Abstract
Cognitive skills are an important personal attribute that affects career success. However, colleagues’ support is also vital as most works are done in groups, and the degree of their support is influenced by their generosity. Social norms enter in groups, and gender may interact with cognitive skills through gender norms in society. Because these gender norms penalize women with high potential, they can reduce colleagues’ generosity towards these women. Using a novel experimental design where I exogenously vary gender and cognitive skills and sufficiently powered analysis, I find neither the two attributes nor their interactions affect other people’s generosity; if anything, people are more generous to women with high potential. I argue that my findings have implications for the role of gender norms in labor markets.

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Keywords: gender, cognitive skills, social norm, generosity, labor markets

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1 Introduction

Cognitive skills are an important personal attribute that affects career success (Herrnstein and Murray 1996). However, colleagues’ support is also vital because most works are done in groups (Jones 2021; Lazear and Shaw 2007; Wuchty, Jones, and Uzzi 2007) and the degree of their support is influenced by their generosity. Social norms enter in groups, and gender may interact with cognitive skills through gender norms in society. Because these gender norms penalize women with high potential as those women are inconsistent with the stereotypical women (Eagly and Karau 2002; Heilman 2001; Ridgeway 2001; Rudman and Phelan 2008), they can reduce colleagues’ generosity towards these women.

This paper studies how gender, cognitive skills, and their interaction affect other people’s generosity, focusing on women with high cognitive skills. Answering this question using secondary data is difficult due to non-random group formation and that cognitive skills are correlated with economic preferences and hence with generosity (Falk et al. 2021). Also, a clean measure of other people’s generosity is not readily available in secondary data.

Thus, I design a laboratory experiment where participants first work on an incentivized IQ test which measures cognitive skills. After the test, participants are randomly assigned to a group of six and receive a ranking of their IQ within their group. Then three of the six members are randomly chosen to be dictators and play three rounds of dictator game with the other three members chosen to be recipients, observing the recipients’ facial photos and first names, both of which convey information about gender, and the IQ ranks. The dictators’ allocation is used as a measure of generosity. The use of photos follows recent literature and allows the dictators to infer the gender of the recipients naturally as they would do in the real world (Babcock et al. 2017; Coffman 2014; Isaksson 2018). I use dictator IQ fixed effects in the analysis to compare allocations of dictators with the same cognitive skills but assigned different IQ ranks due to random group formation.

I find neither gender, IQ, nor their interactions affect dictators’ allocation: the point estimate is quantitatively negligible and statistically indistinguishable from 0, and the confidence interval is tight; if anything, women with higher IQ receive more allocation. The results hold across the whole distribution and even when I separately examine female and male dictators’ allocation. Although statistically insignificant, belief about paired recipients’ IQ is roughly consistent with the experimental design. These findings suggest that one’s gender, cognitive skills, or their interaction do not play a significant role in other people’s generosity.

This paper primarily relates to studies on the role of gender norms in one’s career. The literature finds that people perceive female leaders (Heilman, Block, and Martell 1995; Heilman and Okimoto 2007; Rudman and Kilianski 2000) and competent women (Heilman et al. 2004; 11

1. Yet another prominent attribute is non-cognitive skills: (Cawley, Heckman, and Vyltacil 2001; Cunha and Heckman 2008; Heckman, Stixrud, and Urzua 2006).

2. Indeed, gender affects one’s career through structural problems in labor markets such as unequal burden of family and child care (Bertrand 2018; Goldin 2014) and labor market norms designed for men who are more risk-loving and like competition (Bertrand 2011; Croson and Gneezy 2009; Dohmen et al. 2011; Niederle and Vesterlund 2011).
Evidence from laboratory experiments shows that female leaders (Chakraborty and Serra 2021) and competitors (Datta Gupta, Poulsen, and Villeval 2013) receive more aggressive treatments and less support from men (Born, Ranehill, and Sandberg 2020). Nevertheless, evidence from audit studies is mixed: while Quadlin (2018) finds top-performing female college students receive less favorable treatment in hiring than equally qualified male students, Ceci and Williams (2015) and Williams and Ceci (2015) find qualified female candidates for assistant professors receive equal or more favorable treatment than equally qualified male candidates. Also, Bursztyn, Fujiwara, and Pallais (2017) find that unmarried female MBA students behave in a less career-ambitious way in front of male classmates. My results suggest that these studies’ findings are not likely to be driven by violation of cognitive skill-related gender norms.

This paper also contributes to the literature on the role of gender in dictator games. Bolton and Katok (1995) and Boschini, Muren, and Persson (2012) find that female and male dictators allocate the same amount, while Chowdhury, Grossman, and Jeon (2019), Dreber et al. (2013), and Eckel and Grossman (1998) find that female dictators allocate more. Bilén, Dreber, and Johannesson (2021) find that although female dictators allocate more, it is not quantitatively significant. Andreoni and Vesterlund (2001) find that the role of a dictator’s gender on allocation depends on the price of allocation: female dictators allocate more when doing so reduces their own earnings while male dictators allocate more when doing so does not reduce their own earnings so much. Klinowski (2018) finds that female dictators allocate so that the amount between themselves and recipients are equalized, but aside from that, female and male dictators allocate the same amount. Aguiar et al. (2009) find that people expect female dictators to allocate more. Rosenblat (2008) finds that female dictators allocate more to physically attractive women and men than male dictators. Aksoy, Chadd, and Koh (2021) find that Republican heterosexual people allocate less to LGBTQ+ people. My paper enriches this literature by introducing cognitive skills in the role of gender in dictator game allocation.

2 Experiment

2.1 Design and procedure

The experiment consists of two parts. Participants receive instructions at the beginning of each part. They earn a participation fee of 2.5€ for their participation.

Pre-experiment: Random desk assignment & photo taking

After registration at the laboratory entrance, participants are randomly assigned to a partitioned computer desk. Afterwards, participants have their facial photos taken at a photo booth and
enter their first name on their computer. After that, the experimenters go to each participant’s desk to check that their photo and first name match them to ensure all participants that other participants’ photos and first names are real, following Isaksson (2018).

**Part 1: IQ test**

In part 1, participants work on an incentivized 9 IQ questions for 9 minutes. I use Bilker et al. (2012)’s form A 9-item Raven test which measures one’s IQ more than 90% as good as the full-length Raven test. Participants receive 0.5€ for each correct answer, and they do not receive information about how many IQ questions they have solved correctly until the end of the experiment.

After the IQ test, participants make an incentivized guess on the number of IQ questions they have solved correctly; they receive 0.5€ if their guess is correct. The answer to this question measures their over-confidence level. They do not receive feedback on their guess until the end of the experiment.

Following Eil and Rao (2011), six participants are randomly grouped and informed of the ranking of their IQ relative to other group members. Ties are broken randomly. They then answer a set of comprehension questions about their IQ rank; they cannot proceed to the next part until they answer these questions correctly.

**Part 2a: Dictator game (dictators only)**

In part 2, three participants in each group are randomly assigned to the role of dictators and the other three participants the role of recipients. Dictators are paired with the three recipients in their group one by one in a random order, receive an endowment, and play a dictator game. Thus, they play a dictator game three times with three different recipients. When they play the dictator game, dictators observe the recipients’ facial photo and first name and IQ rank; see panel A of figure 1 for an example. The use of photos follows recent literature (Babcock et al. 2017; Coffman 2014; Isaksson 2018) and minimizes experimenter demand effects.

Dictators are also told that their allocation decisions are anonymous: they are told that their allocation will be paid to the recipients as a “top-up” to their earnings. Dictators decide allocation by moving a cursor on a slider where the cursor is initially hidden to prevent anchoring; panel B of figure 1 shows the cursor after clicking the slider. I vary the endowment across rounds to make each dictator game less repetitive: 7€ for 1st and 3rd rounds, 5€ for 2nd round. At the end of the experiment, one out of three allocations is randomly chosen for each participant as earnings for this part.6

**Part 2b: Belief elicitation (recipients only)**

I also collect an indirect measure of dictators’ beliefs on how many IQ questions the paired recipients have solved correctly. To prevent the belief elicitation to affect or be affected by

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6. For each dictator for each round, one of the three recipients in the same group is randomly chosen without replacement and the dictator allocates the endowment between themselves and the recipient. Thus, it is possible that two dictators play dictator game with the same recipient in the same round. At the end of the dictator games, each participant has three allocations, and one of which is randomly chosen for payment.
the dictator game, I exploit the random assignment of participants to dictators and recipients (derived from the random desk assignment) and use recipients’ beliefs as a proxy for dictators’ beliefs. Specifically, while dictators are playing the dictator game, recipients are paired with the other two recipients in the same group one by one in random order and make incentivized guesses on how many IQ questions they have solved correctly, observing the other two recipients’ facial photo, first name, and IQ rank. Each correct guess gives them 0.5€.

To address the non-anonymity of showing facial photos and first names, I ask participants how well they know the paired participants on a scale of 4. I ask this question twice to make sure they do not answer randomly: right after the three dictator games for dictators or two guesses for recipients and in the post-experimental questionnaire.

**Post-experiment: Questionnaire**

After the dictator game and guessing are over, participants are told their earnings from the IQ test, dictator game, and the guesses. Before receiving their earnings, participants answer a short questionnaire about their demographics that are used for balance tests and robustness checks. Recipients are also asked if I could use their photo in another experiment with a gratuity of 1.5€.

### 2.2 Implementation

The experiment was programmed with oTree (Chen, Schonger, and Wickens 2016) and conducted in English during November-December 2019 at the Bologna Laboratory for Experiments in Social Science (BLESS). I recruited 390 students (195 female and 195 male) of the University of Bologna via ORSEE (Greiner 2015) who (i) were born in Italy, (ii) had not participated in gender-related experiments in the past (as far as I know), and (iii) available to participate in English experiments. The first condition is to reduce the chance that recipients’ first names and photos signal ethnicity, race, or cultural background. The second condition is to reduce experimenter demand effects. The third condition is to run the experiment in English. The number of participants was based on the power simulation in the pre-analysis plan to achieve 80% power.

The experiment is pre-registered with the OSF.

As a further attempt to make the data cleaner, I exclude recipients with non-Italian sounding names and allocations in which the dictator declared they knew the paired recipients “very well” at least once. These data screenings leave me 388 participants, 195 dictators, and 558 dictators’ allocations.

I ran 24 sessions in total, and the number of participants in each session was a multiple of 6 (12 to 30). The average length of a session was 70 minutes, including registration and payment. The average payment per participant was about 10€, including the participation fee and 1.5€ of gratuity for photo use in another experiment (only for those recipients who agreed).

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7. The answer choices are: “I didn’t know him/her at all,” “I saw him/her before,” “I knew him/her but not very well,” and “I knew him/her very well.”

8. I exclude the 1st session data because of the problem discussed in appendix ??.

9. The pre-registration documents are available at the OSF registry: https://osf.io/r6d8f/files. The pre-analysis plan is also in the online Appendix ??.

10. Although it is easy to distinguish Italian and non-Italian sounding names, to make sure not to misclassify, I asked the laboratory manager who was native Italian to check participants’ first names after each session.
3 Data description

Table 1 describes own (panel A) and paired participants’ characteristics (panel B) as well as dictators’ social distance with paired recipients (panel C) and dictator game allocation (panel D).

Panel A shows that female dictators solve 0.37 fewer IQ questions (out of 9) than male dictators, but the difference is quantitatively insignificant. Also, female dictators are more likely to major in humanities and less likely to major in STEM fields, consistent with a pattern observed in most OECD countries (see, for example, Carrell, Page, and West 2010). In addition, female dictators are less overconfident than male dictators, another pattern observed in other studies (Bertrand 2011; Croson and Gneezy 2009; Niederle and Vesterlund 2011). Further, women are more likely to have finished undergraduate studies, consistent with that women are more educated than men in OECD countries (see, for example, Almås et al. 2016; Autor and Wasserman 2013).

Panel B shows that paired participants’ characteristics are roughly balanced, except that female dictators are 10% more likely to be paired with recipients from the Emilia-Romagna region where the experiment was conducted.

Panel C shows that dictators do not know about 95-98% of the paired recipients, mitigating the concern that dictator game allocation is driven by social distance outside the laboratory. To elaborate on this point, Figure 2 plots empirical CDF of dictators’ allocation, which resembles that of Bohnet and Frey (1999)’s one-way identification with information treatment where the social distance between dictators and recipients is the closest to my setting.

Panel D shows that female dictators allocate their endowment to paired recipients 6% more than male dictators, although the difference is only marginally significant at 10%. This observation is consistent with a meta-analysis that women give more, but the difference is not quantitatively large (Bilén, Dreber, and Johannesson 2021). Residualized dictator game allocation shows the allocation after adding the dictator IQ fixed effects, my empirical approach to address the endogeneity of dictators’ cognitive skills in the analysis explained later, still has enough variation, suggesting that the dictator IQ fixed effects do not over-control dictator game allocation.

4 The role of gender and IQ on dictators’ allocation

In this section, I document evidence that one’s gender, IQ, or their interaction do not affect the allocation they receive from dictators, both in mean and distribution. If anything, women with higher IQ receive more allocation. I also document evidence that participants’ belief about paired recipients’ IQ is roughly consistent with the experimental design.

4.1 The role of gender and IQ on dictators’ allocation: Estimating equation

I estimate the following model with OLS:

\[ Allocate_{ij} = \beta_1 HigherIQ_{ij} + \beta_2 Female_j + \beta_3 HigherIQ_{ij} \times Female_j + X'_{ij} \gamma + \mu_i^{IQ} + \epsilon_{ij} \] (1)
where each variable is defined as follows:

- \( Allocate_{ij} \in [0, 1] \): dictator \( i \)'s allocation to recipient \( j \) as a fraction of endowment.
- \( HigherIQ_{ij} \in \{0, 1\} \): an indicator variable equals 1 if recipient \( j \)'s IQ is higher than that of dictator \( i \).
- \( Female_j \in \{0, 1\} \): an indicator variable equals 1 if recipient \( j \) is female.
- \( X_{ij} \): a set of additional covariates to increase statistical power and to address the potential ex-post imbalance. Online Appendix ?? provides a full description of the covariates.
- \( \epsilon_{ij} \): omitted factors that affect dictator \( i \)'s allocation to recipient \( j \) conditional on covariates.
- \( \mu_{IQ}^i \equiv \sum_{k=1}^{9} \mu_k^i \mathbb{1}[i’s IQ = k] \) is fixed effects for the dictators’ IQ (number of IQ questions they have solved correctly), where \( \mathbb{1} \) is the indicator variable. Standard errors are clustered at the dictator level with Pustejovsky and Tipton (2018)'s small cluster bias adjustment.

Dictator’s IQ fixed effects are included following Zimmermann (2020) so that the coefficients in equation 1 capture allocation differences due to the recipients’ IQ, not that of the dictators. Indeed, Online Appendix Table ?? shows that dictator IQ rank is uncorrelated with dictator characteristics conditional on dictator IQ fixed effects.

The key identification assumption is that conditional on dictator IQ fixed effects, recipient gender, recipient’s IQ rank relative to dictator’s, and their interaction are uncorrelated with factors that affect dictator game allocation. The recipient’s gender is ex-ante exogenous to dictator game allocation by random desk assignment. Recipient’s IQ rank is also ex-ante exogenous to dictator game allocation conditional on dictator’s IQ fixed effects by random desk assignment and random matching of dictors and recipients in part 2. Online Appendix Table ?? shows that they are indeed uncorrelated with the dictator or the paired recipient characteristics, dictator game rounds, or social distance between dictators and paired recipients.

### 4.2 The role of gender and IQ on dictators’ allocation: Results

**Regression results** Columns 1-5 of Table 2 present the regression results of equation 1. Columns 1 and 2 show that when we do not control for dictators’ IQ, dictators allocate more to higher IQ recipients although the difference is statistically insignificant: lower IQ dictators allocate more to higher IQ recipients. Columns 2-5 gradually add more controls and show that coefficient estimates are stable across different specifications, suggesting irregularities in the data is unlikely to be driving the results.

Looking at column 5, the coefficient estimates on all covariates are statistically insignificant even at 10%. They are quantitatively insignificant as well: the effect size of typical dictator game experiments that examine the role of social distance with university students is 8.9% to 11.42% of the endowment,\(^{11}\) which is much larger than the effect sizes in column 5 that ranges from 0.6% to 3.5% of the endowment. If anything, the coefficient estimate on the interaction between higher IQ recipient and female recipient may be quantitatively significant: female recipients

\(^{11}\) For example, Charness and Gneezy (2008) examine how informing the recipient’s family name increases the dictators’ allocation using a university student sample and find an 8.9% increase in allocation as a fraction of endowment. Leider et al. (2010) find using a university student sample that dictators increase allocation by 11.42% as a fraction of endowment for their friends relative to someone living in the same student dormitory. Brañas-Garza et al. (2010) also find using a university student sample that dictators give about 10% more of their endowment to friends relative to other students in the same class.
who happen to have a higher IQ than dictators receives about 3.5 percentage point more than equivalent male recipients, albeit statistically insignificant. The same results hold when we separately examine female (column 6) and male (column 7) dictators.

Note that the so-called beauty premium – that people are more generous to physically attractive people (Landry et al. 2006) and hence affects dictators’ allocation (Rosenblat 2008) – does not confound the results even if it is gender-specific (e.g., women smile more on a photo and hence look more approachable). It is because I am comparing recipients of the same gender who happen to have a higher IQ than dictators and a lower IQ than dictators; thus, gender-specific beauty premium is differenced out. One may also wonder whether higher IQ people are more physically attractive because they tend to earn more (Hamermesh and Biddle 1994) and look more confident (Mobius and Rosenblat 2006). However, if so, it is the premium they also receive in the real world and controlling out that premium biases the results.

**Distribution results** While OLS only picks up the average effect, these results also hold in distribution. Panel A of Figure 3 presents empirical CDFs of dictators’ allocation for each recipient type, residualized with the dictator IQ fixed effects to give a causal interpretation to the differences.\(^{12}\) The figure shows that the CDFs of dictators’ allocation for each recipient type almost coincide. The randomization inference (Young 2019) using the Kruskal-Wallis test shows that the p-value of the differences in the CDFs is 0.37, which is far above the conventional 5% cutoff.\(^{13}\) If anything, the CDF of higher IQ female recipients (the blue line) slightly lies on the right of the other CDFs across the x-axis values, suggesting they might receive a slightly higher allocation. The same results hold when we separately examine female (Panel B) and male (Panel C) dictators. Thus, one’s gender, IQ, or their interaction do not affect the allocation they receive from dictators, both in mean and distribution.

**Belief results** To complement the findings so far, column 8 of Table 2 presents the regression results of equation 1 but with recipients’ beliefs about paired recipients’ IQ as the dependent variable. As discussed in section 2.1, random desk assignment ensures that recipients’ belief proxies dictators’ belief. Online Appendix Table ?? shows the ex-post balance of this comparability.

Column 8 shows that none of the coefficient estimates are statistically significant, may be because participants did not want to admit that their IQ is lower than the paired recipients even at the cost of reducing their payoff. However, the coefficient estimate on the higher IQ recipient is positive. Also, the coefficient estimate on the sum of the coefficient estimate on the female recipient and the interaction between the female recipient and the higher IQ recipient is positive. These suggest that participants correctly believe that male and female recipients with higher IQ solved a larger number of IQ questions. The coefficient estimate on female recipient is negative, suggesting that participants believe lower IQ female recipients solved a fewer IQ questions than lower IQ male recipients. Thus, participants’ belief about paired recipients’ IQ is roughly consistent with the experimental design.

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\(^{12}\) Residualized allocation is residual from regression of dictators’ allocation on dictator IQ fixed effects.

\(^{13}\) I use randomization inference to address arbitrary dependency among allocations. The null hypothesis is that all CDFs coincide.
5 Robustness of the findings

In Figure 4, I re-estimate equation 1 with various sub-samples and plot the coefficient estimates along with their 95% confidence intervals to show the robustness of the findings in Table 2. I plot the estimate of column 5 of Table 2 with the red dot and line labeled as “Baseline” as a reference.

First, overconfident dictators may dislike higher IQ recipients more and hence allocate less. However, the estimates for overconfident (the brown dot and line) and non-overconfident dictators (the dark green dot and line) are very similar to the baseline estimates. Second, since dictators with IQ rank 1 only face lower IQ recipients and IQ rank 6 only face higher IQ recipients, they may behave differently from other dictators. However, the estimates with dictators of IQ rank 2-5 only (the green dot and line) provide very similar estimates as the baseline estimates. Third, although I excluded allocations where dictators knew the paired recipients “very well,” knowing the paired recipients even a little may still affect the allocation. However, the estimates with allocations where dictators did not know at all the paired recipients (the light green dot and line) are very similar to the baseline estimates.

Last, dictators play three-rounds of dictator games, and there can be across-round heterogeneity. The blue dot and line are estimates with round 1 only, the purple dot and line with round 2 only, and the pink dot and lines with round 3 only. There is indeed some heterogeneity; especially, in round 3, female recipients who happen to have a higher IQ than dictators receive statistically significantly higher allocation: they receive nearly 20 percentage point more allocation (as a fraction of endowment). It is unclear why dictators allocate higher in round 3; however, the bottom line is that it is consistent with that women with higher IQ receive more allocation, if anything. Also, it could be due to chance as I run several robustness regressions: for example, Gelman and Carlin (2014)’s Type M error ratio is about 2.5, suggesting that the estimate is likely to be 2.5 times larger than the true size. Dividing the round 3 estimate by 2.5 makes it very close to the baseline estimate.

6 Discussion

This paper shows that gender, cognitive skills, or their interactions may not play a significant role in other people’s generosity. If anything, people are more generous to women with high cognitive skills. While several studies show people perceive and treat women in traditionally male domains negatively (e.g., leadership, competition), and these domains typically require cognitive skills. My results suggest that these studies’ findings are unlikely to be driven by violation of cognitive skill-related gender norms, which has implications for the role of gender norms in labor markets.

14. I use as the true value $-0.47/(7+5+7)^{3/2} \approx -0.074$ from the pre-analysis plan (I divided -0.47 by the average of the dictator endowment).
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Figures

Figure 1: Dictator’s allocation screen

(a) Initial screen

Round 1 of 3

You have received 7€ for this round.
You have been paired with Neve.

Please allocate the endowment between yourself and Neve. When you click the line below, a cursor appears. You can move the cursor by dragging it. Please move the cursor to your preferred position to determine the allocation.

(b) After clicking the slider

Notes: This figure shows an example of a dictator’s allocation screen. Panel A shows the screen before clicking the slider bar and panel B after clicking it. In this example, the dictator is playing the first round and paired with a recipient whose first name is Neve with IQ rank 5.
Figure 2: CDF of the dictators’ allocation

Notes: These figures plot the empirical CDF of the dictators’ allocation as a fraction of endowment and show that the CDF resembles that of Bohnet and Frey (1999)’s one-way identification with information treatment where the social distance between dictators and recipients is the closest to my setting.
Figure 3: The role of gender and IQ in dictators’ allocation – Distribution

Panel A: All dictators (N=558, Randomization inference p−value=0.370)

Panel B: Female dictators (N=298, Randomization inference p−value=0.393)

Panel C: Male dictators (N=260, Randomization inference p−value=0.679)

Notes: These figures show the empirical CDF of residualized dictators’ allocation by recipient types for all dictators (panel A), female dictators (Panel B), and male dictators (Panel C). The figures show the CDFs of dictators’ allocation for each recipient type almost coincide and they are statistically indistinguishable from each other, even when we separately examine female and male dictators. The randomization inference p-value is calculated with the Kruskal-Wallis test.
Figure 4: The role of gender and IQ in dictators’ allocation: Robustness

Notes: This figure re-estimates equation 1 with various sub-samples and plots the coefficient estimates along with their 95% confidence intervals to show the robustness of the findings in Table 2. The standard errors are clustered at the dictator level with Pustejovsky and Tipton (2018)’s small cluster bias adjustment for specifications from “Baseline” to “Did not know at all only” and heteroskedasticity-robust with Bell and McCaffrey (2002)’s small sample bias adjustment for specifications “round 1 only,” “round 2 only,” and “round 3 only.”
### Tables

Table 1: Dictators’ and paired recipients’ characteristics, proximity between dictators and paired recipients, and dictator game allocation

|                           | Female dictators | Male dictators | Difference (Female – Male) |
|---------------------------|------------------|----------------|---------------------------|
|                           | Mean  | SD    | Mean  | SD    | Mean  | SE   | P-value |
| Panel A: Own characteristics |       |       |       |       |       |      |         |
| IQ level                  | 6.52  | 1.20  | 6.89  | 1.24  | -0.37 | 0.18 | 0.04    |
| IQ rank                   | 3.83  | 1.59  | 3.31  | 1.73  | 0.52  | 0.24 | 0.03    |
| Age                       | 23.68 | 2.62  | 23.23 | 2.81  | 0.45  | 0.39 | 0.25    |
| From Emilia-Romagna       | 0.18  | 0.39  | 0.19  | 0.39  | 0.00  | 0.06 | 0.94    |
| Humanities                | 0.58  | 0.50  | 0.32  | 0.47  | 0.26  | 0.07 | 0.00    |
| Social sciences            | 0.15  | 0.36  | 0.24  | 0.43  | -0.09 | 0.06 | 0.13    |
| STEM                      | 0.27  | 0.45  | 0.44  | 0.50  | -0.17 | 0.07 | 0.01    |
| Post bachelor             | 0.53  | 0.50  | 0.37  | 0.49  | 0.16  | 0.07 | 0.03    |
| Overconfidence            | 0.31  | 0.78  | 0.56  | 0.72  | -0.25 | 0.11 | 0.02    |
| Time on feedback (sec.)   | 107.67| 89.88 | 107.52| 102.26| 0.16  | 13.88| 0.99    |
| Observations              | 104   |       | 91    |       |       |      |         |
| Panel B: Paired recipients’ characteristics |       |       |       |       |       |      |         |
| IQ level                  | 6.77  | 1.19  | 6.91  | 1.12  | -0.14 | 0.09 | 0.11    |
| IQ rank                   | 3.39  | 1.75  | 3.45  | 1.74  | -0.05 | 0.10 | 0.61    |
| Higher IQ                 | 0.57  | 0.50  | 0.48  | 0.50  | 0.09  | 0.05 | 0.08    |
| Age                       | 23.17 | 2.57  | 23.55 | 2.98  | -0.37 | 0.24 | 0.12    |
| Female                    | 0.50  | 0.50  | 0.43  | 0.50  | 0.07  | 0.04 | 0.06    |
| From Emilia-Romagna       | 0.15  | 0.36  | 0.25  | 0.43  | -0.09 | 0.04 | 0.01    |
| Observations              | 298   |       | 260   |       |       |      |         |
| Panel C: Social distance with paired recipients |       |       |       |       |       |      |         |
| Did not know at all       | 0.98  | 0.15  | 0.95  | 0.23  | 0.03  | 0.02 | 0.14    |
| Knew but not well         | 0.02  | 0.15  | 0.03  | 0.18  | -0.01 | 0.02 | 0.48    |
| Saw before                | 0.00  | 0.00  | 0.02  | 0.14  | -0.02 | 0.01 | 0.06    |
| Observations              | 298   |       | 260   |       |       |      |         |
| Panel D: Dictator game allocation (fraction of endowment) |       |       |       |       |       |      |         |
| Allocation                | 0.43  | 0.22  | 0.37  | 0.25  | 0.06  | 0.03 | 0.04    |
| Allocation (residualized) | 0.03  | 0.22  | -0.03 | 0.25  | 0.06  | 0.03 | 0.06    |
| Observations              | 298   |       | 260   |       |       |      |         |

Notes: This table shows dictators’ (Panel A) and paired recipients’ characteristics (Panel B), social distance between dictators and paired recipients (Panel C), and dictators’ allocation (Panel D) separately for female and male dictators. Residualized allocation is residual from the regression of the dictator game allocation as a fraction of endowment on IQ fixed effects, and shows within dictator IQ variation. P-values for the difference between female and male dictators are calculated with heteroskedasticity-robust standard errors with Bell and McCaffrey (2002)’s small sample bias adjustment for Panel A and with Pustejovsky and Tipton (2018)’s small cluster bias adjustment for Panels B-D.
Table 2: The role of gender and IQ in dictators’ allocation

| Outcome: | Dictator’s allocation (fraction of endowment) | Belief on IQ (fraction of baseline SD) |
|----------|-----------------------------------------------|----------------------------------------|
| Sample:  | All dictators | Male dictators | All recipients | All dictators | Female dictators | Male dictators | All recipients |
| Higher IQ recipient | 0.031 (0.033) | 0.011 (0.033) | 0.013 (0.033) | 0.005 (0.033) | [0.030, 0.093] | [-0.054, 0.075] | [-0.053, 0.078] | [-0.059, 0.070] |
| Female recipient | 0.018 (0.027) | 0.014 (0.027) | 0.014 (0.027) | 0.007 (0.027) | [0.037, 0.072] | [-0.040, 0.067] | [-0.040, 0.068] | [-0.044, 0.058] |
| Higher IQ recipient x Female recipient | 0.024 (0.037) | 0.027 (0.037) | 0.026 (0.037) | 0.034 (0.036) | [-0.048, 0.097] | [-0.045, 0.100] | [-0.048, 0.099] | [-0.037, 0.105] |
| Dictator IQ FE | - | ✓ | ✓ | ✓ |
| Round FE | - | - | ✓ | ✓ |
| Social distance FE | - | - | ✓ | ✓ |
| Dictator controls | - | - | - | - |
| Recipient controls | - | - | - | - |
| Higher IQ recipient x Female recipient | 0.012 (0.026) | 0.041 (0.026) | 0.040 (0.026) | 0.041 (0.026) | [0.009, 0.093] | [-0.010, 0.092] | [-0.012, 0.091] | [-0.010, 0.092] |
| Baseline Mean | 0.373 | 0.373 | 0.373 | 0.373 |
| Baseline SD | 0.261 | 0.261 | 0.261 | 0.261 |
| Adj. R-squared | 0.006 | 0.010 | 0.006 | 0.047 |
| Observations | 558 | 558 | 558 | 558 |
| Clusters | 195 | 195 | 195 | 195 |

Notes: This table presents the regression results of equation 1. Column 1 shows that when we do not control for dictators’ IQ, dictators allocate more to higher IQ recipients. Columns 2-5 gradually add more controls and show that coefficient estimates are stable across different specifications, suggesting irregularities in the data is unlikely to be driving the results. Column 5 shows that the coefficient estimates on all covariates are statistically and quantitatively insignificant; if anything, the coefficient estimate on the interaction between the higher IQ recipient and the female recipient may be quantitatively significant. Columns 6 and 7 show that the same results hold when we separately examine female and male dictators. Column 8 shows beliefs about paired recipients’ IQ is roughly consistent with the experimental design. The standard error (in parenthesis) and the 95% confidence interval (in bracket) are reported below each coefficient estimate. The standard errors are clustered at the dictator level with Pustejovsky and Tipton (2018)’s small cluster bias adjustment. Baseline mean and standard deviation are that of lower IQ male recipients. Significance levels: * 10%, ** 5%, and *** 1%.