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Cognitive ability, stereotypes and gender segregation in the workplace

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# Cognitive ability, stereotypes and gender segregation in the workplace 

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#### Abstract

We carried out a survey among undergraduate students to investigate the role of gender stereotyping in the perception of female work and its consequences in terms of wage differential. Traditional female-oriented and male-oriented jobs are evaluated in terms of compensatory factors related to objective job's characteristics and wages are then assigned to jobholders. We find that males assign lower wages to jobs thought to be carried out by women while women do not assign different wages to male and female workers but, in general, assign lower wages to both genders. Further, we find that even though males with high scores in a cognitive reflection test attribute, in general, higher wages they still assign lower wages to women. Finally, we decompose the wage differential using the classical BlinderOaxaca decomposition and find that the wage gap can not be explained by differences in the productive characteristcs of the workers.


Keywords: Gender wage gap, Gender stereotypes, Cognitive reflection test

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## 1. Introduction

Differential monetary evaluations of men and women can be found even in the very distant past, as in the Old Testament, Leviticus (27:1-7), where these values are prescribed for different age groups: a baby boy aged 1 month to 5 years is valued 5 shekels while a baby girl is valued 3 shekels; a boy from 5 to 20 years is valued 20 shekels and a female just 10; in the age range 20-60 years, the most productive one, a male is worth 50 shekels and a female only 30 shekels while afterwards a male is valued 15 shekels and the value of a female drops back to 10 shekels. These differential monetary evaluations may arise because women were viewed as less economically productive than men given their involvement either in childbearing, nurturing and houseworks or in undervalued typically female jobs such as spinning or weaving. Hence, the lower value assigned to women.

There exists a vast body of theoretical literature and empirical evidence on both the gender pay gap and the gender segregation. Empirical analyses on the gender pay gap, see Blau and Kahn (2007) for a survey, provide evidence that, despite the fact that the difference in pay has decreased in the last decades, the component related to the productive characteristics of the workers explains a decreasing portion of the gap while the unexplained part is increasing.

Human capital models (see, e.g., Mincer and Polachek, 1974; Becker, 1985) attempt to provide an economic explanation for the pay gap. Statistical discrimination due to information asymmetries, (Phelps, 1972; Aigner and Cain, 1977), and taste discrimination, Becker (1957), represent additional explanations for the observed pay gap. Social psychologists have analyzed the interpersonal and intrapersonal processes related to wage settings. A well established result in this literature is the so-called "salary estimation effect" whereby women expect ro receive lower wages for themselves than men do. For instance, after controlling for objective factors such as, for example, the field of specialization, Major and Konar (1984) find that females and males have substantialy different pay expectations both at carreer entry level and carreer peak level Jackson et al. (1992) confirm that, irrespective of the worker's occupational field, women have lower self-pay expectations than men.

The gender pay gap may also be influenced by cognitive processes such as stereotyping, i.e., beliefs about the attributes of a social group. According to gender stereotypes, women are thought to be less competent than men (?) and to have lower cognitive, manual and personal abilities (?). These stereotypes then lead managers and employers to think of women
as being able to perform only a limited number of tasks and jobs which are stereotypically identified as low valued typically female jobs as opposed to high valued typically male jobs, generating and perpetuating a gender-segregated labor market. To account for automatic stereotypes, Alksnis et al. (2008) use a clever timing of the questions in the survey design. First and without mentioning the sex of the worker, they ask survey's participants to assess the required skills, the training and education profile, the responsibility and the working conditions of identical positions allocated in typically female and male jobs. Then, they ask to predict the salary of the jobholder and, only after this step has been carried out, to indicate the conjectured gender of the worker. They find significant evidence of jobs pay gap between typically female and male jobs which is interpreted as a consequence of occupational stereotyping.

In our study, we adopt a survey design similar to that used by Alksnis et al. (2008), extending their questionnaire to account for heterogeneity in cognitive abilities. Cognitive processes involve both automatic and deliberate components and cognitive reflection is a dimension of cognitive ability related to the ability to avoid giving, in simple questions, the (wrong) answer that almost automatically first comes to mind. The cognitive reflection test (CRT) proposed by Frederick (2005) is aimed exactly at highlighting the role played by the automatic component of the cognitive process. Previous studies report evidence that subjects with higher cognitive reflection test scores are more patient and less risk-seeking in the domain of losses and less risk-averse for gains (Frederick, 2005) and less subject to behavioral biases such as conjunction fallacy and conservatism in updating probabilities (?). Since judgement based on stereotypes often occurs automatically, our goal is to verify if differences in the CRT are associated to the automatic use of gender information in the monetary evaluations of jobs.

Do people with higher scores in the cognitive ability test discriminates less? Are they less subject to gender stereotypes and thus less likely to use stereotypes in setting wages in gender-segregated jobs? We conjecture that people with high cognitive reflection test scores would exhibit a lower attitude to evaluate jobs in monetary terms using automatic stereotypes. Hence, high ability people should discriminate less then the others. Our main result is that males with higher CRT scores do not assign lower wages to females supporting our hypothesis that high CRT subjects are less inclined to gender discrimination than the others. We also find that, irrespective of the CRT score, females do not assign lower wages
to typically female jobs, even though they assign lower wages to everybody confirming the "salary estimation effect".

The paper is organized as follows. In the next section we illustrate the survey design, provide a motivation for our choice of the questions included in the questionnaire and describe the rewarding scheme for participants. Section 3 is dedicated to the regression analysis of the collected data. Some concluding remarks are left to the last section.

## 2. Survey design

The survey has been carried out during the Spring semester 2012 in a medium sized italian university in Northern Italy. The survey has been administered to first-year students enrolled in the Economics and Business Administration Departments at the end of a lecture in the second half of the semester. Students did not know that a survey would have taken place beforehand, once in class we just asked for their co-operation in a research project and they were told nothing about the topic of the survey.

Six different questionnaires have been randomly handed out in class. Following Alksnis et al. (2008), the questionnaires refer each to a different specific job in a specific sector (traditionally female- and male-oriented) . At the beginning of the questionnaire a short description of the job is given. The description contains the duties and role of the person occupying that job and it is the same irrespective of whether the job is allocated in the traditional masculine or female sector. In particular, we have:

1. salesman/saleswoman in a hardware store (male sector) or in a clothing store (female sector)
2. teacher of computer science (male sector) or of foreign languages (female sector)
3. editor of an automobile journal (male sector) or of a cooking magazine (female sector)

In the first section of the questionnaire, students have to rate, using a 7-point scale, the job's objective characteristics according to four dimensions related to (i) skills and abilities required for the job, (ii) education and/or training level, (iii) responsibilities attributed to the worker and (iv) working conditions. Using a 7 -point scale ranging from 1 (low) to 7 (high), students are asked to evaluate different facets of each dimension. As for the skills and abilities required for the job we consider physical vs. mental and simple vs. complex, for the education and training we have short vs. long, general vs. specialized and easy vs.
difficult, for the responsabilities related to the job we allow for slight vs. considerable and specific vs. broad, for the working conditions we have undemanding vs. demanding and varied vs. repetitive. Overall, considering 9 items on four dimensions we expect to be able to cover in sufficient detail the specificity of the productive characteristics of each job. Next, we ask students to state a plausible monthly wage for the person occupying the job. Given that students may not be very familiar with actual wages in the labor market, we provided six wage brackets from low to high wages and asked students to choose the most appropriate one ${ }^{1}$.

Given that the questionnaire is, so far, neutral with respect to gender, it is likely that students had built their own mental representation of the worker identifying (implicitly) the underlying gender of the worker. The stated wage should therefore reflect the hypothesized gender of the imaginary worker and, whenever gender stereotypes are present, we should observe different salaries attributed to identical jobs when located in different sectors.

The second section of the questionnaire is divided in two parts. In the first one, in a set of questions we try to characterize the respondents asking their age, gender, working experience, educational background and working status of their parents and number of sisters or brothers. Students are then asked to choose the age and gender of the imaginary worker. No particular emphasis is given to the specific question on the gender of the worker. Clearly, this question and This timing of the question (after the wage has been declared) is crucial for the survey and for the general idea of eliciting gender stereotypes. If gender stereotyping is present among students then they will imagine women (men) to perform the jobs allocated in the typically female sectors. If gender stereotypes also imply different wages, then students will assign lower wages to women then to men. If students imagined that women (men) were performing the jobs allocated in the female (male) sectors and assign lower wages to them, this should be reflected in different salaries assigned to the same jobs but allocated in different sectors.

Finally, the questionnaire contains three questions to assess students' cognitive reflection ability, a particular dimension of cognitive ability. Cognitive reflection has been proposed by Frederick (2005) as "the ability or disposition to resist reporting the response that first

[^1]comes to mind" which seems particularly relevant when studying the role of stereotypes and its impact on jobs' monetary evaluation. These questions have been first proposed by Frederick (2005) in a more in-depth study on the relation between the cognitive reflection ability and several items related to decision making such as impatience and risk preferences. The three questions are taken from Frederick (2005):

1. A bat and a ball cost 1.10 euro in total. The bat costs 1 euro more than the ball. How much does the ball costs? $\qquad$ cents
2. If it takes 5 machines 5 minutes to make 5 widgets, how long would it take 100 machines to make 100 widgets? $\qquad$ minutes
3. In a lake, there is a patchog lily pads. Every day, the patch double in size. If it takes 48 days for the patch to cover the entire lake, how long would it take for the patch to cover half of the lake? $\qquad$ days

Since cognitive reflection is related to the ability to resist the impulse to provide the "wrong" answer that first comes to mind, we conjecture that students with a high score in the cognitive ability section might be less prone to be subject to stereotypes and judgement based on them.

We also use this section of the questionnaire to provide students with an incentive to answer correctly. Before the questionnaires were handed out, students were told that one of them could win a monetary prize (10 euros) by carefully filling in the questionnaire. We did not make any specific mention to a particular section of the questionnaire. After all the students had handed in the questionnaires, one student was chosen from the audience to randomly draw one of the questionnaires. If the randomly drawn questionnaire had correct answers to all three cognitive ability questions, then the associated student would get the prize. If not, a second questionnaire would have been drawn, the answer checked and the prize awarded if they were correct. The process continued until a questionnaire with correct answers was drawn.

## 3. Empirical results

We start our analysis with some descriptive statistics. First of all, looking at the agreeement between the dominant gender of the job and the gender assigned by the respondent, we find that $90 \%$ of the student assign traditional female jobs to females while $85 \%$ of traditional
male jobs are assigned to males. Hence, gender stereotypes are pervasive among men and women. Disaggregated results can be found in Table 1, where the accordance with the suggested stereotype is clear for both male and female students with one exception, the editor of specialized magazines. In fact, male (female) students are more likely to think that the editor of an automobile (food) magazine is a male (female) than female (male) students are likely to think of. Thus, it seems that when respondents are faced with high prestige jobs, gender stereotyping is reinforced within the respondents' gender but not across it.

The extent of sex segregation across jobs induced by our survey design can be appreciated by computing the simple index of dissimilarity proposed by Duncan and Duncan (1955) given by $D=0.5 \sum_{j}\left|\frac{P_{F j}}{P_{F}}-\frac{P_{M j}}{P_{M}}\right|$, where $P_{F j}$ is the number of females allocated to job $j, P_{F}$ is the total number of female employed, $P_{M j}$ is the number of males allocated to job $j$ and $P_{M}$ is the total number of male employed. The dissimilarity index is equal to 0 when both gender are equally represented in every job and it is equal to 100 if each job is allocated exclusively to stereotyped sectors. In our data, the dissimilarity index $D$ is equal to 74.95 , testifying a great deal of sex segregation across jobs. It can be interpreted as follows: if we want to obtain an exactly identical distribution of gender across jobs then about $75 \%$ of the workforce should moved from one sector to another one. The high value of the sex segregation index indicates that respondents are truly using stereotypes when assigning the gender to the jobholder and that our strategy of asking the salary before asking the sex of the worker may be able to elicit the implied wage gap due to stereoptypes.

Students evaluate the jobs' characteristics using nine items related to four different dimensions of the jobs using a 7 -points ascending scale. Some descriptive statistics are reported in Table 2. For instance, if we consider the item simple vs. complex skills and abilities required for the job, we notice that the average evaluation for a hardware clerk is 3.78 , a computer science teacher is 5.42 and an editor of a cars magazine is 5.52 . Also, if we consider the item related to specific vs. broad responsibility attributed to the worker we have 4.01 for the clothing clerk, 5.03 for a foreign languages teacher and 5.83 for an editor of a cuisine magazine. The pattern arising from this table is that, as one may expect, as the job tends to require higher ability or skills, students' evaluation of the compensatory factors increase. Thus, students seem to be able to evaluate the distinctive feature of the jobs and to rank them. In Table 3 we report $t$-tests of no (mean) differences in jobs' evaluation by student's
gender. Apart from one exception, given by the evaluation made by female students of the hardware clerk where the $t$-statistics is equal to -3.29 leading to a rejection of the null hypothesis of no differences, we can not reject the null hypothesis of no differences between males and females in the objective assessment of the characteristics of the three jobs/sectors. Thus, we may conclude that, in our sample, no significant differences arises in the subjective evaluation of objective characteristics. Given that apart for our case, we can not reject the null hypothesis of no differences between males and females in the objective assessment of the characteristics of the three jobs/sectors, we conclude that, in our sample, no significant differences arises in the subjective evaluation of objective characteristics. In our sample no significant differences arise in the subjective evaluation of objective characteristics.

Table 4 provides evidence that female students tend to assign to the hypothetical worker described in the questionnaire lower wages than males. The mean wage assigned to males by men and women is given by 1603.43 euros and 1432.26 euros, respectively, and a $t$ test on the equality of mean wage is equal to 2.18, rejecting the null hypotesis at a $5 \%$ significance level. The mean wages assigned by female students to men and women are given by 1432.55 and 1469.82 euros, respectively, confirming the stylized fact that female students assign lower wages than males do. They same pattern of results obtain if we use the target (or dominant) gender in the occupation in place of the assigned gender, as there is strong correlation between dominant gender and assigned gender due to stereotyping.

As for the cognitive reflection questions, see Table 5 , the distribution of the answers is comparable to that reported in Frederick (2005), where the mean percentage of people who scored 3 out of 3 questions is $17 \%$ (with a minimum of $5 \%$ and a maximum of $48 \%$ ) and the mean percentage who scored 0 out of 3 questions is $33 \%$ (from a minimum of $7 \%$ to a maximum of $64 \%$ ). Our results indicate that about $26 \%$ of the students answer correctly to all three questions and sligthly less than $20 \%$ provide no correct answer. On the whole, our findings are fully coherent with those obtained by Frederick (2005).

### 3.1. Regression results

The regression analysis is carried out estimating the simple model

$$
w_{i}=\boldsymbol{x}_{i}^{\prime} \boldsymbol{\beta}+\gamma \operatorname{Gender}_{i}+u_{i}
$$

where $w_{i}$ is the log wage, $\boldsymbol{x}_{i}$ is a vector of control variables such as the $\hat{d}_{j}$ compensatory factors related to the job's objective characteristics and labor market experience proxied by
age and its square, Gender is a dummy variable equal to 1 when the actually assigned gender by students is female or, in a different specification, when the target gender (dominant gender in the occupation) is female. The associated coefficient $\gamma$ can be interpreted as the gender wage differential in stated wages. Since males and females may be subject to a different degree of gender stereotypes, we run separate regressions for the two subgroups participants. Given that students are asked to assign a wage in predetermined wage brackets, our dependent variable is interval-coded. Given the nature of the data, we estimate the model by the interval regression estimation method, which is an ordered probit model with fixed (not estimated) cut points (Wooldridge, 2010).

Since respondents provide ordinal evaluation of the job's objective characteristics we have a set of ordinal qualitative independent variables. We transform these ordinal qualitative regressors following the approach suggested by Terza (1987). For each item related to the job's objective characteristics we have $J$ discrete categories with values $d_{j}, j=1, \ldots, J$ and we observe $d_{j}$ if $\mu_{j-1}<d^{*}<\mu_{j}$, where $d^{*}$ is a latent unobserved continuous variable. Let $p_{j}$ be the observed frequency for each category of the ordinal variable $d_{j}$ and assume that the latent unobserved variable $d^{*}$ has a standard normal distribution. Then, $p_{j}$ can be estimated as $\hat{p}_{j}=\Phi\left(\mu_{j}\right)-\Phi\left(\mu_{j-1}\right)$, where $\Phi(\cdot)$ is the distribution function of the standard Normal. Following (Terza, 1987; Maddala, 1983), the conditional expectation of $d^{*}$ is given by

$$
\hat{d}_{j}=E\left(d^{*} \mid \mu_{j-1}<d^{*}<\mu_{j}\right)=\frac{\phi\left(\mu_{j-1}\right)-\phi\left(\mu_{j}\right)}{\hat{p}_{j}}
$$

where $\phi(\cdot)$ is the probability density function of the standard Normal. We shall use the estimated $\hat{d}_{j}$ in place of the $d_{j}$ in the regression analysis.

Table 6 contain regression results (using heteroskedasticity robust standard errors). Odd numbered columns refer to the male subgroup while even numbered columns refer to the female one. In each estimated model we include among the regressors the dummy Gender, which is equal to 1 if the job is assigned to a female and zero otherwise. In all columns some of job compensatory dimensions as well as the proxies for experience are statistically significant, with females placing a stronger weight on the "undemanding vs. demanding" working conditions and, as expeceted, wages increase with age but at a diminuishing rate.

In column (1) and (2) we estimate the base model. The estimated coefficient of the Gender dummy variable in the male subgroup is negative and highly significant while it is not statistically different from zero in the female subgroup. The estimated wage gap
in the male subgroup amounts to $-11.7 \%$ which is not only statistically significant but also sizeable in economic terms. Since all respondents assign the wage to the job before answering the question on the gender of the jobholder, this wage gap may be interpreted as wage discrimination due to gender stereotypes and, in particular, it reflects men's bias towards jobs tagged as women's ones. Thus, even though both males and females are subject to gender stereotypes when assigning gender to jobs, only men value less jobs typically performed by women.

Does cognitive ability play a role in our results? As already said, cognitive reflection measures "the ability or disposition to resist reporting the response that first comes to mind" and it seems particularly relevant when studying the role of stereotypes and its impact on jobs' monetary evaluation. To isolate the effect of a high cognitive reflection ability, we define a dummy variable, say $C R T$, equal to 1 for those who gave 3 out of 3 correct answers and look for differences in the monetary evaluation of jobs between this group of students with higher cognitive reflection ability and the others. Columns (3) and (4) report regression results when the dummy variable $C R T$, equal to 1 if the respondent has answered correctly to the three the cognitive reflection questions and 0 otherwise, and the interaction term $C R T^{*}$ Gender are added as regressors. In the subgroup of men, the coefficient on Gender is just significant at a $10 \%$ level, the coefficient on the $C R T$ dummy is positive, large (14.6\%) and significant while the interaction term is not significantly different from zero. Thus, low ability men as well as high ability men are affected by gender stereotypes. However, given that we are not able to reject the null hypothesis that the sum of the Gender, $C R T$ and interaction term coefficient is equal to zero ( p -value $=73 \%$ ), the wage assigned to women by high ability men is higher than the wage assigned to women by low ability men and is comparable to the wage assigned to men by low ability men.

No effect is found for the female subgroup. These results suggest that male individuals with higher cognitive reflection score, thus more likely to resist the inclination to report the answer that first comes to mind, are subject to gender stereotyping as much as low ability men while women are not affected by stereotyping, regardless of the cognitive reflection ability.

In Table 7, we estimate the same model by the interval regression method using the dominat gender in the job in place of the gender assigned by the participant. Using the dominant gender, in the base model we continue to find that male students assign lower wages to jobs performed by females (column (1)) while women do not. When the performance in
the cognitive reflection test is added, then low ability men assign lower wages to typically female jobs, high ability men assign higher wages irrespective of the dominant gender in the occupation and, as in Table (6), they assign lower wages to typically female jobs, comparable to those assigned to typically male jobs by low ability males.

## Oaxaca-Blinder decomposition

A classical statistical approach to the analysis of the gender wage gap is the decomposition method proposed by (Blinder, 1973; Oaxaca, 1973). According to this approach, a separate wage equation is estimated for each different group (males and females)

$$
w_{g i}=\boldsymbol{x}_{g i}^{\prime} \boldsymbol{\beta}_{g}+u_{g i}
$$

where $g=A, B$ ( $A$ stands for the males group and $B$ for the females group). The wage gap is then decomposed in the fraction related to differences in the control variables or in the productive characteristics between the two groups (the so-called "endowment" component) and the unexplained part capturing differences in the estimated coefficients which is usually attributed to discrimination

$$
\bar{w}_{B}-\bar{w}_{B}=\left(\overline{\boldsymbol{x}}_{A}-\overline{\boldsymbol{x}}_{B}\right)^{\prime} \widehat{\boldsymbol{\beta}}_{A}+\left(\widehat{\boldsymbol{\beta}}_{A}-\widehat{\boldsymbol{\beta}}_{B}\right)^{\prime} \overline{\boldsymbol{x}}_{B} \equiv \text { Endowment }+ \text { Unexplained }
$$

Given our findings that males tend to assign lower wages to female, using the Blinder-Oaxaca decomposition we try to measure the portion of this wage gap that can be explained in term of perceived differences in the productive characteristics of workers and the portion that remains unexplained. Results are reported in Table 8. Control variables include the compensatory factors, the CRT dummy and the interaction term. The estimated male-female wage gap is about $7.6 \%$ both using the gender assigned to the job and the dominant gender in the job. The wage gap can be decomposed in an endowment effect, which is close to zero and not statistically significant, and in the unexplained part, which account for almost all the stated wage gap, and it is usually referred as the discrimination effect. Thus, a large portion of the stated wage differential remains unexplained after conditioning on the set of control variables and the individual cognitive ability.

## 4. Conclusions

In this paper we have investigated the role of gender stereotyping in the perception of female work and its consequences in terms of wage differential. We find that, in general,
females tend to assign lower wages than males. We also find that males assign lower wages to jobs assigned to women while women are not affected by stereotypes. Since gender is assigned to the jobholder after the wage has been set, we interpret the observed wage differential as wage discrimination due to gender stereotypes. We also find that high ability men are affected by stereotypes given that they assign to women wages lower than those assigned to men. Finally, using the classical Blinder-Oaxaca decomposition we find that the wage gap can not be explained by differences in the productive characteristcs of the workers.

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Table 1: Target and Stereotyped Gender by Gender (percentage)

|  |  | Participant gender |  |
| :--- | :--- | :---: | :---: |
| Job | Stereotyped Gender | Male | Female |
| Clerk | Female (Clothing) | $85.3 \%$ | $100 \%$ |
|  | Male (Hardware) | $96 \%$ | $83.3 \%$ |
| Teacher | Female (Foreign Languages) | $87.8 \%$ | $100 \%$ |
|  | Male (Computer Science) | $86.7 \%$ | $93.5 \%$ |
| Editor | Female (Food) | $67.7 \%$ | $100 \%$ |
|  | Male (Cars) | $94.9 \%$ | $54.84 \%$ |

Table 2: Compensatory factors - Means by Job

|  | Clerk |  |  |  | Teacher |  |  |  | Editor |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Hardware |  | Clothes |  | $\begin{aligned} & \text { Comp. } \\ & \hline \text { Mean } \end{aligned}$ | $\begin{gathered} \hline \text { Science } \\ \hline \text { SD } \end{gathered}$ | Foreign Languages |  | Cars |  | Cuisine |  |
| Factors | Mean | SD | Mean | SD |  |  | Mean | SD | Mean | SD | Mean | SD |
| Skills1 | 3.93 | 1.22 | 4.08 | 1.26 | 5.56 | 1.15 | 5.15 | 1.14 | 5.51 | 0.97 | 5.67 | 0.87 |
| Skills2 | 3.78 | 1.24 | 4.32 | 1.04 | 5.42 | 0.81 | 5.52 | 1.12 | 5.52 | 0.82 | 5.70 | 0.76 |
| Educ1 | 3.43 | 0.93 | 3.73 | 0.89 | 5.68 | 0.99 | 5.08 | 1.05 | 5.43 | 1.07 | 5.38 | 1.11 |
| Educ2 | 3.81 | 1.48 | 4.65 | 1.44 | 5.78 | 0.96 | 5.74 | 1.08 | 5.24 | 1.19 | 5.80 | 1.21 |
| Educ3 | 3.26 | 1.03 | 3.85 | 1.06 | 5.15 | 1.02 | 5.13 | 0.99 | 5.11 | 0.95 | 5.17 | 0.92 |
| Resp1 | 5.2 | 1.45 | 5.47 | 1.17 | 5.62 | 1.33 | 5.72 | 1.25 | 6.00 | 1.22 | 5.89 | 0.93 |
| Resp2 | 4.81 | 1.42 | 4.95 | 1.27 | 5.14 | 1.16 | 4.92 | 1.32 | 5.76 | 1.06 | 5.48 | 1.07 |
| Cond1 | 4.53 | 1.47 | 4.73 | 1.49 | 4.93 | 1.43 | 4.67 | 1.42 | 5.71 | 1.05 | 5.44 | 1.23 |
| Cond2 | 4.24 | 1.41 | 4.01 | 1.41 | 5.26 | 1.08 | 5.03 | 1.20 | 6.08 | 0.90 | 5.83 | 1.14 |

Table 3: Two-sample $t$-test of no differences in job's evaluation (Mean)

|  | Assigned Gender |  |  | Participant Gender |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Male | Female | $t$-ratio | Male | Female | $t$-ratio |
| Clothing | 4.62 | 4.07 | 1.48 | 4.02 | 4.21 | -0.92 |
| Hardware | 4.39 | 4.66 | -0.81 | 4.04 | 4.69 | -3.29 |
| Foreign. Lang. | 5.55 | 5.38 | 0.59 | 5.30 | 5.49 | -1.43 |
| Comp. Science | 5.19 | 5.44 | -0.95 | 5.29 | 5.14 | 0.93 |
| Cuisine | 5.45 | 5.62 | -1.14 | 5.55 | 5.63 | -0.80 |
| Cars | 5.6 | 5.58 | 0.09 | 5.51 | 5.68 | -1.18 |

Table 4: Assigned Wage by Gender (percentage)

|  | Participant gender |  |
| :--- | :---: | :---: |
| Assigned Gender | Male | Female |
| Female | 1432.26 | 1469.82 |
| Male | 1603.43 | 1432.55 |
| $t$-test | 2.18 | -0.50 |
|  | Participant gender |  |
| Target Gender | Male | Female |
| Female | 1438.44 | 1423.40 |
| Male | 1609.26 | 1447.95 |
| $t$-test | 2.09 | 0.33 |

Table 5: Cognitive Reflection Test Scores, by Gender

|  |  | Percentage scoring $0,1,2,3$ |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mean CRT score | 0 | 1 | 2 | 3 | $n$ |
| Total | 1.64 | 18.88 | 25 | 29.79 | 26.33 | 376 |

Table 6: Interval Regression - Stated Gender

|  | $\begin{gathered} (1) \\ \ln \text { (wage) } \end{gathered}$ | $\begin{gathered} (2) \\ \ln (\text { wage }) \end{gathered}$ | $\begin{gathered} (3) \\ \ln \text { (wage) } \end{gathered}$ | $\begin{gathered} (4) \\ \ln \text { (wage) } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| Skills1 | $\begin{gathered} 0.0318 \\ (0.0266) \end{gathered}$ | $\begin{gathered} 0.0113 \\ (0.0290) \end{gathered}$ | $\begin{gathered} 0.0227 \\ (0.0265) \end{gathered}$ | $\begin{gathered} 0.00771 \\ (0.0291) \end{gathered}$ |
| Skills2 | $\begin{gathered} 0.00171 \\ (0.0317) \end{gathered}$ | $\begin{gathered} 0.0381 \\ (0.0298) \end{gathered}$ | $\begin{gathered} 0.0164 \\ (0.0320) \end{gathered}$ | $\begin{gathered} 0.0395 \\ (0.0299) \end{gathered}$ |
| Educ1 | $\begin{aligned} & 0.0768 * * \\ & (0.0300) \end{aligned}$ | $\begin{gathered} 0.00367 \\ (0.0310) \end{gathered}$ | $\begin{aligned} & 0.0739 * * \\ & (0.0290) \end{aligned}$ | $\begin{gathered} 0.00504 \\ (0.0309) \end{gathered}$ |
| Educ2 | $\begin{gathered} 0.0198 \\ (0.0273) \end{gathered}$ | $\begin{gathered} -0.000209 \\ (0.0296) \end{gathered}$ | $\begin{gathered} 0.0271 \\ (0.0269) \end{gathered}$ | $\begin{gathered} 0.00311 \\ (0.0301) \end{gathered}$ |
| Educ3 | $\begin{gathered} -0.0545 * \\ (0.0314) \end{gathered}$ | $\begin{gathered} 0.0337 \\ (0.0363) \end{gathered}$ | $\begin{gathered} -0.0564 * \\ (0.0309) \end{gathered}$ | $\begin{gathered} 0.0347 \\ (0.0363) \end{gathered}$ |
| Resp1 | $\begin{gathered} -0.0313 \\ (0.0281) \end{gathered}$ | $\begin{gathered} 0.0118 \\ (0.0289) \end{gathered}$ | $\begin{gathered} -0.0320 \\ (0.0280) \end{gathered}$ | $\begin{gathered} 0.0112 \\ (0.0288) \end{gathered}$ |
| Resp2 | $\begin{aligned} & 0.0456 * * \\ & (0.0229) \end{aligned}$ | $\begin{gathered} 0.0156 \\ (0.0251) \end{gathered}$ | $\begin{aligned} & 0.0526 * * \\ & (0.0228) \end{aligned}$ | $\begin{gathered} 0.0192 \\ (0.0252) \end{gathered}$ |
| Cond1 | $\begin{gathered} 0.0304 \\ (0.0255) \end{gathered}$ | $\begin{gathered} 0.00857 \\ (0.0232) \end{gathered}$ | $\begin{gathered} 0.0223 \\ (0.0252) \end{gathered}$ | $\begin{gathered} 0.00469 \\ (0.0244) \end{gathered}$ |
| cond2 | $\begin{aligned} & 0.0688 * * \\ & (0.0270) \end{aligned}$ | $\begin{aligned} & 0.0740 * * \\ & (0.0291) \end{aligned}$ | $\begin{aligned} & 0.0639 * * \\ & (0.0272) \end{aligned}$ | $\begin{aligned} & 0.0705 * * \\ & (0.0292) \end{aligned}$ |
| Age | $\begin{aligned} & 0.0462 * * \\ & (0.0200) \end{aligned}$ | $\begin{gathered} 0.0387 \\ (0.0277) \end{gathered}$ | $\begin{aligned} & 0.0448 * * \\ & (0.0193) \end{aligned}$ | $\begin{gathered} 0.0351 \\ (0.0278) \end{gathered}$ |
| Age ${ }^{2}$ | $\begin{gathered} -0.0471 \\ (0.0288) \end{gathered}$ | $\begin{array}{r} -0.0387 \\ (0.0411) \end{array}$ | $\begin{gathered} -0.0459 * \\ (0.0272) \end{gathered}$ | $\begin{array}{r} -0.0330 \\ (0.0413) \end{array}$ |
| Gender | $\begin{aligned} & -0.117 * * * \\ & (0.0420) \end{aligned}$ | $\begin{gathered} 0.0294 \\ (0.0465) \end{gathered}$ | $\begin{gathered} -0.0816 * \\ (0.0502) \end{gathered}$ | $\begin{gathered} 0.0405 \\ (0.0491) \end{gathered}$ |
| CRT |  |  | $\begin{gathered} 0.146 * * \\ (0.0622) \end{gathered}$ | $\begin{gathered} 0.0953 \\ (0.108) \end{gathered}$ |
| CRT* Gender |  |  | $\begin{gathered} -0.0869 \\ (0.0866) \end{gathered}$ | $\begin{gathered} -0.0602 \\ (0.129) \end{gathered}$ |
| intercept | $\begin{aligned} & 6.321 * * * \\ & (0.334) \end{aligned}$ | $\begin{aligned} & 6.307 * * * \\ & (0.456) \end{aligned}$ | $\begin{aligned} & 6.299 * * * \\ & (0.320) \end{aligned}$ | $\begin{aligned} & 6.342 * * * \\ & (0.455) \end{aligned}$ |
| $\ln (\sigma)$ | $\begin{gathered} \hline-1.361 * * * \\ (0.0523) \end{gathered}$ | $\begin{gathered} \hline-1.261 * * * \\ (0.0539) \end{gathered}$ | $\begin{gathered} \hline-1.383 * * * \\ (0.0535) \end{gathered}$ | $\begin{gathered} -1.265 * * * \\ (0.0535) \end{gathered}$ |
| $N$ | 182 | 186 | 182 | 186 |

[^2]Table 7: Interval Regression - Dominant Gender

|  | $\begin{gathered} \text { (1) } \\ \ln \text { (wage) } \end{gathered}$ | $\begin{gathered} (2) \\ \ln \text { (wage) } \end{gathered}$ | $\begin{gathered} (3) \\ \ln \text { (wage) } \end{gathered}$ | (4) <br> $\ln$ (wage) |
| :---: | :---: | :---: | :---: | :---: |
| model |  |  |  |  |
| Skills1 | $\begin{gathered} 0.0360 \\ (0.0266) \end{gathered}$ | $\begin{gathered} 0.0109 \\ (0.0293) \end{gathered}$ | $\begin{gathered} 0.0284 \\ (0.0270) \end{gathered}$ | $\begin{gathered} 0.00760 \\ (0.0293) \end{gathered}$ |
| Skills2 | $\begin{gathered} 0.00314 \\ (0.0326) \end{gathered}$ | $\begin{gathered} 0.0359 \\ (0.0303) \end{gathered}$ | $\begin{gathered} 0.0161 \\ (0.0330) \end{gathered}$ | $\begin{gathered} 0.0370 \\ (0.0303) \end{gathered}$ |
| Educ1 | $\begin{aligned} & 0.0828 * * * \\ & (0.0299) \end{aligned}$ | $\begin{gathered} 0.00791 \\ (0.0313) \end{gathered}$ | $\begin{aligned} & 0.0803 * * * \\ & (0.0294) \end{aligned}$ | $\begin{gathered} 0.0110 \\ (0.0309) \end{gathered}$ |
| Educ2 | $\begin{gathered} 0.0117 \\ (0.0273) \end{gathered}$ | $\begin{gathered} -0.00405 \\ (0.0299) \end{gathered}$ | $\begin{gathered} 0.0181 \\ (0.0271) \end{gathered}$ | $\begin{gathered} -0.00204 \\ (0.0305) \end{gathered}$ |
| Educ3 | $\begin{gathered} -0.0557 * \\ (0.0313) \end{gathered}$ | $\begin{gathered} 0.0330 \\ (0.0360) \end{gathered}$ | $\begin{gathered} -0.0596 * \\ (0.0312) \end{gathered}$ | $\begin{gathered} 0.0339 \\ (0.0360) \end{gathered}$ |
| Resp1 | $\begin{gathered} -0.0308 \\ (0.0274) \end{gathered}$ | $\begin{gathered} 0.0129 \\ (0.0290) \end{gathered}$ | $\begin{gathered} -0.0308 \\ (0.0273) \end{gathered}$ | $\begin{gathered} 0.0132 \\ (0.0290) \end{gathered}$ |
| Resp2 | $\begin{aligned} & 0.0444 * * \\ & (0.0218) \end{aligned}$ | $\begin{gathered} 0.0176 \\ (0.0250) \end{gathered}$ | $\begin{aligned} & 0.0509 * * \\ & (0.0221) \end{aligned}$ | $\begin{gathered} 0.0210 \\ (0.0252) \end{gathered}$ |
| Cond1 | $\begin{gathered} 0.0335 \\ (0.0252) \end{gathered}$ | $\begin{gathered} 0.00662 \\ (0.0233) \end{gathered}$ | $\begin{gathered} 0.0267 \\ (0.0249) \end{gathered}$ | $\begin{gathered} 0.00175 \\ (0.0245) \end{gathered}$ |
| Cond2 | $\begin{aligned} & 0.0694 * * * \\ & (0.0264) \end{aligned}$ | $\begin{aligned} & 0.0775 * * * \\ & (0.0292) \end{aligned}$ | $\begin{aligned} & 0.0665 * * \\ & (0.0263) \end{aligned}$ | $\begin{aligned} & 0.0723 * * \\ & (0.0295) \end{aligned}$ |
| Age | $\begin{aligned} & 0.0438 * * \\ & (0.0198) \end{aligned}$ | $\begin{gathered} 0.0382 \\ (0.0271) \end{gathered}$ | $\begin{aligned} & 0.0430 * * \\ & (0.0190) \end{aligned}$ | $\begin{gathered} 0.0350 \\ (0.0270) \end{gathered}$ |
| Age ${ }^{2}$ | $\begin{gathered} -0.0440 \\ (0.0282) \end{gathered}$ | $\begin{gathered} -0.0379 \\ (0.0401) \end{gathered}$ | $\begin{gathered} -0.0436 \\ (0.0267) \end{gathered}$ | $\begin{gathered} -0.0326 \\ (0.0401) \end{gathered}$ |
| Gender | $\begin{aligned} & -0.132 * * * \\ & (0.0429) \end{aligned}$ | $\begin{gathered} -0.0206 \\ (0.0444) \end{gathered}$ | $\begin{gathered} -0.109 * * \\ (0.0488) \end{gathered}$ | $\begin{gathered} -0.0219 \\ (0.0481) \end{gathered}$ |
| CRT |  |  | $\begin{gathered} 0.123 * \\ (0.0662) \end{gathered}$ | $\begin{gathered} 0.0625 \\ (0.0996) \end{gathered}$ |
| CRT* Gender |  |  | $\begin{gathered} -0.0433 \\ (0.0863) \end{gathered}$ | $\begin{gathered} -0.00237 \\ (0.122) \end{gathered}$ |
| intercept | $\begin{aligned} & 6.376 * * * \\ & (0.332) \end{aligned}$ | $\begin{aligned} & 6.343 * * * \\ & (0.449) \end{aligned}$ | $\begin{aligned} & 6.353 * * * \\ & (0.318) \end{aligned}$ | $\begin{aligned} & 6.376 * * * \\ & (0.445) \end{aligned}$ |
| $\ln (\sigma)$ | $\begin{aligned} & -1.367 * * * \\ & (0.0522) \end{aligned}$ | $\begin{aligned} & -1.261 * * * \\ & (0.0534) \end{aligned}$ | $\begin{gathered} -1.384 * * * \\ (0.0536) \end{gathered}$ | $\begin{gathered} -1.264 * * * \\ (0.0532) \end{gathered}$ |
| $N$ | 182 | 186 | 182 | 186 |

[^3]Table 8: Blinder-Oaxaca decomposition

|  | Participant gender |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Components | Assigned Gender |  | Gender of Target Job |  |  |  |
| Mean | SE | $t$-ratio | Mean | SE | $t$-ratio |  |
| (log) wage gap | 0.076 | 0.035 | $2.13^{* *}$ | 0.076 | 0.035 | $2.13^{* *}$ |
| Endowment | 0.00033 | 0.025 | 0.01 | -0.0037 | 0.0241 | -0.15 |
| Unexplained | 0.076 | 0.030 | $2.52^{* *}$ | 0.080 | 0.029 | $2.71^{* * *}$ |


[^0]:    ${ }^{2}$ We would like to thank Giam Pietro Cipriani, Angelo Zago, Luca Zarri, Claudio Zoli for helpful comments. The usual disclaimers apply.
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[^1]:    ${ }^{1}$ The six actual wage brackets proposed to the students: less than $700 €, 700-1000 €, 1000-1300 €$, $1300-1800 €, 1800-2300 €, 2300-2800 €$, more than $2800 €$.

[^2]:    "Gender" is a dummy variable equal to 1 if female is the gender assigned by the respondent
    Standard errors in parentheses

    * $p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$

[^3]:    "Gender" is a dummy variable equal to 1 if female is the dominant gender in the job
    Standard errors in parentheses
    ${ }^{*} p<0.10,{ }^{* *} p<0.05,{ }^{* * *} p<0.01$

