to receive a callback, suggesting substantial gender discrimination in this sector.

We test for interactions between the returns to education, experience, and appearance, as well as whether the returns to these characteristics vary with gender. We find no statistically significant evidence of interactions between gender, education, experience, and attractiveness.

[2] The use of explicit preferences in job postings is common in other developing countries such as China (Kuhn and Shen 2013), particularly among lower-skilled positions, and Mexico (Helleseter, Kuhn, and Shen 2016).

These findings contribute to our understanding of labor markets for young workers in developing countries in several ways. First, by estimating the returns to work experience and education simultaneously, we find that for formal sector, entry-level jobs, employers rely primarily on work experience rather than education as a signal of applicant quality. For job seekers, the results indicate that additional investments in postsecondary education, at least in the absence of acquiring a degree, are unlikely to lead to greater employment opportunities among entry-level positions. However, accumulating any formal work experience, even unpaid, may help young workers make it over the first screening hurdle.

Second, the explicit restrictions on applicants' gender in the labor market, combined with gender discrimination in blue-collar occupations, indicate that addressing both institutions (i.e., the legality of gender-based hiring) and employer preferences may be important to expand labor market opportunities for women, particularly in traditionally male-dominated sectors. Third, although many students in developing countries pursue technical and vocational training in programs aimed at improving their employment prospects for entry-level, white-collar jobs, we find that these investments are largely unrewarded.

Finally, unlike previous studies on physical appearance (Bóo, Rossi, and Urzúa 2013; Galarza and Yamada 2014; Ruffle and Shtudiner 2014), we compare the value of attractiveness relative to other labor market investments, finding that the returns to attractiveness swamp the returns to postsecondary education, vocational training, or work experience in the service and administrative sector. Thus, for young workers applying for entry-level, white-collar jobs with face-to-face customer interactions, such as food service, sales, and receptionist positions, applicants may be better served making additional efforts toward grooming or wardrobe enhancements than investing in postsecondary education or TVET or obtaining work experience.

Our study also informs governments and policy makers about the optimal design of programs to combat youth unemployment. We find substantial heterogeneity across occupations in employer preferences for worker characteristics, suggesting that a one-size-fits-all training or skill enhancement program may be less effective than one tailored to the needs of specific sectors. Further, our study opens pathways for future research, suggesting that training to emphasize the importance of physical appearance and to provide ways to appear more attractive and professional to employers could be a low-cost, high-impact intervention to alleviate unemployment among young workers.

One concern with these policy recommendations is that in areas with high rates of youth unemployment, such training or skill enhancement programs may lead to a reallocation of young workers across jobs rather than a net decrease in youth unemployment, potentially presenting a zero-sum game. However, even

if unemployment does not fall overall, increasing young workers' skills may improve match quality between workers and firms, increasing firm productivity. In addition, even if newly trained young workers displace other young workers, programs designed based on the insights we provide in this paper could still allow policy makers to address inequality in youth unemployment by targeting specific groups that face higher barriers to employment, such as females or youth from low-income families.

II. Education and the Labor Market for Young Workers in the Philippines

Like many developing countries, the Philippines struggles with high rates of underemployment and low rates of participation in the formal sector, especially among youth, making it a suitable context for this study. Approximately 16% of youth from age 15 to 24 are unemployed, more than twice the overall rate. These unemployed youth make up nearly half of all unemployed persons in the Philippine labor force.[3] The challenge of finding work is particularly pronounced for those without postsecondary schooling; a 2008 Asian Development Bank (ADB) survey in the Philippines found that although 75% of college graduates find work within a year of graduation, only 20% of those with a high school education do (ADB 2012).

Even for those able to find work, it is often temporary, low skilled, and poorly paid. Among 18- to 25-year-old youth employed in private or public establishments, more than one-third are explicitly temporary workers, and the underemployment rate is 36%. In addition, nearly one-quarter of youth in metropolitan Manila earn less than the established daily minimum wage (approximately $8.50).[4] This shortage of suitable jobs incentivizes workers to invest in their own human capital to stand out, and it enables employers to be selective when screening applicants.

We focus on the labor market outcomes of recent high school graduates. At the time of this study, primary and secondary education in the Philippines lasted 10 years, with 6 years of primary education and 4 years of secondary education.[5] Based on the 2010 Philippine Census of Population, approximately 58% of the total population have a high school degree, and 84% have completed primary school. Among individuals aged 18–25, 67% have a high school degree and 90% have completed primary school. These rates are comparable to most lower-middle-income countries (World Bank 2017).

[3] Further, less than half of 15- to 24-year-olds are in the labor force. These statistics are from the authors' calculations using 2009–11 Philippine quarterly Labor Force Surveys (LFSs).

[4] Authors' calculations are based on 2009–11 Philippine LFSs.

[5] In June 2016, the Philippines shifted from a 10-year education system to a 12-year system. Our study concluded in March 2016, prior to the adoption of this new system.

Because of the 10-year education system, on-time graduation from high school usually occurs at age 16. On completion of high school, students have a number of options: enroll in a college or university, pursue a TVET certification, seek and obtain a job, invest in self-employment, or remain idle. Excess labor supply combined with additional employment restrictions under the Philippine labor code limits formal labor market opportunities for high school graduates under age 18. As a result, employment opportunities for these younger workers are largely confined to the informal sector. For this reason, we focus our study on 18- and 19-year-olds, as they are the youngest workers broadly applying for formal sector employment.

III. Methodology

We conducted a randomized résumé audit survey to measure the returns to work experience, education, and attractiveness among formal sector, entry-level jobs in the Philippines. This methodological approach, which sends fake résumés with randomly assigned characteristics of interest to real job postings, has been used in a range of areas, including measuring discrimination in both developed and developing country contexts (Bertrand and Mullainathan 2004; Banerjee et al. 2009) and determining the labor-demand response to specific applicant characteristics such as school prestige (Deming et al. 2016), return migrant status (Abarcar 2016), and physical appearance (Bóo, Rossi, and Urzúa 2013; Arceo-Gomez and Campos-Vazquez 2014; Galarza and Yamada 2014; Ruffle and Shtudiner 2014). Between October 2015 and March 2016, we submitted 7,172 résumés to 1,793 job postings, submitting four résumés per posting and only one posting per employer. We tracked each posting and employer to avoid submitting a new set of applications to duplicate postings or to other postings by the same employer.

A. Résumé Characteristics

We collected sample résumés from online job-posting sites to generate realistic résumé templates, work experiences, and education profiles. (See figures A1 and A2 for sample résumés.) We generated a set of names based on the most common first and last names in the Philippines.[6] We also chose addresses and corresponding nearby high schools in metropolitan Manila.[7] In addition, we generated a

[6] We obtained common first names from the Philippine Statistical Authority (2009) and common surnames from Tagaloglang.com (2016).

[7] Random assignment of address allows us to examine the effect of (1) living near the potential employer and (2) living in a wealthier neighborhood, as measured using an asset index created using the 1990 Filipino Census. In results not shown but available on request, we find zero effect of either of these location measures on callback rates.

database of past employers, skills, trainings/seminars, and references, with each tailored to reflect the applicants' addresses (references) or the nature of the position (employers, skills, and trainings/seminars).

For each résumé, we randomized key characteristics using résumé randomization software created by Lahey and Beasley (2009). One of the key characteristics was age (18 or 19).[8] Also included were years of work experience (0, 1, or 2 years) and education (no postsecondary education, 2 years of education at a 4-year postsecondary institution, or a postsecondary TVET certificate).[9] Conditional on having some postsecondary education or work experience, the software randomly selected a school name, course, and/or employer based on the position. When the job posting specified a particular gender, we chose the gender of the applicant accordingly. Otherwise, we selected gender randomly.

In the Philippines, as in many developing countries, most applicants include a photo in their résumé (Helleseter, Kuhn, and Shen 2016). We collected 64 pictures from young Filipinos in a neighboring province and randomly assigned these to the applicant profiles. We simultaneously submitted these photos to 50 Filipino online contractors using Upwork, an online freelancer hiring platform, who assessed each picture for attractiveness on a scale from 1 (least attractive) to 7 (very attractive).[10] Figure 1 shows the overall distribution of attractiveness ratings. We classify photos as "attractive" if the average attractiveness score exceeds the median score by gender.[11] The median rating is 3.40 for women and 3.27 for men.

We also randomized the following characteristics, sampling without replacement from the pool of potential values for each job posting: applicant name, applicant address, height, and weight (based on height).[12] Other randomized characteristics included high school name, employer (when applicable), seminars and

[8] This characteristic is not of immediate interest for this study, but we preferred to include multiple ages among young workers to make sure the results were not age specific.

[9] Table A1 includes examples of TVET certification options by position type.

[10] The Upwork contractors were evenly split between men and women and had an average age of 31.

[11] We find no evidence of differential attractiveness effects if we define attractiveness as (*a*) above the 75th percentile rating, (*b*) above the 25th percentile rating, (*c*) as the mean attractiveness rating, or (*d*) as four binary categories (below the 25th percentile rating, in the 25th–50th percentile, in the 50th–75th percentile, or above the 75th percentile). Further, using option *d*, we see that the effects of attractiveness are monotonic. These results are shown in table A2.

[12] Heights and weights were not provided to the Upwork contractors evaluating the applicant photographs. We find no overall effects of height, weight, or weight for height, though there are suggestive positive returns to height in the service sector and negative returns to height for call center positions.

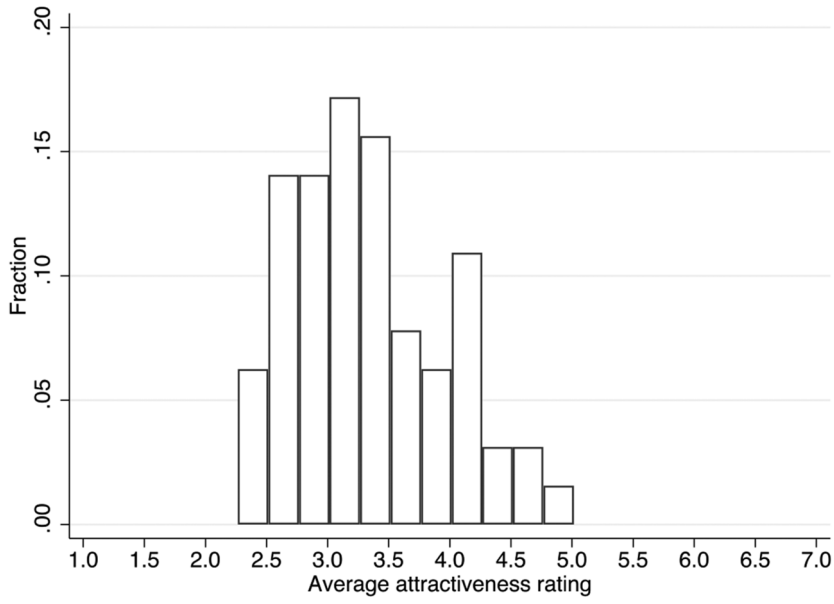

Figure 1. Distribution of average attractiveness rating for résumé photographs. The sample includes 7,172 résumés submitted to 1,793 job postings between October 2015 and March 2016. Average photograph attractiveness was based on ratings of 1 (low) to 7 (high) by 50 Filipino evaluators recruited through Upwork. The median across photographs of the average ratings was 3.34 overall: 3.40 for women and 3.27 for men.

trainings completed (randomized within a pool specific to each job category), and references.[13]

B. Posting Selection

We selected postings using popular job-posting websites and newspapers. Field officers recorded all job postings for employers located in the National Capital Region (metropolitan Manila) that met our screening criteria of being open to 18- and 19-year-olds, not requiring work experience, and having no additional education requirements beyond a high school diploma. When an employer had multiple positions available or multiple postings, we randomly selected one posting to receive résumés. We randomized the order of applications within each batch of collected postings, and we refreshed each set of postings weekly, as the supply of postings typically exceeded the number we could submit.

We initially concentrated applications to postings made on jobstreet.com.ph, indeed.com.ph, ph.jobsdb.com, phil-job.net, and the JobSearch@Philippines Facebook page. However, the majority of postings were for call center positions, particularly at jobstreet.com.ph. For the majority of the project, we excluded

[13] College, course, high school, seminar, training, and employer names were taken from past résumés submitted to online job-posting sites and chosen to be of comparable and approximately average quality.

postings for call center positions, as the call center recruitment process is not conducive to this type of audit study. We learned that recruiters often call all applicants and conduct their initial screening via phone interview, resulting in artificially high callback rates. In addition, call centers often outsource their hiring process to larger firms or pass applicant details between firms, making it difficult to submit only four applications per posting and one posting per employer. To find a more diverse set of job postings, we later added job ads from newspaper classifieds, particularly those published in the weekly *Manila Bulletin*. Overall, 80% of postings were from online sources and 20% were from print sources. See table A3 for the full distribution of job-posting sources. We either uploaded or emailed the résumés to employers, as specified by the job posting.

C. *Estimation Strategy*

The random assignment of education, work experience, and attractiveness in our study facilitates a straightforward estimation strategy. We identify the causal impact of each of these randomized résumé characteristics on the callback rate by estimating the following equation using ordinary least squares:

$$\begin{aligned} \text{Call}_{ij} = \alpha + \beta\text{Female}_{ij} + \delta_1\text{SomeCol}_{ij} + \delta_2\text{TVET}_{ij} + \theta\text{Exp}_{ij} \\ + \rho\text{Grad2013}_{ij} + \gamma\text{Attractive}_{ij} + X_j'\vartheta + \varepsilon_{ij}, \end{aligned} \tag{1}$$

where Call is an indicator (i.e., a binary variable) that applicant i to position j received a callback, Grad2013 is an indicator that the applicant graduated in 2013 (and so was approximately 18 years old) rather than in 2012 (and so was approximately 19 years old), Attractive is an indicator that the applicant's photograph had an above-median attractiveness rating, Exp is an indicator that the applicant had previous work experience, TVET is an indicator that the applicant earned a technical and vocational certificate, and SomeCol is an indicator that the applicant completed 2 years of college.

We add a set of position-specific controls, X_j. These controls include indicator variables for whether the position is open to women only or men only, and in some specifications, they include field-officer and day-of-submission fixed effects. Our preferred specification includes job-posting fixed effects, which enable us to identify causal effects based on differences in callback rates within employers and makes redundant the other position-specific controls. We report standard errors clustered at the job-posting level.

The job postings in our study represent a wide range of entry-level occupations available to Filipino workers who have received a high school diploma. See table A4 for the complete distribution of job-posting occupations: the five

TABLE 1
RÉSUMÉ AND JOB-POSTING CHARACTERISTICS

		Gender Requirement		
	All	Both Genders	Men Only	Women Only
	(1)	(2)	(3)	(4)
Résumé characteristics:				
Female (%)	26.8	49.7	.0	100.0
Some college (%)	32.9	33.1	32.5	34.0
TVET (%)	33.3	33.0	33.6	32.5
Experience (%)	66.4	65.9	66.6	66.5
2013 graduate (%)	50.0	50.0	50.0	50.2
Attractive (%)	52.1	52.4	52.3	49.4
Occupation sectors:				
Service/administration (%)	36.8	71.9	8.2	71.1
Laborer (%)	14.6	4.8	21.1	14.5
Skilled trades (%)	42.8	8.8	69.7	13.8
Call center (%)	4.7	12.7	.2	.0
Other (%)	1.2	1.9	.8	.6
Mean days to call back	6.7	5.5	8.0	5.8
Callback received via:				
Text (%)	76.6	87.8	75.8	71.5
Phone call (%)	24.7	23.5	26.1	22.6
Email (%)	22.1	25.2	20.1	18.5
Job-posting source:				
Online (%)	79.5	89.2	75.6	65.4
Newspaper/print (%)	20.5	10.8	24.4	34.6
Application method:				
Upload résumé (%)	56.0	60.0	55.6	42.8
Email résumé (%)	44.0	40.0	44.4	57.2
Sample size:				
Postings	1,793	647	987	159
Applications	7,172	2,588	3,948	636
Callbacks	1,634	677	782	175
Callback rate (%)	22.8	26.2	19.8	27.5

Note. Sample includes 7,172 résumés submitted to 1,793 job postings between October 2015 and March 2016. Some college, technical and vocational education training (TVET), experience, and attractive are indicator variables equal to 1 if the applicant has completed 2 years of college, has completed a post-secondary TVET certificate in an area relevant to the job posting, has 1 or 2 years of experience relevant to the job-posting occupation, and has a résumé photo in the top half of the attractiveness distribution within gender, respectively.

most common occupations, comprising 55% of our sample, are drivers, sales-clerks, technicians, waitstaff, and receptionists.[14] We include résumés submitted to call center postings in our analysis, but our results are robust to excluding them.

Table 1 presents descriptive statistics for the 7,172 résumés that were submitted, including those for all résumés combined (col. 1) and separate statistics

[14] The next five most common occupations, together comprising an additional 20% of the sample, are cooks/food prep workers, call center workers, delivery persons, *promodisers* (product promoters), and electricians.

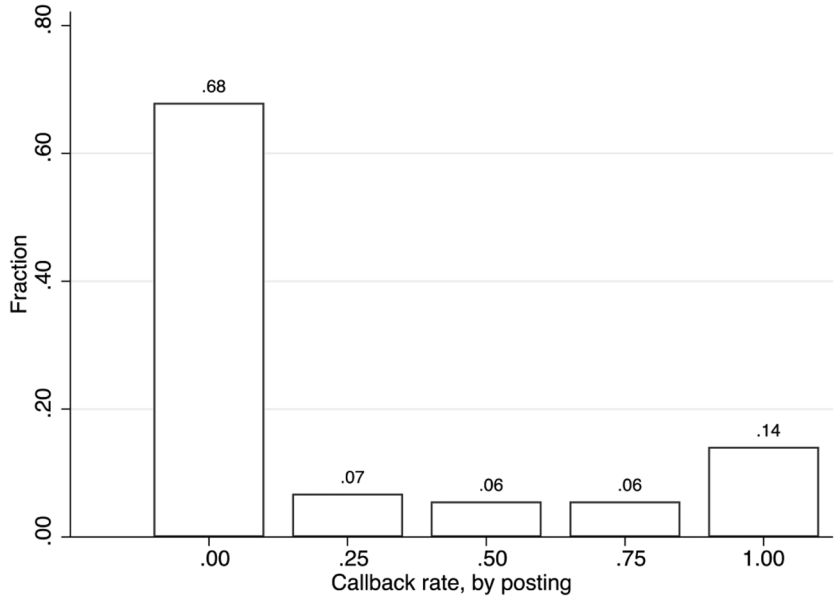

Figure 2. Callback rate, by job posting. The sample includes 7,172 résumés submitted to 1,793 job postings between October 2015 and March 2016.

depending on the gender restrictions of the job posting (cols. 2–4). Overall, 22.8% of submitted résumés received a first-round callback. In 82% of postings, the employer either called back all four submitted résumés or none; see figure 2 for the distribution of callback rates by posting.[15] Figure 3 presents the number of days to call back, conditional on receiving a callback. On average, employers took slightly less than a week to call applicants, though nearly 30% called back on the same day of application. Three-quarters of callbacks came by text message, about one-third came by phone call, and nearly one-quarter by email.[16]

For many positions, the callback itself consisted of a second round of screening. Recruiters asked field officers detailed questions about their qualifications; for call center positions, in particular, these questions were often conducted in

[15] Note that, even in our preferred specification that includes job-posting fixed effects, all job postings contribute to our identifying variation because we have variation in our treatment variables of interest (e.g., experience, education, attractiveness) across applications within job postings. However, the majority of employers call back zero or all four applications, contributing a zero treatment effect to our average treatment effect. Only the 322 job postings that call back one, two, or three applicants contribute a nonzero treatment effect. Consistent with random assignment of applicant characteristics being successful, the results from our preferred specification are nearly identical to those that include posting-specific characteristics only (see tables 2, A5–A8). Table A9 compares the characteristics of postings with one, two, or three callbacks to those with zero or four callbacks.

[16] Shares exceed 1 because 23% used multiple methods to contact applicants.

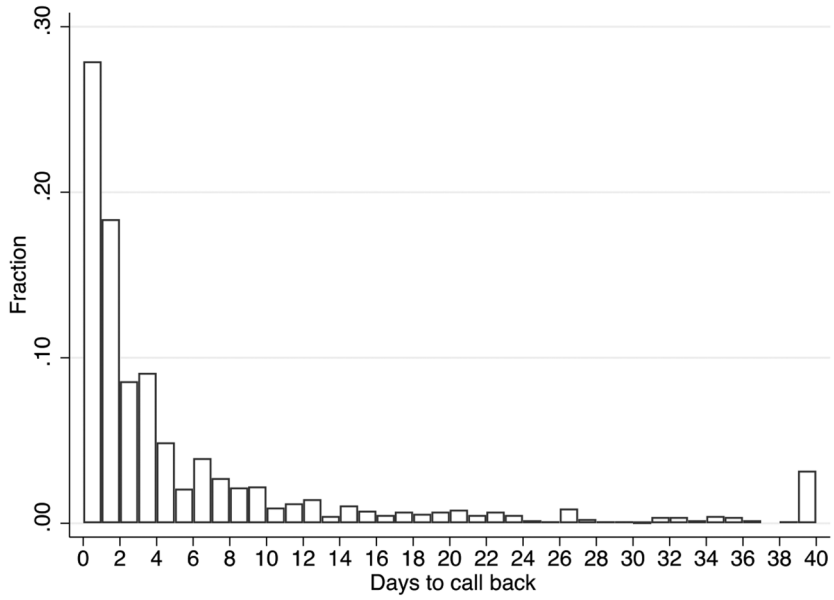

Figure 3. Days to call back, conditional on callback. Sample includes 7,172 résumés submitted to 1,793 job postings between October 2015 and March 2016.

English and appeared to serve as a way to gauge applicants' communication skills. In some cases, this callback led to an immediate job offer, whereas in others it led to an invitation for additional testing or an in-person interview. To avoid raising employer suspicions while minimizing the impact on employers, field officers initially agreed to further testing and would later follow up to cancel.

Some characteristics, such as graduation cohort and gender (where applicable), were stratified within job postings, whereas others including education, work experience, and profile picture were randomly chosen without replacement but were not explicitly stratified. Table 1 indicates the distribution of each characteristic. The distributions are what we would expect based on random assignment: approximately half of résumés have a 2013 high school graduate, a photograph rated attractive, and a female applicant (when the position is open to men and women); one-third have some college, one-third have TVET, and one-third no postsecondary education; and two-thirds have work experience.[17]

Table 1 demonstrates that the entry-level labor market is highly segregated by gender, as is common in many developing countries (Kuhn and Shen 2013; Helleseter, Kuhn, and Shen 2016). Only 647 of 1,793 postings (36%) are open to both men and women. Among the remaining sex-segregated postings,

[17] One-third of applicants have no experience, one-third have 1 year of experience, and one-third have 2 years of experience.

86% were only open to men, and 14% were only open to women. This explicit segregation is a likely explanation for why we find relatively little evidence of gender discrimination in our results, as we can only measure the impact of being female for those positions open to both men and women.[18] Table 1 shows the distribution across postings of employment sector overall and based on the positions' intended gender. Although only 37% of all postings were in the service or administrative sectors, these jobs reflect nearly three-quarters of those open to both men and women, as well as those open only to women. Among positions open only to men, more than two-thirds were in skilled trades, with the balance comprised mostly of unskilled laborers.

IV. Results

A. Main Results

Column 1 in table 2 presents the first set of regression results based on equation (1), including as the only control an indicator for whether the position is open to women only or men only. We find no statistically significant difference in callback rates for women relative to men; that is, among positions open to both men and women, employers do not prefer applicants of one gender over the other. Callback rates are 2.7 percentage points higher for those with previous work experience and 1.7 percentage points higher for attractive workers. Neither some college nor TVET affects callback rates; these estimates are small in magnitude and statistically indistinguishable from zero.

The results in column 2 add job-category fixed effects.[19] The results in column 3 add posting characteristics and job-source fixed effects.[20] Including these covariates does not change the magnitude of our estimates, but it does increase the explanatory power of our regressions, increasing the R^2 term from 0.008 in column 1 to 0.044 in column 2 and 0.146 in column 3.

Including field-officer and day-of-submission fixed effects increases the precision of our estimates slightly, leaving the magnitudes largely unchanged (table 2, col. 4). In our preferred specification, we replace these fixed effects and

[18] Kuhn and Shen (2013) and Helleseter, Kuhn, and Shen (2016) argue that gender-specific job ads are themselves an explicit discriminatory action.

[19] These categories are service workers, driver/heavy equipment operators, skilled trades, laborers, office/administration workers, call center workers, cleaners/caregivers, factory/machine operators, and other.

[20] The posting characteristics include age requirements, required and desired experience, required and desired education, and skills requested. For skills requested, we include an indicator for whether any skills were requested; indicators for whether skills in driving, English, communication, or computers were requested; and indicators for whether the ad requested applicants who had a "pleasing personality" or were "hardworking." These skills and traits were among the most common requests made in the job-posting ads.

TABLE 2
EFFECTS OF RÉSUMÉ CHARACTERISTICS ON CALLBACK RATES

	(1)	(2)	(3)	(4)	(5)
Female	−.006	−.005	−.007	−.008	−.006
	[.010]	[.010]	[.010]	[.010]	[.011]
Some college	.001	.003	−.001	−.001	.004
	[.013]	[.012]	[.012]	[.011]	[.009]
TVET	−.001	.000	.002	.002	.008
	[.012]	[.012]	[.011]	[.011]	[.009]
Experience	.027***	.029***	.031***	.032***	.024***
	[.010]	[.010]	[.010]	[.009]	[.008]
2013 cohort	−.000	−.000	.000	.000	−.000
	[.005]	[.005]	[.005]	[.005]	[.006]
Attractive	.017*	.017*	.022**	.021**	.020***
	[.010]	[.010]	[.009]	[.009]	[.007]
R^2	.008	.044	.146	.215	.790
Job-category fixed effects	No	Yes	Yes	Yes	No
Posting characteristics	No	No	Yes	Yes	No
Job-source fixed effects	No	No	Yes	Yes	No
Officer and day fixed effects	No	No	No	Yes	No
Posting fixed effects	No	No	No	No	Yes

Note. Sample includes 7,172 résumés submitted to 1,793 job postings between October 2015 and March 2016. A total of 1,634 (22.8%) submissions received a callback. All specifications include binary indicators for whether the post is open to women only or men only. Posting characteristics include controls for minimum or maximum age requirements, required and desired experience, desired education, required skills, and accepted application methods, as well as an indicator for missing posting characteristics. Standard errors clustered at the job-posting level are reported in brackets. TVET = technical and vocational education training.
* $p < .10$.
** $p < .05$.
*** $p < .01$.

position-specific covariates with job-posting fixed effects (col. 5). The estimates are largely unchanged between columns 4 and 5.[21] Work experience increases callback rates by 2.4 percentage points (10.5%), whereas attractiveness increases callback rates by 2.0 percentage points (8.8%). Both results are statistically significant at the 1% level.

The estimated impact of work experience pools both those with 1 year and 2 years of experience. In table A10, we test whether the returns increase with additional experience, and we find that the two coefficients are nearly identical (2.3 percentage points for 1 year, 2.5 percentage points for 2 years). This similarity suggests either that the returns to human capital gained on the job

[21] We prefer our specification with posting fixed effects because some treatment assignments (such as gender and grade level) were explicitly stratified within the job ad, and controlling for these fixed effects should improve the precision of our estimates (Bruhn and McKenzie 2009). Because we do not perfectly stratify within the ad, however, including posting fixed effects also controls for any inadvertent imbalance that may arise. We show in tables A5–A8 that the main patterns of results that we highlight throughout the paper are very similar when we estimate tables 3–6 using the specification without job-posting fixed effects.

beyond the first year are relatively small or that the returns to experience are primarily a signal of unobservable worker quality rather than accumulated human capital.[22]

We find no evidence of a cohort effect; conditional on work experience and education, employers do not prefer 18- to 19-year-olds, or vice versa. Note that this age effect also incorporates a "time idle" effect or unemployment penalty. Although we do not explicitly vary unemployment while holding other factors constant, given that students typically graduate high school at age 16, we might expect that an 18-year-old (i.e., 2013 high school graduate) with 2 years of schooling, no experience, and therefore no unemployment might be in higher demand than a 19-year-old (i.e., a 2012 high school graduate) with 2 years of schooling, no experience, and an implied 1 year of unemployment. The near-zero point estimate on the 2013 cohort (i.e., age 18) dummy suggests that either there is no cohort effect and no unemployment effect or the positive effect of being age 19 exactly cancels out the negative unemployment effect.

B. Heterogeneity of Results

In table 3, we consider how demand for experience, education, and attractiveness differs by job sector and the genders to which the job is open. We group jobs into four main employment sector categories based on job title: service and administrative workers, laborers, skilled-trade workers, and call center workers.[23] We also group jobs into blue- and white-collar positions by matching job titles to the 2008 International Standard Classification of Occupations (ISCO-08).[24]

A few clear patterns emerge. First, employers in laborer and blue-collar occupations strongly prefer male workers to equally qualified female workers. Note that, given the posting fixed effects, this result is identified from postings open to both genders. Second, the zero returns to TVET across all job types mask considerable heterogeneity. Workers applying for jobs that are only open to men have a 2.3 percentage point (11.6%) greater chance of receiving a callback with a TVET degree, and this effect is similar, though only marginally

[22] Although we are not aware of any studies that explicitly examine discontinuities in the returns to experience in the Philippines, a recent survey of employers by JobStreet (2015) found that two of the top three desired attributes of a young worker are having either an internship or part-time work experience, which we interpret as suggestive evidence that employers prefer at least some work experience but that the length of time may be less important. Similarly, Godlonton (forthcoming) finds employment and wage returns to relatively short-term work experience among young men in Malawi.

[23] We exclude submissions to 20 job postings (1.2%) that could not be clearly grouped into one of these four categories.

[24] See https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_172572.pdf for job titles. We classify codes 6–9 as blue collar, which includes skilled agriculture, crafts and trade workers, plant and machine operators, and elementary occupations.

TABLE 3

EFFECTS OF RÉSUMÉ CHARACTERISTICS ON CALLBACK RATES, BY POSTING TYPE

		Occupation Type						Gender Requirement		
	All	Service/Administration	Laborer	Skilled Trade/Driver	Call Center	Blue Collar	White Collar	Both Genders	Women Only	Men Only
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Female	−.006	−.001	−.100**	−.010	−.015	−.064*	.001	−.007		
	[.011]	[.014]	[.049]	[.034]	[.020]	[.036]	[.012]	[.011]		
Some college	.004	−.004	.030	.006	−.022	.012	−.006	−.009	.016	.010
	[.009]	[.015]	[.027]	[.013]	[.022]	[.013]	[.012]	[.015]	[.029]	[.012]
TVET	.008	−.010	.022	.019	.013	.021*	−.005	−.019	.017	.023**
	[.009]	[.016]	[.024]	[.012]	[.042]	[.012]	[.013]	[.015]	[.031]	[.011]
Experience	.024***	.031**	.011	.020*	−.002	.022**	.024**	.026**	.050*	.018*
	[.008]	[.013]	[.020]	[.011]	[.016]	[.011]	[.010]	[.012]	[.027]	[.010]
2013 cohort	−.000	.007	−.012	−.001	.011	−.004	.006	.010	−.005	−.003
	[.006]	[.010]	[.016]	[.009]	[.019]	[.009]	[.009]	[.010]	[.023]	[.008]
Attractive	.020***	.053***	−.011	.007	−.003	.001	.042***	.041***	.055*	.004
	[.007]	[.013]	[.018]	[.010]	[.027]	[.009]	[.011]	[.012]	[.029]	[.009]
Résumés submitted	7,172	2,636	1,048	3,068	336	3,736	3,436	2,588	636	3,948
R^2	.790	.767	.788	.775	.918	.766	.812	.815	.786	.770
Callback rate	.228	.217	.260	.186	.580	.205	.252	.262	.275	.198
Posting fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note. Sample includes 7,172 résumés submitted to 1,793 job postings between October 2015 and March 2016. Examples of occupations in service/administration include service crew and sales associates, laborers include delivery drivers and messengers, and skilled trades include drivers and service technicians. Blue- and white-collar occupations are calculated based on 2008 International Standard Classification of Occupations (ISCO-08) one-digit codes. Examples of blue-collar occupations include driver, service technician, and kitchen helper. Examples of white-collar occupations include service crew, *promodiser* (product promoter), and customer service representative (call center worker). Standard errors clustered at the job posting level are reported in brackets.

* $p < .10$.

** $p < .05$.

*** $p < .01$.

statistically significant, among blue-collar occupations. Third, work experience is most important for both service and administrative positions and skilled-trade workers, with no statistically significant effect among laborer positions or call center positions.

Finally, the returns to attractiveness are large and statistically significant (5.3 percentage points; 24.4%) in service and administrative positions and in white-collar occupations (4.2 percentage points; 16.7%). There is zero effect of attractiveness for all other employment sectors, for blue-collar occupations, and for jobs open only to men.[25] Thus, for service and administrative workers, being attractive increases the probability of receiving a callback by nearly twice as much as having prior work experience; among all white-collar positions, the attractiveness premium is still more than 150% of the experience premium.

We also test whether the returns to 1 versus 2 years of work experience are equivalent across position type and in jobs open only to applicants of a specific gender (table A10). There is some evidence that for positions open only to women, the return to 1 year of prior experience is greater than 2 years (8.0 percentage points vs. 1.5 percentage points, significant at the 10% level), suggesting that the signaling effect might be most important for those applying to female-dominated positions.

In table 4, we further disaggregate job postings into specific occupations, presenting results for the 10 most common occupations we collected. Although our statistical power is limited among these more specific occupation categories, two patterns emerge. First, TVET has a large and statistically significant effect on callback for drivers and delivery workers (18% and 37%, respectively), two occupations in the skilled-trades category. Given that drivers and delivery workers are almost exclusively male, these occupation results help explain the statistically significant impact of TVET on male workers. Second, there are large and statistically significant effects of attractiveness in sales, food service (i.e., waitstaff), and administrative/receptionist positions—all positions in which face-to-face customer interactions are important. In all three cases, attractiveness trumps work experience in terms of increasing the likelihood of callback.

Although the returns to physical attractiveness appear large, it may be that attractiveness primarily has a payoff in low-skill or low-wage jobs, so that attractiveness leads to greater employment likelihoods only for less desirable positions. We explore this issue in two analyses presented in table 5. First, we divide

[25] These differences are all statistically significant. For example, the *p*-values from tests of equality for the attractiveness coefficient for service/administrative jobs vs. laborers, skilled trades, and call centers are .005, .005, and .058, respectively. Grouping those three sectors together and testing against the service sector, the *p*-value is .001.

TABLE 4

EFFECTS OF RÉSUMÉ CHARACTERISTICS ON CALLBACK RATES FOR THE 10 MOST COMMON OCCUPATIONS

	Driver (1)	Sales (2)	Technician (3)	Food Service (4)	Reception/ Administration (5)	Cook/Food Preparation (6)	Call Center (7)	Delivery (8)	*Promodiser* (Product Promoter) (9)	Electrician (10)
Female	−.048**	.018	.058	.008	−.001	−.052*	−.015	.005	.044	
	[.024]	[.032]	[.061]	[.027]	[.019]	[.031]	[.020]	[.044]	[.042]	
Some college	−.002	−.017	.022	.002	−.021	.023	−.022	.066	.042	−.000
	[.020]	[.033]	[.020]	[.032]	[.018]	[.048]	[.022]	[.051]	[.056]	[.036]
TVET	.033*	−.014	.025	.022	−.001	−.028	.013	.113**	−.023	.025
	[.018]	[.036]	[.022]	[.032]	[.023]	[.033]	[.042]	[.056]	[.063]	[.026]
Experience	.038**	.033	−.002	.059**	−.018	.046	−.002	.013	.078*	−.017
	[.018]	[.031]	[.015]	[.028]	[.014]	[.039]	[.016]	[.043]	[.046]	[.040]
2013 cohort	−.003	−.007	−.015	−.005	.023	.026	.011	−.028	.013	−.027
	[.014]	[.021]	[.015]	[.024]	[.015]	[.025]	[.019]	[.036]	[.048]	[.024]
Attractive	.014	.063**	−.007	.098***	.034*	.054	−.003	−.002	.046	.000
	[.016]	[.027]	[.010]	[.030]	[.018]	[.034]	[.027]	[.033]	[.047]	[.026]
Résumés submitted	1,552	712	576	576	480	340	336	280	264	212
R^2	.756	.771	.829	.742	.926	.622	.918	.762	.696	.788
Callback rate	.208	.282	.0938	.226	.208	.112	.580	.300	.216	.118
Posting fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note. Sample includes only job postings for the top 10 most common occupations, representing 74% of all postings. Standard errors clustered at the job-posting level are reported in brackets. TVET = technical and vocational education training.

* $p < .10$.

** $p < .05$.

*** $p < .01$.

TABLE 5
EFFECTS OF RÉSUMÉ CHARACTERISTICS BY SKILL AND WAGE LEVEL

	Skill Level			Wages	
	Low (1)	Medium (2)	High (3)	Low (4)	High (5)
Female	−.119***	.000	.018	−.011	.016
	[.042]	[.012]	[.038]	[.013]	[.023]
Some college	.029	.005	−.025	.004	.002
	[.035]	[.010]	[.029]	[.013]	[.013]
TVET	−.009	.013	−.014	−.001	.017
	[.030]	[.009]	[.039]	[.013]	[.012]
Experience	.005	.026***	.007	.015	.032***
	[.028]	[.008]	[.025]	[.010]	[.011]
2013 cohort	−.004	−.001	.021	.003	−.008
	[.021]	[.007]	[.025]	[.008]	[.009]
Attractive	.000	.019**	.050**	.018*	.026**
	[.023]	[.008]	[.025]	[.010]	[.010]
Résumés submitted	644	5,976	552	3,716	3,216
R^2	.774	.794	.777	.811	.762
Callback rate	.230	.230	.207	.259	.191
Posting fixed effects	Yes	Yes	Yes	Yes	Yes

Note. Sample includes 7,172 résumés submitted to 1,793 job postings between October 2015 and March 2016. Skill level and average wages of occupations are defined as described in the text. Examples of low-skill occupations include kitchen helper, messenger, and maid; medium-skill occupations include driver, service crew, and service technician; and high-skill occupations include graphic artist and massage therapist. Examples of low-wage occupations include *promodiser* (product promoter) and messenger; and high-wage occupations include driver and waiter. Standard errors clustered at the job-posting level are reported in brackets. TVET = technical and vocational education training.
* $p < .10$.
** $p < .05$.
*** $p < .01$.

all job postings into (relatively) low-, medium-, and high-skill occupations by matching job-posting titles to the ISCO-08. Second, we divide all job postings into low- and high-wage occupations, using average wages among young workers in these occupations in the 2009–11 quarterly Philippines Labor Force Surveys.[26] We find no evidence that the returns to attractiveness are concentrated among the lowest-skill or lowest-wage occupations. The returns to attractiveness are not significantly different across low- versus high-wage occupations (p-value = .616), and they are concentrated in occupations with medium- and high-skill levels.

The final test for heterogeneity that we conduct is whether the returns to education, experience, and attractiveness interact with each other or with the gender of the applicant. This analysis tests whether education and experience

[26] We use the 2009–11 quarterly LFSs and restrict to 18- to 21-year-old high school graduates (with no more or less education) in metropolitan Manila. We match our job-posting occupations to those in the LFSs using the Philippines Standard Occupation Codes. Our wage calculations are based on 6,755 workers in these occupations.

are compliments or substitutes, and it examines whether these characteristics are more important for men or women. After interacting the indicator for some college with each of the other résumé characteristics of interest (i.e., female, experience, and attractiveness), we report the results from our preferred specification in column 1 of table 6. Column 2 includes the same interactions for TVET, column 3 for experience, and column 4 for attractiveness.

TABLE 6
EFFECTS OF RÉSUMÉ CHARACTERISTIC INTERACTIONS ON CALLBACK RATES

	(1)	(2)	(3)	(4)
Female	−.005	.001	−.011	−.014
	[.012]	[.012]	[.015]	[.013]
Some college	.023	.004	.011	.008
	[.016]	[.009]	[.014]	[.012]
TVET	.008	−.006	.004	−.003
	[.009]	[.015]	[.014]	[.012]
Experience	.027***	.020**	.018	.019*
	[.009]	[.009]	[.016]	[.011]
2013 cohort	.000	.000	.000	.001
	[.006]	[.006]	[.006]	[.006]
Attractive	.026***	.012	.014	.006
	[.009]	[.009]	[.011]	[.015]
Interactions:				
Some college × female	−.003			
	[.017]			
Some college × experience	−.013		−.010	
	[.015]		[.018]	
Some college × attractiveness	−.019			−.009
	[.015]			[.016]
TVET × female		−.021		
		[.016]		
TVET × experience		.011	.006	
		[.016]	[.018]	
TVET × attractiveness		.024*		.021
		[.015]		[.016]
Experience × female			.008	
			[.016]	
Experience × attractiveness			.008	.008
			[.015]	[.015]
Attractiveness × female				.017
				[.016]
R^2	.790	.790	.790	.790
F-test, interaction terms jointly zero:				
F-statistic	.841	1.742	.326	1.139
p-value	.471	.156	.860	.336
Posting fixed effects	Yes	Yes	Yes	Yes

Note. Sample includes 7,172 résumés submitted to 1,793 job postings between October 2015 and March 2016. Standard errors clustered at the job-posting level are reported in brackets. TVET = technical and vocational education training.
* $p < .10$.
** $p < .05$.
*** $p < .01$.

Overall, we find little evidence of interaction effects between the returns to these characteristics. Only the interaction between attractiveness and TVET is statistically significant (at the 10% level), and we cannot reject the null hypothesis that these interaction terms are jointly zero (p-values all greater than .15). The interaction of attractiveness and female is 1.7 percentage points, suggesting returns to attractiveness are nearly four times greater for women than for men (2.3 percentage points for women vs. 0.6 percentage points for men), though the interaction term is not statistically significant.[27]

One possible concern with our results is that employers may not trust information from an applicant who is 18, has 2 years of college, and has 2 years of work experience, given that the applicant would have graduated high school 2 years earlier. Alternatively, employers may interpret the work experience as having been part-time. We find that our results are robust to excluding these applicants, which suggests that this concern does not play a major role in employer decisions. Still, it is possible that employers may perceive any work experience of an applicant with 2 years of college to be part-time and perhaps of less quality.[28] The point estimate on the interaction between some college and work experience in table 6 of −1.3 percentage points is consistent with this story, though it is not statistically significant.

V. Conclusions

Youth unemployment is a serious concern in developing countries, yet we know little about how employers value characteristics of young workers, particularly in the developing world. Through a randomized audit design, we tested the returns to work experience, education, and physical attractiveness in the Philippines, a developing country with high youth unemployment.

For entry-level positions, we find that employers do not value 2 years of postsecondary education. Employers do value TVET training but only in blue-collar occupations: résumés with TVET certifications submitted to those types of job postings were 2.1 percentage points (10%) more likely to receive a callback. We find that work experience increases the probability of a callback by about 2.4 percentage points (10.5%), with effects concentrated in service, administrative, and skilled-trade occupations. Finally, we find that attractiveness matters, particularly in the service sector, in which the returns to attractiveness of 5.3 percentage points (24.4%) swamp those from education or experience.

[27] The larger effect of attractiveness for women relative to men is consistent with the findings of Arceo-Gomez and Campos-Vazquez (2014), who show that physical appearance, defined as skin color, matters for women but not for men.

[28] According to the 2009–11 Philippines LFSs, 16- to 19-year-old workers who are in school work an average 34 hours per week, whereas those not in school work an average 54 hours per week.

Our audit survey methodology enabled us to get a real-time, revealed-preference, market-based measure of employer demand, though it comes with three important caveats. First, these findings speak only to employment and not to wages. It is possible that wage returns to the characteristics we measure may differ from their employment returns. Second, although we aimed to collect job postings from a comprehensive set of newspapers and online job postings, these may not be fully representative of the actual range of jobs available to job seekers; in particular, we exclude, by necessity, jobs that can be acquired through informal channels or social networks.

Third, employers may also screen job seekers by explicitly listing minimum qualification levels for criteria. In this study, we hold these minimum qualification levels constant by applying only to positions that do not explicitly require work experience or postsecondary education and are open to 18- and 19-year-olds and by only submitting résumés on behalf of applicants of the required gender. In this respect, our findings necessarily understate the general returns to experience and education across the labor market. For instance, employers may view applicants with work experience and postsecondary education as overqualified for the jobs in our study. It is beyond the scope of this study to extrapolate our results to job postings with requirements beyond these minimum qualification levels, such as jobs requiring 1 year of work experience or some postsecondary education. Despite these limitations for generalizability, holding minimum qualifications constant enables us to consider how, when faced with a pool of qualified applicants with a range of backgrounds, employers select the most promising applicants. Understanding this aspect of employer demand is particularly important in developing countries like the Philippines, which have a surplus of relatively low-skilled labor.

In spite of these limitations, our results provide policy-relevant evidence on labor market demand for young workers in developing countries. In particular, our study provides several lessons for such workers seeking to improve their short-run labor market prospects.[29] First, work experience matters, even for low-skilled positions. Any efforts to attain formal work experience, even unpaid, will be helpful in attaining a job. Second, although 16.7% of young workers in the Philippines have acquired some postsecondary education without completing a degree, we find that this provides little to no help in acquiring employment in the set of entry-level jobs that we consider.[30] Third, steps made toward improving one's physical appearance can have large payoffs for attaining jobs with face-to-face customer interactions.

[29] We note that our estimates are partial equilibrium effects, and understanding the general equilibrium effects of a large-scale change in worker characteristics is beyond the scope of this study.
[30] Authors' calculations are based on 2009–11 Philippine LFSs.

Finally, many students in developing countries pursue technical and vocational training in basic software skills, entrepreneurship, office administration, and other programs aimed to improve their employment prospects for entry-level, white-collar jobs. We find these investments are largely unrewarded in the entry-level labor market. It is possible that the limited effectiveness of many training programs evaluated in developing countries may reflect the training occurring in fields in which the certifications are not valued by employers. Our study provides a cost-effective way to help academics and researchers understand which worker characteristics are most important when developing effective interventions to reduce unemployment among groups of young workers targeted for assistance.

Appendix

KIMBERLY NICOLAS VILLANUEVA
4 S. Castillo St. Brgy. San Pedro, Pateros
Contact Number: 0949 - 174 - 7961
E-mail Address: kimberlybvillanueva@gmail.com

Applicant Photo

Personal Information:

Gender: Female
Height: 5'2"

Birth Date: February 23, 1998
Weight: 45kg

Educational Background:

2013 — **High School Diploma**
Pateros National High School
P. Herrera, San Pedro, Pateros City

2015 — **Completed 2nd Year (BS Hotel & Restaurant Management)**
Access Computer College
Anonas Cubao, Quezon city

Work Experiences:

Waitress — **Ignacio's Catering Services**
October 2014 - Present

Seminars Attended:

5S of Good Housekeeping Seminar
Philippine Trade Training Center

Food Safety (A Basic Training on HACCP)
Business Coach Inc.

Special Skills:
1. Able to write clearly and effectively
2. Ability to clean floor area of any spillage of water, detergent and food per safety and sanitation guidelines
3. Ability to disassemble, inspect, clean, perform maintenance on and reassemble equipment properly

References:

Eduardo P. Ilustrisimo
Supervisor
Ignacio's Catering Services
Contact Number: 0923 - 177 - 8487

Patricia G. Espeleta
High School Teacher
Pateros National High School
Contact Number: 0997 - 211 - 1380

Jocelyn I. Llena
Barangay Kagawad
Barangay San Pedro
Contact Number: 0923 - 496 - 8132

Figure A1. Sample résumé for kitchen staff position that includes 1 year of work experience and 2 years of college.

Applicant Photo

ANGELO SANCHEZ MENDOZA
369 Gov. Santiago St. Brgy. Malinta, Valenzuela City
Contact Number: *0923 - 496 - 8207*
E-mail Address: *angelom7899@yahoo.com*

Personal Information:

Gender: Male
Height: 5'4"

Birth Date: December 28, 1997
Weight: 63kg

Educational Background:

High School

Malinta National High School
High School Diploma
St. Jude Subdivision, Valenzuela City
2013

Seminars Attended:

Defensive Driving Seminar
Quickdrive Driving School

Personality enhancement Skills
ARIVA Center

Special Skills:

1. Ability to verify and complete required documentation and reports
2. Time management skills
3. Able to write clearly and effectively

References:

Patricia G. Espeleta
High School Teacher
Malinta National High School
Contact Number: *0997 - 211 - 1380*

Marie D. Torres
High School Teacher
Malinta National High School
Contact Number: *0977 - 644 - 1504*

Maritess F. Mendoza
Barangay Kagawad
Barangay Malinta
Contact Number: *0977 - 644 - 1511*

Figure A2. Sample résumé for driver position that includes no work experience or postsecondary education.

TABLE A1

EXAMPLE TVET CERTIFICATIONS FOR THE 15 MOST COMMON JOB POSTINGS

Occupation	TVET Certification 1	TVET Certification 2	TVET Certification 3	TVET Certification 4
Driver	Driving Rush Course	Defensive Driving	Driving Lessons	Beginner's Course
Saleslady/salesman/salesclerk	Entrepreneurship NC II	Entrepreneurship Technology	Online Web Marketing Training Program	Entrepreneurship Specialist Course
Service crew/waiter/waitress	Food and Services	Certificate in Food and Beverage	Food and Beverages Services	Certificate in Food and Beverage Services
Receptionist/administrative assistant	Certificate in Office Administration, Computer Secretarial Course	Associate in Office Executive Assistantship	Associate in Accounting Technology	Front Office Services
Technician	Electrical Installation and Maintenance	Building Wiring Installation NC II	Certificate in Automotive Servicing	RAC NC II
Cook/food preparation	Certificate in Cookery	Certificate in Commercial Cooking	Certificate in Food and Beverage Services	Certificate in Culinary Arts
Call center	Certificate in Contact Center Services	Certificate in Contact Center Services	Certificate in Contact Center Service	Entrepreneurship Technology
Delivery	Beginner's Course	Driving Lessons	Driving Rush Course	Defensive Driving
Promodiser (product promoter)	Entrepreneurship Technology	Entrepreneurship Specialist Course	Online Web Marketing Training Program	Entrepreneurship NC II
Stock/inventory clerk	Entrepreneurship Specialist Course	Online Web Marketing Training Program	Entrepreneurship Technology	Entrepreneurship NC II
Electrician	Electrical Installation and Maintenance	Reinforced Steel Bar Installation NC II	Building Wiring Installation NC II	Electrical Technician
Factory/machine operator	Entrepreneurship NC II	Entrepreneurship Specialist Course	Entrepreneurship Technology	Online Web Marketing Training Program
Housekeeping	Housekeeping NC II	Household Services	Housekeeping NC III	Certificate in Housekeeping
Merchandiser	Online Web Marketing Training Program	Entrepreneurship NC II	Entrepreneurship Technology	Entrepreneurship Specialist Course
Messenger	Defensive Driving	Driving Lessons	Beginner's Course	Driving Rush Course

Note. Shown are examples of potential technical and vocational education training (TVET) certifications included on our résumés submitted with a TVET certification for the 15 most commonly occurring job-posting occupations. TVET qualifications were drawn from a pool of eight choices specific to each job type. Duplicates in this table reflect similar TVET courses and/or certifications obtained from different schools. NC = National Certificate; RAC = refrigeration and air-conditioning servicing.

TABLE A2

EFFECTS OF ATTRACTIVENESS BY ALTERNATIVE DEFINITIONS OF ATTRACTIVENESS VARIABLE

	Attractive = 1 If above Median Rating (1)	Attractive = 1 If above 75th Percentile Rating (2)	Attractive = 1 If above 25th Percentile Rating (3)	Mean Attractiveness Rating (4)	Attractiveness Percentile Groupings (5)
Female	−.006	−.006	−.007	−.008	−.008
	[.011]	[.011]	[.011]	[.011]	[.011]
Some college	.004	.004	.004	.004	.004
	[.009]	[.009]	[.009]	[.009]	[.009]
TVET	.008	.008	.008	.008	.008
	[.009]	[.009]	[.009]	[.009]	[.009]
Experience	.024***	.024***	.024***	.024***	.024***
	[.008]	[.008]	[.008]	[.008]	[.008]
2013 cohort	−.000	−.001	−.001	−.000	−.000
	[.006]	[.006]	[.006]	[.006]	[.006]
Attractive	.020***	.016**	.016**		
	[.007]	[.008]	[.008]		
Mean attractiveness rating				.015***	
				[.006]	
Attractiveness rating:					
25th–50th percentile					.008
					[.009]
50th–75th percentile					.023**
					[.010]
Above 75th percentile					.026***
					[.010]
R^2	.790	.790	.790	.790	.790

Note. Each column presents results from a separate regression of a dummy for whether the applicant received a callback on applicant characteristics. Attractive is a binary variable equal to 1 if the mean attractiveness rating meets the condition outlined in cols. 1–3. The mean attractiveness rating is calculated by averaging the 50 attractiveness ratings from 50 Filipino online contractors. The sample includes 7,172 résumés submitted to 1,793 job postings between October 2015 and March 2016. All specifications include job-posting fixed effects. Standard errors clustered at the job-posting level are reported in brackets. TVET = technical and vocational education training.

** $p < .05$.

*** $p < .01$.

TABLE A3

DISTRIBUTION OF JOB-POSTING SOURCES

	Frequency	Relative Frequency (%)	Cumulative Frequency (%)
jobstreet.com.ph	686	38.3	38.3
indeed.com.ph	374	20.9	59.1
Manila Bulletin (print)	304	17.0	76.1
Facebook	178	9.9	86.0
Online, other	137	7.6	93.6
jobsdb.com.ph	36	2.0	95.6
Bulgar (print)	28	1.6	97.2
Print, other	23	1.3	98.5
Phil-Job.Net	16	.9	99.4
Philippine Star (print)	11	.6	100.0
Media:			
Online	1,427	79.6	
Newspaper/print	366	20.4	
Total	1,793	100.0	

Note. Sample includes 7,172 résumés submitted to 1,793 job postings between October 2015 and March 2016.

TABLE A4

DISTRIBUTION OF JOB-POSTING OCCUPATIONS

	Frequency	Relative Frequency (%)	Cumulative Frequency (%)
Driver	388	21.6	21.6
Saleslady/salesman/salesclerk	178	9.9	31.5
Technician	146	8.1	39.6
Service crew/waiter/waitress	145	8.1	47.7
Receptionist/administration	122	6.8	54.5
Cook/food preparation	85	4.7	59.2
Call center	84	4.7	63.9
Delivery	70	3.9	67.8
Promodiser (product promoter)	66	3.7	71.5
Electrician	54	3.0	74.5
Stock/inventory clerk	49	2.7	77.2
Factory/machine operator	45	2.5	79.7
Housekeeping	40	2.2	82.0
Merchandiser	38	2.1	84.1
Messenger	37	2.1	86.1
Laborer/attendant	27	1.5	87.6
Massage therapist	24	1.3	89.0
Mechanic	23	1.3	90.3
Artist, miscellaneous	23	1.3	91.5
Skilled trade, other	19	1.1	92.6
Beautician	15	.8	93.4
Caregiver	13	.7	94.2
Carpenter	12	.7	94.8
Information technology/computers	12	.7	95.5
Plumber	12	.7	96.2
Welder	11	.6	96.8
Security guard	8	.4	97.2
Truck helper	7	.4	97.6
Mason	5	.3	97.9
Other	38	2.1	100.0

Note. Sample includes 7,172 résumés submitted to 1,793 job postings between October 2015 and March 2016.

TABLE A5

EFFECTS OF RÉSUMÉ CHARACTERISTICS ON CALLBACK RATES BY POSTING TYPE (WITHOUT JOB-POSTING FIXED EFFECTS)

		Occupation Type						Gender Requirement		
	All	Service/ Administration	Laborer	Skilled Trade/Driver	Call Center	Blue Collar	White Collar	Both Genders	Women Only	Men Only
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Female	−.008	−.003	−.098**	−.018	−.016	−.062*	−.000	−.008		
	[.010]	[.012]	[.045]	[.031]	[.020]	[.032]	[.010]	[.010]		
Some college	−.001	−.009	.021	.013	.011	.006	−.006	−.015	.017	−.000
	[.011]	[.018]	[.030]	[.016]	[.028]	[.015]	[.015]	[.017]	[.034]	[.015]
TVET	.002	−.015	.008	.013	.024	.006	.001	−.024	.044	.009
	[.011]	[.018]	[.025]	[.015]	[.041]	[.014]	[.016]	[.018]	[.030]	[.014]
Experience	.032***	.021	.007	.036***	−.002	.034***	.022*	.031**	.049*	.029**
	[.009]	[.015]	[.021]	[.013]	[.017]	[.013]	[.012]	[.014]	[.028]	[.013]
2013 cohort	.000	.008	−.009	−.001	.018	−.005	.007	.014	−.001	−.003
	[.005]	[.009]	[.015]	[.008]	[.018]	[.008]	[.008]	[.009]	[.022]	[.007]
Attractive	.021**	.056***	−.011	.006	−.011	.005	.036***	.052***	.039	.003
	[.009]	[.015]	[.020]	[.012]	[.028]	[.012]	[.013]	[.014]	[.032]	[.011]
Résumés submitted	7,172	2,636	1,048	3,068	336	3,736	3,436	2,588	636	3,948
R^2	.215	.270	.450	.222	.794	.211	.321	.384	.533	.194
Callback rate	.228	.217	.260	.186	.580	.205	.252	.262	.275	.198
Posting fixed effects	No	No	No	No	No	No	No	No	No	No

Note. Sample includes 7,172 résumés submitted to 1,793 job postings between October 2015 and March 2016. All specifications include job-category fixed effects, posting characteristics, job-source fixed effects, and officer and day fixed effects. Example occupations in service/administration include service crew and sales associate, laborers include delivery drivers and messengers, and those in skilled trades include drivers and service technicians. Blue- and white-collar occupations are calculated based on 2008 International Standard Classification of Occupations (ISCO-08) one-digit codes. Examples of blue-collar occupations include driver, service technician, and kitchen helper. Examples of white-collar occupations include service crew, *promodiser* (product promoter), and customer service representative (call center worker). Standard errors clustered at the job-posting level are reported in brackets. TVET = technical and vocational education training.

* $p < .10$.

** $p < .05$.

*** $p < .01$.

TABLE A6

EFFECTS OF RÉSUMÉ CHARACTERISTICS ON CALLBACK RATES FOR THE 10 MOST COMMON OCCUPATIONS (WITHOUT JOB-POSTING FIXED EFFECTS)

	Driver (1)	Sales (2)	Technician (3)	Food Service (4)	Reception/ Administration (5)	Cook/Food Preparation (6)	Call Center (7)	Delivery (8)	*Promodiser* (Product Promoter) (9)	Electrician (10)
Female	−.049*	.019	.056	.007	−.008	−.052*	−.016	−.001	.044	
	[.028]	[.031]	[.058]	[.026]	[.018]	[.030]	[.020]	[.043]	[.042]	
Some college	−.023	−.014	.018	.008	−.005	.034	.011	.065	.042	−.001
	[.022]	[.033]	[.021]	[.030]	[.019]	[.042]	[.028]	[.050]	[.056]	[.035]
TVET	.025	−.013	.005	.041	.002	−.028	.024	.105*	−.023	.025
	[.022]	[.039]	[.019]	[.033]	[.025]	[.032]	[.041]	[.056]	[.063]	[.024]
Experience	.042**	.023	.026	.066**	−.011	.037	−.002	.006	.078*	−.016
	[.019]	[.031]	[.020]	[.027]	[.014]	[.038]	[.017]	[.043]	[.046]	[.037]
2013 cohort	−.002	−.008	−.011	−.007	.023	.024	.018	−.025	.013	−.027
	[.013]	[.020]	[.014]	[.023]	[.015]	[.025]	[.018]	[.036]	[.048]	[.023]
Attractive	.015	.060**	−.003	.084***	.030	.049	−.011	−.000	.046	.001
	[.018]	[.029]	[.012]	[.028]	[.018]	[.031]	[.028]	[.032]	[.047]	[.024]
Résumés submitted	1,552	712	576	576	480	340	336	280	264	212
R^2	.292	.527	.525	.614	.827	.591	.794	.748	.696	.788
Callback rate	.208	.282	.0938	.226	.208	.112	.580	.300	.216	.118
Posting fixed effects	No	No	No	No	No	No	No	No	No	No

Note. All specifications include job-category fixed effects, posting characteristics, job-source fixed effects, and officer and day fixed effects. The sample includes only job postings for the top 10 most common occupations, representing 74% of all postings. Standard errors clustered at the job-posting level are reported in brackets. TVET = technical and vocational education training.

* $p < .10$.

** $p < .05$.

*** $p < .01$.

TABLE A7

EFFECTS OF RÉSUMÉ CHARACTERISTICS BY SKILL AND WAGE LEVEL (WITHOUT JOB-POSTING FIXED EFFECTS)

	Skill Level			Wages	
	Low (1)	Medium (2)	High (3)	Low (4)	High (5)
Female	−.116***	−.003	.017	−.014	.016
	[.040]	[.011]	[.036]	[.012]	[.020]
Some college	.004	.002	−.005	−.006	.011
	[.035]	[.012]	[.032]	[.015]	[.015]
TVET	−.037	.011	−.024	−.005	.013
	[.028]	[.012]	[.036]	[.015]	[.015]
Experience	.001	.035***	.020	.019	.046***
	[.025]	[.010]	[.025]	[.012]	[.013]
2013 cohort	−.003	−.001	.023	.005	−.009
	[.020]	[.006]	[.024]	[.008]	[.008]
Attractive	.006	.019**	.039*	.020*	.017
	[.022]	[.010]	[.023]	[.012]	[.012]
Résumés submitted	644	5,976	552	3,716	3,216
R^2	.638	.219	.639	.319	.211
Callback rate	.230	.230	.207	.259	.191
Posting fixed effects	No	No	No	No	No

Note. Sample includes 7,172 résumés submitted to 1,793 job postings between October 2015 and March 2016. All specifications include job-category fixed effects, posting characteristics, job-source fixed effects, and officer and day fixed effects. Skill level and average wages of occupations are defined as described in the text. Examples of low-skill occupations include kitchen helper, messenger, and maid; medium-skill occupations include driver, service crew, and service technician; and high-skill occupations include graphic artist and massage therapist. Examples of low-wage occupations include *promodiser* (product promoter) and messenger; and high-wage occupations include driver and waiter. Standard errors clustered at the job-posting level are reported in brackets. TVET = technical and vocational education training.

* $p < .10$.

** $p < .05$.

*** $p < .01$.

TABLE A8

EFFECTS OF RÉSUMÉ CHARACTERISTIC INTERACTIONS ON CALLBACK RATES (WITHOUT JOB-POSTING FIXED EFFECTS)

	(1)	(2)	(3)	(4)
Female	−.013	−.001	−.006	−.021
	[.012]	[.012]	[.017]	[.014]
Some college	.001	−.001	−.004	.000
	[.020]	[.011]	[.018]	[.016]
TVET	.002	−.006	−.012	.002
	[.011]	[.020]	[.019]	[.015]
Experience	.034***	.025**	.030	.038***
	[.011]	[.012]	[.020]	[.014]
2013 cohort	.000	.000	.000	.002
	[.005]	[.005]	[.005]	[.006]
Attractive	.022**	.021*	.027*	.023
	[.011]	[.011]	[.014]	[.020]
Interactions:				
Some college × female	.014			
	[.023]			
Some college × experience	−.007		.004	
	[.019]		[.022]	
Some college × attractiveness	−.003			−.004
	[.019]			[.022]
TVET × female		−.022		
		[.022]		
TVET × experience		.020	.021	
		[.020]	[.023]	
TVET × attractiveness		.001		−.001
		[.018]		[.021]
Experience × female			−.004	
			[.021]	
Experience × attractiveness			−.010	−.010
			[.019]	[.019]
Attractiveness × female				.023
				[.021]
R^2	.215	.215	.215	.215
F-test, interaction terms jointly zero:				
F-statistic	.189	.644	.326	.405
p-value	.904	.587	.861	.805
Posting fixed effects	No	No	No	No

Note. Sample includes 7,172 résumés submitted to 1,793 job postings between October 2015 and March 2016. All specifications include job-category fixed effects, posting characteristics, job-source fixed effects, and officer and day fixed effects. Standard errors clustered at the job-posting level are reported in brackets. TVET = technical and vocational education training.

* $p < .10$.

** $p < .05$.

*** $p < .01$.

TABLE A9

JOB-POSTING CHARACTERISTICS, BY NUMBER OF CALLBACKS

	All (1)	Number of Callbacks (Zero or Four) (2)	Number of Callbacks (One, Two, or Three) (3)
Number of postings	1,793	1,471	322
Number of applications	7,172	5,884	1,288
Number of callbacks	1,634	1,012	622
Callback rate (%)	22.8	17.2	48.3
Occupation type:			
Service/administration (%)	36.8	36.2	39.4
Laborer (%)	14.6	14.2	16.5
Skilled trades (%)	42.8	43.4	39.8
Call center (%)	4.7	5.2	2.5
Other (%)	1.2	1.0	1.9
Blue collar (%)	52.1	51.6	54.3
White collar (%)	47.9	48.4	45.7
Gender requirement:			
Both genders (%)	36.1	36.4	34.8
Men only (%)	55.1	55.1	55.0
Women only (%)	8.9	8.6	10.3
Skill level:			
Low (%)	9.0	8.6	10.6
Medium (%)	83.3	83.6	82.0
High (%)	7.7	7.7	7.5
Wage level:			
Low (%)	53.6	53.8	52.9
High (%)	46.4	46.2	47.1
Application method:			
Upload résumé (%)	56.0	57.6	48.8
Email résumé (%)	44.0	42.4	51.2
Job source:			
Online (%)	79.6	79.5	80.1
Newspaper (%)	20.4	20.5	19.9
Mean days to call back	6.7	5.4	8.9
Callback received via:			
Text (%)	76.6	77.4	75.5
Phone call (%)	24.7	24.1	25.6
Email (%)	22.0	26.1	15.8

Note. Sample includes 7,172 résumés submitted to 1,793 job postings between October 2015 and March 2016.

TABLE A10

EFFECTS OF 1 VERSUS 2 YEARS OF WORK EXPERIENCE ON CALLBACK RATES BY JOB-POSTING CHARACTERISTICS

		Occupation Type						Gender Requirement		
	All	Service/ Administration	Laborer	Skilled Trades	Call Center	Blue Collar	White Collar	Both Genders	Women Only	Men Only
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Female	−.006	−.001	−.101**	−.009	−.016	−.063*	.001	−.007		
	[.011]	[.014]	[.049]	[.034]	[.020]	[.036]	[.011]	[.011]		
Some college	.004	−.004	.029	.006	−.023	.013	−.006	−.009	.017	.010
	[.009]	[.015]	[.027]	[.013]	[.022]	[.013]	[.012]	[.015]	[.029]	[.012]
TVET	.008	−.010	.024	.019	.013	.020*	−.005	−.018	.020	.023**
	[.009]	[.015]	[.024]	[.012]	[.041]	[.012]	[.013]	[.015]	[.031]	[.011]
1 year of experience	.023***	.027*	.003	.027**	−.018	.027**	.016	.019	.080***	.016
	[.008]	[.014]	[.023]	[.012]	[.023]	[.013]	[.011]	[.013]	[.030]	[.012]
2 years of experience	.025***	.036**	.020	.014	.013	.017	.031**	.034**	.015	.019
	[.009]	[.016]	[.025]	[.013]	[.021]	[.013]	[.013]	[.014]	[.037]	[.012]
2013 cohort	−.000	.007	−.012	−.001	.014	−.004	.007	.010	−.007	−.003
	[.006]	[.010]	[.016]	[.009]	[.020]	[.009]	[.009]	[.010]	[.023]	[.008]
Attractive	.020***	.053***	−.011	.007	−.002	.001	.042***	.041***	.059*	.004
	[.007]	[.013]	[.018]	[.010]	[.027]	[.009]	[.011]	[.012]	[.030]	[.009]
Observations	7,172	2,636	1,048	3,068	336	3,736	3,436	2,588	636	3,948
R^2	.790	.767	.788	.775	.919	.766	.812	.815	.788	.770
Mean callback rate	.228	.217	.260	.186	.580	.205	.252	.262	.275	.198
Posting fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note. Sample includes 7,172 résumés submitted to 1,793 job postings between October 2015 and March 2016. Examples of occupations in service/administration include service crew and sales associate, laborers include delivery drivers and messengers, and those in skilled trades include drivers and service technicians. Blue- and white-collar occupations are calculated based on 2008 International Standard Classification of Occupations (ISCO-08) one-digit codes. Examples of blue-collar occupations include driver, service technician, and kitchen helper. Examples of white-collar occupations include service crew, *promodiser* (product promoter), and customer service representative (call center worker). Standard errors clustered at the job-posting level are reported in brackets. TVET = technical and vocational education training.

* $p < .10$.

** $p < .05$.

*** $p < .01$.

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