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TRIPLE PENALTY IN EMPLOYMENT ACCESS: THE ROLE OF BEAUTY, RACE, AND SEX

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This article reports the results from a first experiment specifically designed to disentangle the effect of beauty from that of race in the observed labor market discrimination, for both females and males in Peru. We randomly assigned Quechua and white surnames and (subjectively perceived) attractive or homely-looking photographs (or no photos) to 4,899 fictitious résumés sent in response to 1,247 job openings. We find that candidates who are physically attractive, have a white-sounding surname, and are males, receive 82%, 54%, and 34% more callbacks for job interviews than their similarly-qualified counterparts, thus imposing a triple penalty on homely-looking, indigenous, and female job candidates. We further find that the intensity of discrimination by race and physical appearance differs for males and females; the intensity of discrimination by physical appearance and sex differs for Quechua and white applicants; and the intensity of racial and sexual discrimination differs for beautiful and homely-looking persons.

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Key words: discrimination, labour market, beauty, race, sex, Peru

I. Introduction

Requests for fair employment opportunities take place everywhere, but they are particularly sturdy in mixed-race emerging countries, with large groups of descendants

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from indigenous people and foreign migrants, such as Peru. The outstanding macroeconomic performance attained by this country over the last decade has not sufficed to achieve a substantial reduction in income inequality and other well-being indicators, a result that has awakened claims for redistributing the benefits from economic growth to those groups traditionally excluded from it, namely people living in rural areas, largely populated by indigenous people.

While there is a widespread belief that Peru is a discriminatory society, little robust evidence exists on this matter, especially regarding the extent of discrimination in the labor market (being Galarza and Yamada 2014, and Moreno et al. 2012 the only exceptions, as far as we are aware). Official statistics are of not much help here, and can only be used to estimate gender and racial wage gaps. Thus, while Yamada, Lizaraburu, and Samanamud (2012) find potential racial gaps in the range of 11% and 22% for indigenous versus non-indigenous workers in Peru, they cannot be wholly attributed to discrimination.

Unlike the most recent literature on labor discrimination that only analyzes the impact of race or beauty on labor market outcomes (e.g., Kantor, Shapir and Shtudiner 2015, López Boó, Rossi and Urzúa 2013), our paper exploits a large-scale résumé audit study, specifically designed to detect the role of beauty, race, *and* sex, in the hiring decisions. We constructed fictitious résumés with similar human capital, and randomly assigned surnames (our proxy variable for race), sex, and headshots (deemed as either beautiful or homely-looking). This random assignment should result in statistically similar average call-back rates for all groups, in the absence of discrimination.

Our results provide novel evidence about the extent of discrimination that can be attributed to each of the three dimensions mentioned earlier. We find statistically significant beauty (82%), racial (54%), and sexual (34%) gaps in call-backs against homely-looking, indigenous, and female job applicants in Lima, Peru, all of which imposes a sizeable triple penalty in the access to employment on the homely-looking indigenous females. This result implies that the quest for equal employment opportunities in an emerging, fast-growing country, such as Peru, has a long way to go.

The remainder of the article is structured as follows. Section II reviews the related literature. Section III describes our experimental methodology and the procedures we followed during the field work. Section IV discusses the results, and Section V concludes.

II. Related literature

In Economics, discrimination in the labor market is defined as a situation in which a person who provides a service, and is similarly productive to another person, is treated differently and unfairly (for example, with lower wages or lower call-back rates for job interviews); moreover, this differential treatment is related to an observable characteristic, such as race, ethnicity or sex (List and Rasul 2011).

There are two broad sets of methods used to measure discrimination. The first one involves the use of observational data (such as national household surveys) to compare the wage gaps of any two groups, so that the part of such a gap unexplained by observables can be, at least partially, attributed to discrimination. The second method uses tools from experimental economics to collect data, and is referred to as audit study. The audit studies can be of two types, but both involve the use of fictitious candidates. The first type consists of sending fictitious job applicants, with similar academic background and work experience, trained by the researcher, to actual interviews.¹ In the second type, researchers send fictitious applicants' résumés with similar human capital. Given the equivalence in human capital, the level of discrimination is thus measured by any statistically significant difference in the hiring rate or the average call-back rates received by different groups of job candidates.

Does beauty matter in human's interactions? According to several authors, there seems to be a strong preference in humans for people with attractive faces (Dion, Berscheid, and Walster 1972; Griffin and Langlois 2006, cited in Pallet, Link and Lee 2010; Jefferson 2004; Hamermesh 2011). This preference, they claim, is based on a similar standard of beauty across age, sex, ethnicity, and social class (Hamermesh 2011; Jefferson 2004; Cunningham et al. 1995; Jones 1996; Perrett et al. 1994, 1998), even though this statement may be mostly based on evidence for Western countries (Sorokowski, Kóscinski and Sorokowska 2013).

What is the role (if any) of beauty in the labor market? A major benefit that attractive persons can have is related to their labor market returns. For the U.S., Hamermesh (2011) shows that 'attractive' men (women) earn, on average, wages that are 17% (12%) higher than for those who are 'unattractive,' controlling for a wide set of factors that can affect earnings (primarily, education and experience).

¹ An obvious shortcoming of this type of audit study is that many things can happen during interviews that cannot be controlled by the candidate or the experimenter, which may explain the difference in the performance of two otherwise comparable candidates.

There is also evidence that physically attractive people receive more callbacks for job interviews than homely-looking ones in Argentina (López Boó, Rossi and Urzúa 2013), Italy (Busetta, Fiorillo, and Visalli 2013), Germany (Kraft 2012), and Israel (Ruffle and Shtudiner 2014), where the authors conducted *résumé* audit studies. For a review of these types of studies on labor discrimination, the reader is referred to Galarza and Yamada (2014).² For our purposes, it suffices to mention that Bertrand and Mullainathan (2004) is the most widely cited article in this literature. These authors analyzed only racial discrimination in the United States (Chicago and Boston), by examining the call-back rates of candidates with African American and white names. They found a 50% higher call-back rate for whites.

To the best of our knowledge, the only experimental works that have examined the role of physical appearance in labor discrimination thus far are Kantor, Shapir and Shtudiner (2015), Ruffle and Shtudiner (2014), Kraft (2012) and López Boó, Rossi and Urzúa (2013), and all used a resume audit study in the same fashion as Bertrand and Mullainathan (2004) did. López Boó, Rossi and Urzúa (2013) sent CVs in pairs (a CV with a beautiful photo and another one with a homely-looking photo) to analyze the effect of beauty in the labor market of Buenos Aires, Argentina. They find that beautiful job applicants received 36% more callbacks than homely-looking ones, and are called more quickly. It is important to remark that, unlike Kantor, Shapir and Shtudiner (2015), Ruffle and Shtudiner (2014) and Kraft (2012), López Boó, Rossi and Urzúa (2013) used an objective measure of beauty: a ratio that measures the symmetry of the eyes and nose. The unattractive photos were thus obtained by altering this symmetry.³

Finally, the study by Galarza and Yamada (2014) pioneered the analysis of racial and sexual discrimination in the labor market of Lima, Peru, using an experimental design similar to that of Bertrand and Mullainathan (2004). They sent 4 *résumés* (2 white candidates and 2 Quechua candidates) with the same level of human capital for every single selected job opening, and found that there was significant discrimination against Quechua candidates and, to a lesser extent, against women. An important point to mention about this study is that white applicants had a higher score of subjective beauty (determined by a panel of judges) than Quechua applicants. This is an important limitation of that work, which is overcome by this article.

² For extensive reviews of literature examining experimental studies on racial, ethnic and gender discrimination, see Rich (2014) and Neumark (2016), Section 8.5.

³ Facial symmetry is essential in determining beauty. Some authors suggest that such universal pattern of beauty is based on the “divinity ratio”, 1.618, which must equal the ratio of the vertical distance between the head and the chin and the horizontal distance between the ears.

In the context described earlier, this article reports the results from the first experiment specifically designed to disentangle the effect of beauty from that of race in the observed labor market discrimination, for both females and males. The analysis of this matter is particularly important in a context of a booming economy –such as the one Peru has been facing recently– where one would expect that the candidates' qualifications will prevail in the hiring decisions, while in times of recession, we would expect the discriminatory stereotypes to strengthen.

III. The experiment

A. Selecting job vacancies and constructing résumés

Our experiment was designed to study the role of beauty, race, and sex on a labor market outcome, measured by the call-backs for interviews. It was conducted in Lima between April and September of 2012. Job vacancies were selected from one of the largest job networks in Lima, *Aptitus*, which publishes, online and in a newspaper, hundreds of job ads on a weekly basis (our selection is based almost exclusively on the newspaper ads: 99.5%).⁴ When selecting the job postings, we did not restrict our sample to any particular economic activity (we thus include unskilled, technical and professional jobs). Rather, our selection reflects the intensity of the labor demand from each economic activity that seeks jobs through ads publicly advertised. The quality of formal education was standardized with academic degrees granted by similarly prestigious public institutions in all cases.

We created a database of résumés using real CVs available on two large employment Web sites, <http://www.bumeran.com.pe> and <http://www.computrabajo.com.pe>. This allowed us to more quickly tailor the résumés to the specific requirements of the selected job ads during the field work. The formatting of every set of résumés sent in response to each job ad was similar. We thus sent résumés with similar quality (in terms of job experience, skills, and training) for every selected job ad. Once constructed, race, sex, and level of physical appearance were randomly assigned to the résumés. Similarly, postal addresses, and school names were assigned at random.

All fictitious résumés were sent electronically before the deadline (if specified in the job ad), and every set of four résumés for a given job vacancy typically shipped away the same day, but at different hours, in order to avoid any effect related to the

⁴ Results, reported in Section IV, do not change if we only use the newspapers ads.

day/time of receipt by employers. Moreover, we focus only on entry-level jobs (requiring up to three years of experience, as shown in the Appendix Table A1), and excluded job ads asking for salary expectations or in-person delivery of the *résumés*.

B. Selecting surnames and photos

We used a large online database of indigenous and white surnames⁵ that classifies names by their origins to construct the identities of our job applicants. The selected white-sounding surnames have a predominantly white origin (English, French, Italian, and Spanish), while the indigenous-sounding surname have a clear *Quechua* origin. Sample surnames used include Anderson, Freundt, Bresciani, Camogliano, Goicochea (for white applicants), and Achachau, Aylas, Huamancuri, Sulca and Waylla (for Quechua candidates).⁶ After getting a long list of the two types of surnames, we got random combinations of those to come up with a database of 720 full names (first name + paternal surname + maternal surname) for each type of applicant (Quechua and white). We then created personalized e-mail accounts. Every *résumé* sent for a given job ad included a different cell phone number, which our research assistants answered.

The photos of our candidates were also collected from the Internet,⁷ and were subsequently modified by a Photoshop professional, in order to stylize each group, if needed (darker skin, thicker nose and lips, and more pronounced cheekbones for indigenous applicants), standardize the style (all men wear suits and women wear formal dress, with no accessories). Every candidate from each racial group was assigned a corresponding full name.⁸ We constructed a subjective attractiveness

⁵ <http://apellidosperuanos.wordpress.com/>.

⁶ A referee suggested us to conduct a survey with the surnames used in the experiment, in order to assess the race of the person (with the choices being “white”, “Quechua” and “Other”). Our survey respondents sample is composed of undergraduate students, from ages between 17 and 23. They were given the 374 surnames used in our experiment (129 Quechua-sounding and 245 white-sounding ones). The results: most of the Quechua-sounding surnames were considered Quechua, indeed, by our respondents (with an average percent of 84.4%), while a lower percent of the White-sounding surnames were considered as such (78.5%). If we take into account the fact that the maternal surname reinforced the origin of the paternal surname on the *résumés* we sent, in addition to the greater knowledge of the root of the surnames that any typical recruiter must have with respect to our typical survey respondent, we can have at least a moderate confidence that the surnames used are capturing the distinctive origins of our applicants.

⁷ Photos belong to young females and males, in their twenties. Photos are not suited for a particular occupation (since the selection of job ads did not target any particular economic sector); they were rather standardized in style for *any* job. In Peru, this is a usual practice among job applicants (typically, photo studios do that on their behalf).

⁸ It would be interesting to test mixed-race discrimination using this method, especially because most of the Peruvians self-report as *mestizos*. This could be part of our future research.

indicator (beauty), based on the ratings made by a panel of more than 50 judges, including students and professionals with different backgrounds who have made hiring decisions at some point in their careers (human resource specialists, psychologists, anthropologists, business administrators, economists, mathematicians, and sociologists). Judges rated headshots using a 1-to-7 scale (from homely-looking to strikingly handsome), and we labeled the photos as “beautiful” if the ratings ranged between 3.5 and 6.2, and “homely-looking” if they were between 1.6 and 3.1 (the standard deviation of all ratings goes from 0.71 to 1.97, with an average of 1.17), as shown in Table 1 (where we also report the range for each category).⁹ From our initial pool of 150 photos for both white and indigenous candidates, we eliminated photos ranked around the mean of the sample physical appearance distribution. The main selection criterion for the final headshots was to make coincide, as best as we could, the average scores for the groups under scrutiny (females vs. males & indigenous people vs. whites). We thus ended up using 79 headshots for indigenous people and 76 for whites. We acknowledge that such selection process is arbitrary (as it would be any other alternative one), but it responds to our interest in examining the *differential* callback rates by physical appearance in the observed callback rates.¹⁰ As seen in Table 1, our average beautiful applicant is significantly ‘more attractive’ than the typical homely-looking one (reported in last two columns).

Table 1. Average rating of physical appearance and means tests

	Male		Female		Total	
	White	Quechua	White	Quechua	White	Quechua
Beautiful	4.68 [3.76, 6.00]	4.92 [3.68, 6.00]	4.78 [3.48, 6.20]	4.79 [4.00, 6.00]	4.73 [3.48, 6.20]	4.87 [3.68, 6.00]
Homely	2.57 [1.80, 2.92]	2.48 [1.80, 2.92]	2.61 [1.60, 3.08]	2.21 [1.60, 2.88]	2.59 [1.60, 3.08]	2.35 [1.60, 2.92]
T-test for difference in means					Homely - Beautiful	Homely - Beautiful
Null hypothesis: Difference is equal to zero (p-value)					-2.14 (1.000)	-2.51 (1.000)

Note: Figures in brackets indicate the range of ratings for each group.

⁹ We followed this procedure under the premise of a common standard of facial beauty advocated by recent works in psychology (Cunningham et al. 2005, Perret, May, and Yoshikawa 1994, Perret et al. 1998).

¹⁰ It is worthwhile to mention that we do not know what the average job applicant’s physical appearance rating would be in the Peruvian labor market. Thus, although we acknowledge that a valid critique to our arbitrary selection of photos would be that the differential call-back rates by physical appearance we intend to capture may depend on the (average) levels of physical appearance of the two comparison groups (beautiful and homely-looking), addressing such concern goes beyond the scope of this paper. Future research should address such concern. An anonymous referee suggested running some robustness checks with some sections of the physical appearance ratings density. This is done in section IV.

C. Treatments and sample size

We sent 4 résumés for each vacancy selected, 2 included a white-sounding surname (for female and male) and 2 included a Quechua-sounding surname. Every set of four résumés could fall into one of the following three categories, with roughly the same probability: (i) no photo attached (1,628) (treatment 1), (ii) a beautiful photo (1,676) (treatment 2), or (iii) a homely-looking photo (1,684) (treatment 3), for a total of 4,988 résumés.¹¹ It is worth mentioning that, even though the Law prohibits employers to request pictures attached to the résumés, it is standard for any job applicant in Lima to enclose a picture as part of their application packet. In that sense, it is highly unlikely that our experiment suffer from a selection problem. In the absence of labor discrimination, one should observe no statistical difference in the average call-back rate for every group of job candidates (attractive/unattractive /no photo, white/Quechua, and females/males). The existence of such difference would hence suggest discrimination. We address this issue in the next section.

IV. Empirical results

We estimate the causal effect of sex, race, and facial attractiveness (beauty) on call-backs for job interviews, using the following linear equation:

$$\text{Callback Dummy}_i = \alpha_0 + \alpha_1 \text{Male}_i + \alpha_2 \text{White}_i + \alpha_3 \text{Attractiveness}_i + \varepsilon_i \quad (1)$$

where *Callback Dummy* takes the value of 1 if candidate “i” received a call-back or an email response for an interview (more than 97% of the responses were via phone), and 0, otherwise. *Male* and *White* are dummy variables for sex and race. We use two *Attractiveness* indicators: a dummy variable for (subjective) beauty, and a continuous variable that reports the normalized level of subjective attractiveness (whose construction was described above).

¹¹ In our design, each potential employer faces a choice among candidates from different races and sexes, given a level of physical attractiveness. The preference for physical attractiveness is then captured by comparing across potential employers. An alternative design would be to make each potential employer face a choice among candidates with different levels of physical attractiveness and sexes (or races), for a given racial (o sex) group (as in Ruffle and Shtudiner 2014 and López Boó, Rossi and Urzúa 2013). The preference for a racial (sex) group would be then captured by comparing across potential employers. Since we are trying to capture the effects of three variables on call-backs, we had to choose among the abovementioned designs. We chose the former for future comparison with our previous research.

Table 2 reports the regression results from the estimated linear probability model (results from estimating binary choice models are similar). Columns 1 to 5 include a dummy variable for beautiful job candidates, while columns 6 to 10 use the standardized attractiveness indicator. As shown in column 5, including all interactions among our beauty, race, and sex dummy variables, the beauty, race, and sex gaps are statistically significant at 1%. What is the magnitude of those gaps? Taking column 3, the reported coefficients imply that males receive 34% more call-backs than females, whites receive 54% more call-backs than similarly-qualified Quechuas, and beautiful candidates receive 82% more call-backs than homely-looking job applicants (results are similar when we include company fixed effects, to control for the differences in economic activity by sector).¹² Beauty not only pays, then, in the Lima labor market, but it also pays substantially more than whiteness and being male. To give an idea about the magnitude of these gaps, our results show that, in order to get a similar chance of being called back for a job interview than a beautiful white male applicant who sends 100 résumés, a homely-looking Quechua female candidate must send 380 résumés! This represents a large display of extra effort that is imposed on the Quechua people in the labor market, which adds more hurdles to the already many obstacles that this population needs to overcome in order to complete high school and then undergraduate studies. These results remain mostly unaltered when we control for postal addresses and school names in separate regressions (unreported results).¹³

Finally, our results show that each additional standard deviation in the level of subjective attractiveness increases the probability of being called back for an interview by 3.9 percentage points (column 10). We further find that including a photo in the résumé pays off (column 11). Obviously, this last result depends heavily on the average level of attractiveness of the photos attached to the résumés. As a robustness check of our results, we use different sections of our sample density of physical attractiveness. As reported in Appendix Table A2, when we use the top 20 percentile, which may be understood as a “beauty premium” (column 2), and the lowest 20 percentile, which may be understood as a “homeliness penalty” (column

¹² Using the parameter estimates, and setting the values of the other variables at their means, the predicted call-back rates are 17.88% for males ($0.0545 + 0.0458 + 0.0661*0.5 + 0.0909*0.5$) versus 13.30% for females ($0.0545 + 0.0661*0.5 + 0.0909*0.5$), 18.90% for whites ($0.0545 + 0.0458*0.5 + 0.0661 + 0.0909*0.5$) versus 12.29% for indigenous people ($0.0545 + 0.0458*0.5 + 0.0909*0.5$), and 20.14% for beautiful ($0.0545 + 0.0458*0.5 + 0.0661*0.5 + 0.0909$) versus 11.05% for homely-looking candidates ($0.0545 + 0.0458*0.5 + 0.0661*0.5$). Figures reported for the aforementioned gaps come from these data.

¹³ Only in the latter case, did the coefficient on Male turned insignificant (0.0246, with p-value of 0.262).

3), as regressors, instead of the dummy variable for beauty (column 1), our results remain qualitatively unaltered. We also find a symmetric effect of such premium and penalty on the call-back rate (column 4).¹⁴

Another way, suggested by a referee, to look at the call-backs is by analyzing their distribution at the level of job ad. As reported in the Appendix Table A3, 64.05% of the employers did not call any of our 4 candidates, 20.5% called just 1 of them, and only 1.2% called all of them. The remaining 14.2% called 2 or 3 of our candidates. Moreover, “equal treatment” job ads represent 72.7% of the total, while 18% of them favor whites and 9.3% favor Quechuas. In either of these last two cases, most of the employers contact only 1 candidate.

We further run auxiliary regressions to split our analysis of call-backs by firm size (using the job ad size in the newspapers as a proxy variable. Table A1 in the Appendix shows the composition of firms by size), and by whether jobs involve a direct contact with the customer or not. As shown in Table A4 in the Appendix, in the former case, we find that large and medium-sized firms strongly prefer males in the first place, and then prefer whites, and attractive people (this is different from the results Kantor, Shapir and Shtudiner 2015 find for Israel). In contrast, for small and micro enterprises, beauty is the most highly correlated characteristic with call-backs, followed by race and sex. We thus observe more heterogeneity in smaller-sized firms. On the other hand, for the jobs not involving direct contact with the customer, we find that, to our surprise, beauty is the most important variable correlated with call-backs, followed by sex and race, which suggests that a taste-based discrimination story should be in order in this case. Moreover, for jobs which do involve direct contact with the customer, only race and beauty significantly affect call-backs, and in a similar magnitude. Beauty matters, yes, but in a similar magnitude for jobs involving contact with the customer and for those without such contact (a possible explanation for this result is that the greater self-confidence and ability for social interactions that may be attributed to attractive people and/or the taste-based discrimination –employers prefer to work with attractive employees– present in office jobs, may be as important as the delegated discrimination that may be present in jobs involving contact with the public –employers may observe that physical appearance is appreciated by their customers). In contrast, race matters more in jobs involving contact with the customer. Further research is need, in order to disentangle the mechanisms behind these results.

Lastly, we examine the role of beauty and race for females and males, beauty

¹⁴ We thank an anonymous referee for this suggestion.

Table 2. Regression results on the callback dummy

Variable	Beauty Indicator											With Photo
	Beautiful (dummy variable)											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
<i>Beauty Index</i>	0.0909*** (0.0124)	0.0909*** (0.0124)	0.0909*** (0.0124)	0.0909*** (0.0124)	0.0924*** (0.0135)	0.0426*** (0.0061)	0.0419*** (0.0061)	0.0414*** (0.0061)	0.0416*** (0.0061)	0.0392*** (0.0065)		
<i>White</i>		0.0661*** (0.0124)	0.0661*** (0.0123)	0.0631*** (0.0163)	0.0631*** (0.0163)		0.0643*** (0.0124)	0.0643*** (0.0123)	0.0567*** (0.0163)	0.0571*** (0.0163)	0.0545*** (0.0127)	
<i>Male</i>			0.0458*** (0.0123)	0.0428*** (0.0159)	0.0428*** (0.0159)		0.0437*** (0.0123)	0.0361** (0.0159)	0.0365*** (0.0160)	0.0365*** (0.0160)	0.0473*** (0.0126)	
<i>Male*White</i>				0.0059 (0.0247)	0.0089 (0.0275)				0.0151 (0.0247)	0.0147 (0.0246)	-0.0016 (0.0194)	
<i>Male*White*Beauty Indicator</i>					-0.0060 (0.0312)					0.0122 (0.0176)		
<i>With photo</i>											0.0494*** (0.0098)	
<i>Constant</i>	0.1105*** (0.0076)	0.0774*** (0.0092)	0.0545*** (0.0104)	0.0560*** (0.0112)	0.0553*** (0.0113)	0.1556*** (0.0062)	0.1235*** (0.0080)	0.1016*** (0.0096)	0.1054*** (0.0104)	0.1052*** (0.0104)	0.0557*** (0.0100)	
Average call-back rate	0.1395	0.1395	0.1395	0.1395	0.1395	0.1395	0.1395	0.1395	0.1395	0.1395	0.1395	
Observations	3360	3360	3360	3360	3360	3360	3360	3360	3360	3360	4988	
R ²	0.0157	0.0240	0.0280	0.0280	0.0281	0.0138	0.0217	0.0253	0.0254	0.0256	0.0150	

Notes: Robust standard errors in parentheses. ***, **, * indicate significance at the 1%, 5%, and 10% levels, respectively.

and sex for Quechuas and Whites, and race and sex for beautiful and homely-looking job applicants. Results, reported in Table A5 in the Appendix, thus address questions like: Is beauty or race more important for males versus females? Is sex more important for Whites or beautiful people versus Quechuas and homely-looking persons? In addition to finding that beauty is, by far, the most important variable positively correlated with callbacks for each race and sex considered (columns 1, 3, 5, and 7), we find that race and sex are similarly important for homely-looking persons to get a callback (column 9), while race is twice as important as sex for beautiful persons to get a callback (column 10). Again, adding company-size and sector-of-economic-activity fixed effects does not change the results. Overall, these results suggest that the intensity with which discrimination by race and physical appearance operates in the Lima labor market differs for males and females; the intensity of discrimination by physical appearance and sex differs for Quechua and white applicants; and the intensity of racial and sexual discrimination differs for beautiful and homely-looking persons.

V. Conclusion

The present article provides novel evidence on the magnitude of labor discrimination based on looks, race, and sex using a large-scale field experiment specifically designed for that purpose. While there is an increasing number of works that study labor discrimination –with a strong emphasis on developed countries– existing studies only examine one or two of the three variables of interest, which are jointly analyzed in this article.

Our results provide quite unprecedented indicators on labor market discrimination. In particular, we find significantly different treatments to physically attractive job applicants versus homely-looking ones (“beauty gap”), to whites versus indigenous people (*Quechua*) (“racial gap”), and to males versus females (“sex gap”). Which variable triggers the most unequal treatment (i.e., the greatest gap)? We show that the beauty gap in call-backs more than doubles the sex gap, and is 1.5 times the racial gap, thus imposing a triple penalty on job candidates who are homely-looking, indigenous, *and* female. Putting our findings in perspective, this means that, in order to have an equal chance of being called-back for a job interview than a beautiful applicant, a homely-looking one needs to send over 80% more résumés. This figure is 54% for the comparison between whites and Quechuas, and 34% for that between males and females. Altogether, this means that a Quechua, homely-looking female must send 380 résumés in order to have an equal chance to be called-back for a job

interview than a beautiful white male who sends 100 résumés. This large cost that the labor market imposes on the least-favored group is what we refer to as the “triple penalty in employment access”.

We further find that the patterns of discrimination differ by firm size and that beauty matters in a similar magnitude for jobs involving contact with the customer and for those without such contact. This sheds some evidence suggesting that beauty-bias in hiring would arise not only on behalf of the final customer’s preferences but it could also reveal deeply embedded employer and workforce tastes. In contrast, race matters more in the former type of jobs. Lastly, our analysis within each group (beautiful and homely-looking, white and Quechua, and males and females) reveals that the intensity of discrimination by race and physical appearance differs for males and females; the intensity of discrimination by physical appearance and sex differs for Quechua and white applicants; and the intensity of racial and sexual discrimination differs for beautiful and homely-looking persons.

A number of limitations are worth mentioning. First, our analysis does not account for the wide spectrum of physical appearance. Secondly, we only focus on two minority groups in Peru (whites and Quechuas), thus excluding the afro-descendants and *mestizos* (who are the vast majority of the Peruvian population). Including the latter would imply challenges at the moment of identifying who belongs to that category, since surnames as a proxy variable for race would be inconclusive (e.g., there could be a white-looking Gonzales or a mestizo one). In such a case, race could perhaps be better captured by physical appearance (photos).

Appendix

Table A1. Summary indicators

Job applicant characteristics	Race	White	2494	50.00%
		Quechua	2494	50.00%
	Sex	Male	2494	50.00%
		Female	2494	50.00%
	Treatment	No photo	1628	32.64%
		Homely	1684	33.76%
Beautiful		1676	33.60%	
Job characteristics	Job category	Professional	1576	31.60%
		Technical	1692	33.92%
		Unskilled	1720	34.48%
	Job experience	None	4084	81.88%
		Up to 1 year	428	8.58%
		Between 1 & 2 years	436	8.74%
	Public / Office	3 or more years	40	0.80%
		Contact with the public	3164	63.43%
	Office	1824	36.57%	
Firm characteristics	Size of firm ^{1/}	1: Micro	3037	60.89%
		2	1035	20.75%
		3: Medium	496	9.94%
		4	224	4.49%
		5: Large	172	3.45%
	Economic sector	Wholesale and retail	804	16.12%
		Consultancy (professional, technical or scientific)	628	12.59%
		Manufacturing	572	11.47%
Others	2984	59.82%		

Notes: ^{1/} Based on the size of newspaper job ads. 24 job ads were gathered from Aptitus online.

Table A2. Auxiliary regressions using alternative definitions of beauty

	(1)	(2)	(3)	(4)
<i>Beautiful (dummy)</i>	0.0909*** (0.0124)			
<i>White</i>	0.0661*** (0.0123)	0.0690*** (0.0124)	0.0546*** (0.0129)	0.0594*** (0.0131)
<i>Male</i>	0.0458*** (0.0123)	0.0463*** (0.0124)	0.0347** (0.0131)	0.0375** (0.0131)
<i>Top 20 percentile of beauty density</i>		0.0535** (0.0163)		0.0405* (0.0173)
<i>Lowest 20 percentile of beauty density</i>			-0.0596*** (0.0143)	-0.0467** (0.0152)
<i>Constant</i>	0.0546*** (0.0105)	0.0867*** (0.0101)	0.123*** (0.0122)	0.108*** (0.0136)
Observations	3360	3360	3360	3360
R ²	0.028	0.016	0.016	0.018

Notes: Robust standard errors in parentheses. ***, **, * indicate significance at the 1%, 5%, and 10% levels, respectively.

Table A3. Call-back Rates by Job Ad

<i>Equal Treatment</i>	No call-backs	1W + 1Q	2W + 2Q
72.71%	64.05%	7.46%	1.20%
3,627	3,195	372	60
<i>Whites Favored (WF)</i>	1W + 0Q	2W + 0Q	2W + 1Q
17.98%	13.41%	2.97%	1.60%
897	669	148	80
<i>Quechuas Favored (IF)</i>	1Q + 0W	2Q + 0W	2Q + 1W
9.30%	7.14%	0.72%	1.44%
464	356	36	72

Notes: *Equal treatment* includes the case in which the potential employer did not call any of our 4 candidates (no call-backs), called 1 white and 1 Quechua (1W + 1Q), or called all of our applicants (2 whites & 2 Quechuas) (2W + 2Q). *Whites Favored* includes the cases in which the employer called 1 of our white applicants (1W + 0Q), 2 of them (2W + 0Q), or 2 whites and 1 Quechua (2W + 1Q). *Quechuas Favored* includes the cases in which an employer called 1 of our Quechua applicants (1Q + 0W), 2 of them (2Q + 0W), or 2 Quechuas and 1 white (2Q + 1W).

Table A4. Auxiliary regression results: by firm size and contact with customer
Dependent variable: callback dummy

Variable	Firm size		Contact with customer?	
	Large & medium	Small & micro	Yes	No
<i>Male</i>	0.1000*** (0.0371)	0.0404*** (0.0131)	0.0318 (0.0209)	0.0536*** (0.0152)
<i>White</i>	0.0905** (0.0371)	0.0623*** (0.0131)	0.0953*** (0.0209)	0.0499*** (0.0152)
<i>Beautiful</i>	0.0775** (0.0371)	0.0952*** (0.0131)	0.0857*** (0.0208)	0.0931*** (0.0153)
<i>Constant</i>	0.0490 (0.0322)	0.0520*** (0.0109)	0.0537*** (0.0182)	0.0551*** (0.0128)
Average call-back rate	0.1379	0.1390	0.1453	0.1362
Observations	420	2920	1196	2164
R ²	0.0404	0.0284	0.0322	0.0271

Notes: Robust standard errors in parentheses. ***, **, * indicate significance at the 1%, 5%, and 10% levels, respectively.

Table A5. Auxiliary regression results: by sex, race, and physical appearance. Dependent variable: callback dummy

Variable	Female (1)	(2)	Male (3)	(4)	Quechua (5)	(6)	White (7)	(8)	Homely (9)	Beautiful (10)
<i>Attractiveness</i>	0.0457***		0.0373***		0.0295***		0.0587***			
(normalized)	(0.0079)		(0.0093)		(0.0074)		(0.0104)			
<i>Beautiful</i>	0.0752***		0.0758***		0.0752***		0.1261***			
(dummy)	(0.0207)		(0.0241)		(0.0207)		(0.0253)			
<i>White</i>	0.0378**		0.0638***						0.0378**	0.0887***
	(0.0189)		(0.0236)						(0.0189)	(0.0266)
<i>Male</i>					0.0425**		0.0685***		0.0425**	0.0431*
					(0.0191)		(0.0234)		(0.0191)	(0.0254)
<i>White * Beautiful</i>	0.0509		0.0105							
	(0.0327)		(0.0371)							
<i>Male * Beautiful</i>					0.0006		-0.0398		0.0260	-0.0144
					(0.0318)		(0.0378)		(0.0303)	(0.0391)
<i>Constant</i>	0.0638***		0.1058**		0.0638***		0.1016***		0.0638***	0.1391***
	(0.0190)		(0.0105)		(0.0119)		(0.0147)		(0.0190)	(0.0170)
Average callback rate	0.1162		0.1628		0.1127		0.1664		0.1664	0.2014
Observations	1680		1680		1680		1680		1680	1668
R ²	0.0321		0.0194		0.0175		0.0230		0.0224	0.0148

Notes: Robust standard errors in parentheses. ***, **, * indicate significance at the 1%, 5%, and 10% levels, respectively.

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