The Beauty Premium: Physical Attractiveness and Gender in Dictator Games

Tanya S. Rosenblat

Are beautiful people better negotiators? In this article, I present evidence from a simple bargaining game in which players listened to prerecorded speeches and viewed the pictures of other players. I found that physically attractive players received a greater share of the surplus when their partners could both listen to their speeches and view their pictures. This effect was strongest when the listening partner was female. These results suggest new directions for experimental and empirical research on the role of nonresumé characteristics on labor market outcomes, and also has implications for those practitioners involved in negotiations characterized by extreme power imbalances between the parties.

Key words: negotiation, beauty premium, gender, economic experiments, labor markets.

Introduction

Recent research in labor economics has shown that beauty is highly valued in the labor market. Daniel Hamermesh and Jeff Biddle (1994) found that workers who were rated by interviewers as "above average" in physical attractiveness earn about 10 to 15 percent more than workers who are

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judged to be less physically attractive. The size of the "beauty premium" that is thus conferred on more physically attractive workers is comparable with the earnings advantages (wage gaps) that white employees still have over black employees and that men still have over women in the U.S. labor market.

Researchers attempting to explain the beauty premium have focused on two explanations, or "transmission channels." Several studies have examined the *physical attractiveness stereotype*. Results indicate that people perceive beauty to be correlated with intelligence, social skills, and health (Eagly et al. 1991; Feingold 1992). In a study using an experimental labor market and a real-effort task for which physical attractiveness does not improve productivity, I found that employers (wrongly) expected physically attractive workers to perform better at their jobs (Mobius and Rosenblat 2006).

Economists such as Gary Becker (1957) have focused on a different explanation — *taste-based discrimination* — as an alternative to the physical attractiveness stereotype. According to Becker's theory, employers and customers derive utility (pleasure) from interacting with physically attractive employees, and thus employers choose to pay them higher wages. One would expect, according to this theory, that taste-based discrimination is most pronounced whenever the employer has a reasonable expectation that he or she will actually see the employee in the future, that is, in cases where the job requires significant interaction between the employer and the employee. Not surprisingly, my colleague Markus Mobius and I (Mobius and Rosenblat 2006) found no evidence for taste-based discrimination when the interaction is limited to wage bargaining during an experimental session and when the person in the employer role has no expectation of future interactions with any of the participants playing the role of employees.

In this article, I will focus on a third explanation for the physical attractiveness wage gap that I call the *negotiation channel.* According to this theory, physically attractive workers receive higher wages because they negotiate more effectively.

Research in social psychology suggests several explanations for such a phenomenon. First, physical attractiveness and vocal attractiveness have been correlated in at least two studies (Zuckerman and Driver 1989; Zuckerman, Hodgins, and Miyake 2005). In the second one, Miron Zuckerman and his colleagues (2005) found that judges of physical attractiveness assign higher ratings to beauty whenever an attractive voice is also presented for evaluation and vice versa. Therefore, it is possible that physically attractive participants are more likely to be perceived as more effective communicators, and we would expect the negotiation impact of physical attractiveness to be strongest when negotiators can both see *and* hear each other.

In addition, some researchers have theorized that appearance can enhance the acquisition of social skills throughout life because good-looking

people often receive more positive attention from parents, caregivers, teachers, and coworkers (Hatfield and Sprecher 1986; Langlois et al. 2000). It thus seems plausible that good-looking people have more opportunities to develop better communication skills.

Finally, it seems possible that employers interacting with more physically attractive workers might *perceive* them as more persuasive even if the messages that they deliver are of similar content to those delivered by less attractive workers — physical attractiveness mediated through the beauty-is-good stereotype (Langlois et al. 2000) could thus serve as a cue that enhances the perceived effectiveness of a negotiator.

Some social psychology studies have suggested that men and women differ in their ability to decode nonverbal cues such as facial expressions (Hall 1978, 1984; Rosenthal et al. 1984). Women have been found to be both more sensitive to nonverbal communication and better able to accurately decode it. Similarly, researchers in marketing science have observed that women have lower thresholds for elaborating on nonverbal message cues and therefore make greater use of such cues in evaluating new products (Myers-Levy and Sternthal 1991). This mechanism could induce women to put a greater weight on physical attractiveness when evaluating a request from the negotiating partner. In trying to explain the possible origin of this gender difference, some social psychologists have also argued that women might put greater emphasis on physical attractiveness as a result of traditional gender role socialization (Bar-Tal and Saxe 1976; Jackson 1992).

I tested the negotiation channel hypothesis using dictator game experiments. In a dictator game, the power imbalance between negotiating parties is extreme. An allocator (employer) is matched with a recipient (worker) and given the task of splitting a certain amount of money between the two of them. Allocators and recipients in my experiment were randomly selected from different cities, reducing the likelihood that they would have interacted with each other previously outside of the experiment and limiting the impact of taste-based discrimination, which allowed me to study the impact of the negotiation channel. Before making their decision, allocators listened to a speech recorded by recipients and were also shown their pictures. The allocator has significantly more bargaining power, and because of his or her lack of bargaining chips, the recipient will usually seek to persuade the allocator to share some of the surplus with his or her by appealing to the allocator's generosity, altruism, empathy, or sympathy in order to achieve a more favorable outcome.

I found that, in this setting, female allocators gave more to physically attractive male and female recipients. In contrast, in my data, men's allocation decisions were seemingly unaffected by the recipients' relative physical attractiveness. I also found that the negotiation channel appears to operate only if allocators can *both* hear the recipient speak *and* see the

recipient's picture. I found no attractiveness-related impact when allocators saw recipients' pictures but did not hear them speak and vice versa.

Experiments that focus on the negotiation channel have several advantages over studies that rely on observational data collected through surveys. First, the experimenter can tightly control the degree of visual and oral interaction between employer and worker/applicant, which allows one to explore the mechanism through which physical attractiveness affects employers. Second, one can distinguish between actual negotiation effectiveness and stereotypes that attribute higher productivity to the physically attractive because recipients in my experiment do not perform any actual job-related tasks. Finally, taste-based discrimination will not occur because the allocator has no expectation that he or she will interact with the recipient in the future and thus derive enjoyment from spending time with an attractive person.

Related Work

The dictator game is a widely studied simple bargaining game. In a standard dictator game, the first player, the allocator, makes a unilateral decision about how to split a "fixed-pie" amount with the second player, the recipient. The decision is binding for both allocator and recipient. One particularly attractive feature of the dictator game is that it is nonstrategic: the allocator does not need to consider the recipient's response.[1] If the allocator chooses to maximize his or her own monetary payoff, economic theory predicts that he or she will keep the entire pie for himself or herself. If the allocator is also motivated by altruism and a sense of fairness, however, then he or she might rationally make positive offers to the recipient. Experimental evidence indeed suggests that offers in dictator games tend to be positive (Camerer 2003).

Because the recipient has no opportunity to reject the offer, dictator games exemplify a negotiation in which one party has very limited bargaining power and must rely on the generosity of his or her counterpart. The recipient seeks to influence the allocator's decision by evoking empathy or sympathy based on his or her message content and delivery style. Visual and oral impressions play a role: by making the recipient seem more "real" to the allocator, they lower the perceived "social distance" between the two. Several studies have demonstrated that a decrease in anonymity or "social distance" between allocator and recipient tends to increase offers.

Reducing the social distance can be achieved by simply changing the framing of the experiment. For example, Elizabeth Hoffman, Kevin McCabe, and Vernon Smith (1996) showed that the value of offers tends to be lower when a "market" frame is used in which allocators and recipients are described as "sellers" and "buyers," which increases the perceived social distance between the two parties. The authors also provide evidence that donations decline as the anonymity of the matching protocol increases. In

double-blind conditions, where the subjects' identities cannot be linked to their choices by either the participants or the experimenter, donations to the other party are the lowest. While dictator game allocations can be quite heterogeneous, one study found that donations to friends were at least 50 percent higher than to strangers and rose an additional 25 percent when the recipients learned the donor's identity (Leider et al. 2007).

Some studies provide the allocator with information about the recipient's characteristics. For example, Bradley Ruffle (1998) found that allocators tend to reward more skillful recipients.[2] Catherine Eckel and Philip Grossman (1996) also found that donations in dictator games increase when a recipient is considered a deserving subject; they replaced the anonymous recipients with a "worthy" one, such as the American Red Cross.[3]

Another set of studies of dictator games allowed verbal and visual communication between recipient and allocator in order to examine the impact of reducing anonymity. In several studies, researchers found that preplay identification of participants and face-to-face communication increased the amounts donated to the recipient (Bohnet and Frey 1999a and 1999b).[4] Subsequent research (Charness and Rabin 2005; Yamamori, Kato, and Matsui 2007b) has demonstrated that controlled written communication either in the form of scripted messages asking for help or in the form of specific dollar requests can increase the amounts that allocators award to recipients. Frederick Rankin (2006) found that allocations declined when face-to-face negotiations were accompanied by scripted dollar requests, suggesting that both the content of the message and the medium in which it is delivered are important. Tetsuo Yamamori and his colleagues (Yamamori, Kato, and Matsui 2007a) reported that allocations increased when negotiators used free-form communication via instant messaging. Terence Burnham (2003) found that allocations increased when there was one-way identification of negotiators via a photograph. The main goal of these studies was to compare offers in the dictator game with and without communication. In contrast, the focus of this article is to explore how gender and physical attractiveness affect offers when there is the possibility for visual and oral interaction.

Physical attractiveness has been studied in experiments with strategic interaction and in naturalistic settings. Sara Solnick and Maurice Schweitzer (1999) analyzed how recipients' physical attractiveness affects offers in an ultimatum game. Other studies (Kahn, Hottes, and Davis 1971; Mulford et al. 1998) explored the impact of physical attractiveness on participants in prisoner's dilemma games, while others examined public goods games (Andreoni and Petrie 2008) and the trust game (Eckel and Wilson 2006). In each of these studies, researchers found evidence of stereotyping, with results indicating that subjects expected physically attractive people to be more trusting and more cooperative, although the actual behavior of the physically attractive does not seem to support these views. Mobius and I (Mobius and

Rosenblat 2006) found that, in an experimental labor market with a real-effort task, participants playing the role of employers held stereotypical expectations about the performance of physically attractive employees and that they awarded them higher wages. In a recent unpublished field study of actual borrowers and lenders, Enrichetta Ravina (2008) found that physically attractive borrowers received better terms from lenders in an online lending market in which photographs of borrowers were available as part of an application process. (The author also found that, despite the positive expectations of lenders, good-looking borrowers are *more* likely to become delinquent on loans.)

The Experiment

In this study, we randomly matched subjects from two different cities in Argentina (see later discussion) to each other to play dictator games. Some allocators were shown a picture of the recipient and/or listened to a recording of the recipient speaking. This two-city design ensured that subjects' did not know each other and required that recipients' speeches be recorded and photos taken *before* the game was played. Anonymity was particularly important in this setting because it enabled me to rule out explanations that rely on taste-based discrimination that might arise if the participants believed that they might have the opportunity to interact with their counterpart in the future.

Participants were not recruited based on gender or physical attractiveness, and neither the gender nor physical attractiveness of their partners was discussed or in any way noted by experimenters during the interactions; rather participants were left to infer their counterpart's gender from seeing the photograph or hearing the recorded speech. This minimized experimenter demand effects because participants were less likely to infer that gender and physical attractiveness were being investigated.

Recipients

Five groups of ten undergraduate and master's degree students were invited to attend an experimental session in a computer lab in the first city. (See following paragraphs for information on the subjects.) These fifty subjects played the role of recipients in dictator games played later with allocators from the second city. Subjects completed a quick online form, noting their age, sex, university, and matriculation year. A frontal facial photograph of each subject was also taken. The instructions were read aloud and subjects were given the opportunity to ask experimenters clarifying questions.

Subjects were told that each of them would be matched with eight distinct randomly chosen players in a different city on some day during the next two weeks. Each of those allocators would have nine units of money at his or her disposal that he or she would divide up between himself or herself and the recipient (in increments of half units of money). (Suggestive

terms like "allocator" and "recipient" were carefully excluded from the instructions.) Subjects were informed that the eight allocators would have access to the following different types of information in conditions B (baseline), P (photo), S (speech), and PS (photo + speech):

> **B:** Allocators 1 and 2 would not receive any information about recipients.
> **P:** Allocators 3 and 4 would be shown a photograph of the recipient.
> **S:** Allocators 5 and 6 would listen to a recorded speech of up to two minutes in length prepared by the recipient.
> **PS:** Allocators 7 and 8 would both see the photograph of the recipient and listen to a recorded speech of up to two minutes prepared by the recipient.

Subjects were given five minutes to record an audio message of up to two minutes in length using headsets and a recording application on a computer that would be played for allocators in conditions S and PS. Subjects were allowed to start, stop, listen to, and delete the recording as they wished. After the recording, each subject was asked to provide four separate assessments of how much money he or she expected to receive on average from the two allocators in each of the four conditions (in increments of half units of money). Subjects were not told whether they would be matched with a male or a female allocator, and gender was never directly mentioned. To encourage truthfulness, subjects were told that they could increase their earnings if they accurately predicted their average earnings within plus or minus one unit.[5]

Allocators

In the second city, twenty sessions with ten undergraduate and master's degree student subjects in each session were organized. There were altogether two hundred allocators divided equally across the four different conditions described previously, with fifty allocators per condition. Subjects in this group completed the same online form as in the first group and also had their photographs taken.

Each allocator sequentially played two separate dictator games with a pair of recipients randomly selected from the first city. They had nine units of money to divide up with each recipient. For this purpose, I divided the fifty recipients randomly into twenty-five pairs and matched one pair to two allocators. In order to make sure that decisions were not affected by the order of presentation, the two allocators faced the two recipients in reverse order. Therefore, for each recipient, I was able to make one observation in which that recipient was evaluated first and one observation in which he or she was evaluated second, also ensuring that in each condition every recipient was matched with one allocator in his or her first dictator game

and one allocator in his or her second game. I required allocators to make their decisions about the first recipient before moving on to the second recipient.

In condition B, no information about the recipients was provided to allocators. In condition P, the allocator was shown the photograph of each recipient. Each photo was a standard "headshot" of the recipient's face taken from the front; each was the same size and had a similar background. (I chose not to use full-body image because researchers found that workers invest considerable resources in improving their appearances, for example, wearing more expensive clothing [Hamermesh, Xin, and Junsen 2002]). Furthermore, while there is broad cross-cultural agreement on standards of facial attractiveness (Hatfield and Sprecher 1986; Langlois et al. 2000), the same is not true for body types. In some developing countries, for example, a high body mass index is considered a desirable sign of affluence (Hatfield and Sprecher 1986).

Finally, in condition S, the allocator listened to the recorded speech of each recipient but did not view any photos.[6] In condition PS (photo–speech), allocators were presented with both a facial photograph and the recipient's speech.

Raters

Using a panel of independent evaluators to rate the physical attractiveness of subjects from their photos is a standard procedure in the relevant literature. I followed the same procedure as Biddle and Hamermesh (1998) by asking a panel of thirty-eight independent raters to evaluate *all* the subjects (allocators and recipients) on a scale of 1 to 5 (from "plain" to "most attractive"). Every rater viewed every picture. I constructed a normalized "beauty measure" for each subject as follows:

1. For each rater I calculated her mean rating across all subjects. While raters rank subjects similarly, they differ in how to interpret a 1 to 5 scale; for example, some raters anchored their average rating close to 3 while others anchored their ratings above or below 3.

2. I then subtracted the rater's mean rating from his or her individual ratings. By definition, these detrended ratings were now anchored at 0 for each rater.

3. Then, for each subject I took the average of all the detrended ratings for that subject across all raters. (This measure is less "noisy" than taking the more straightforward average of all raters' assessments for a subject.)

4. Finally, I divided the newly constructed beauty measure by its standard deviation (taken across subjects) to obtain the normalized beauty measure. This measure is convenient to work with: for example, a beauty index of 2 implies that the subject is two standard deviations more

beautiful than the average subject, while an index of −2 implies that the subject is two standard deviations less beautiful than the average person.

Raters were very consistent in their *relative* rankings — but there is less agreement about what a "3" or a "4" means on a scale of 1 to 5. The detrending procedure simply takes out that rater-specific fixed effect.

Recruitment and Payments

The experiment was conducted in Argentina in June and July 2003. All five sessions with recipients were held at the computer lab of the economics department at Universidad Nacional de Tucuman (UNT), Tucuman. Subjects in Tucuman were recruited from three different university campuses in the city of Tucuman, UNT, Universidad del Norte Santo Tomas de Aquino (UNSTA), and Universidad Tecnologica Nacional (UTN).[7] The twenty allocator sessions were conducted in the city of Salta. There, subjects were recruited from the two local universities, Salta Publica and Salta Privada.[8]

Each subject received a participation fee of eight pesos plus his or her earnings from the experiment. (The average hourly wage at the time in Tucuman and Salta was between six and eight pesos.) One unit of money in the dictator game corresponded to one peso. All sessions lasted less than an hour from the arrival of subjects at the lab until they received their compensation.

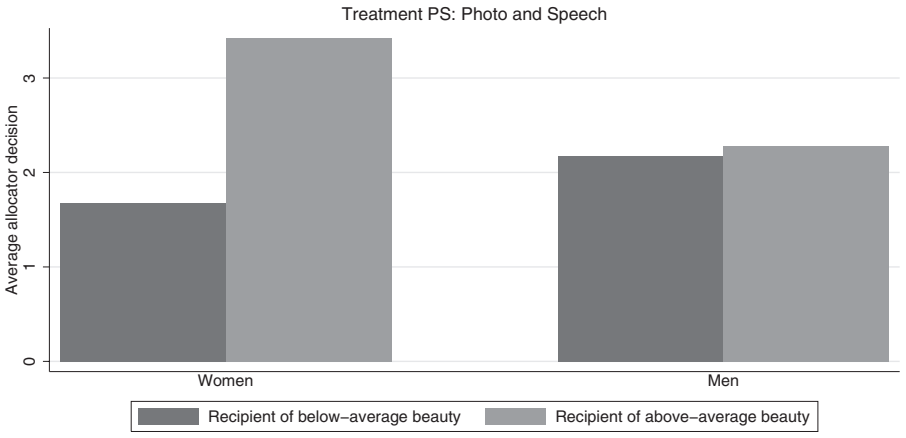
Recipients were paid in two stages. Immediately after the session, they only received their participation fee because their earnings depended on the future decision of allocators in Salta. Later, they received on average another 20.94 pesos from the group of allocators. Allocators received both their participation fee and the earnings from their allocation decisions immediately.

For the physical attractiveness raters, I recruited thirty-eight high school students from Tucuman. I chose high school students because I thought they would be less likely to know the participants, and consequently their ratings were less likely to be influenced by experiences outside of the laboratory. Judith Langlois and her colleagues (2000) found that different age groups agree on the norms of beauty. As previously noted, researchers have found strong agreement on what is considered physically attractive across genders and cultures, and I also found this to be the case in this sample (Hatfield and Sprecher 1986; Langlois et al. 2000). The results of standard statistical tests of reliability in this study are comparable with other studies.

Summary Statistics

Participants were not specifically recruited based on gender, physical attractiveness, or age in order not to reveal the purpose of the study. Among recipients, 60 percent were female, and the average age was twenty-three. Among allocators, 24 percent were female in condition P, 34 percent were female in condition S, and 50 percent were female in

Figure One
Average Allocations by Male and Female Allocators in the Photo and Speech (PS) Condition



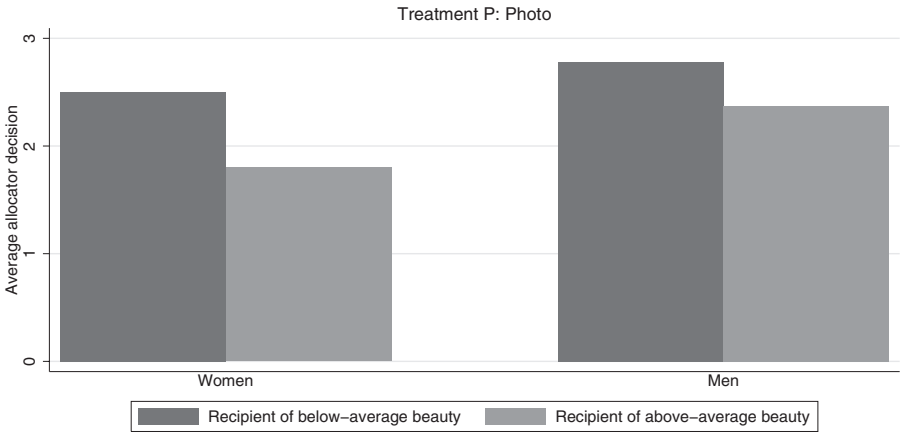
condition PS, with an average age raging from twenty-three to twenty-four. I found insignificant differences in all allocators' (male and female) average generosity across conditions B, P, S, and PS. On average, allocators donated 2.47 pesos in conditions P and S, and 2.39 pesos in condition PS. Overall, women were slightly more generous than men, allocating 2.51 pesos versus 2.40 pesos across the P, S, and PS conditions. Male recipients were treated slightly better than female recipients; they received 2.61 versus 2.33 pesos.

Results

Figure One shows the study's most significant finding. In the scenario in which allocators could both see a picture of recipients and listen to them speak (condition PS), women were far more generous than men toward physically attractive participants than they were toward less physically attractive recipients. Women gave almost twice as much to the more attractive recipients, and the difference is statistically significant.

I confirmed the insights shown in Figure One through statistical analysis. One useful feature of the design is that each allocator made decisions about two recipients, and I was therefore able to account for allocator-specific differences in generosity in my analysis. I have analyzed how allocations were dependent on both the recipient's gender and physical attractiveness and on the allocator's physical attractiveness. The results suggest that a one-standard-deviation increase in the recipient's beauty

Figure Two
Average Allocations by Male and Female Allocators in the Photo Only (P) Condition



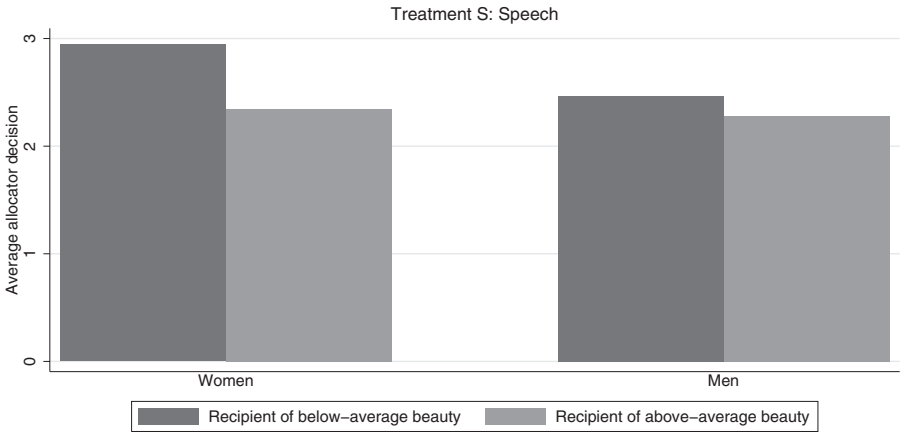
increased allocations by 0.54 pesos when the allocator was female. The effect is positive but small and not statistically significant for men.

Moreover, the recipient's gender appears insignificant as did the physical attractiveness of the allocator.[9] In other words, women treated both attractive men and attractive women better in the photo plus speech condition.

It is possible that the physical attractiveness effect in the photo plus speech condition is caused just by the photograph. The results shown in Figure Two indicate, however, that neither women nor men treat physically attractive recipients better in the photo-only condition. If anything, the physically attractive recipients are treated slightly *worse*. I must also note that the allocators in the photo-only condition are matched with the same set of recipients as allocators in the photo plus speech condition. This result also suggests that taste-based discrimination in a one-time interaction cannot be an explanation for the better treatment of the physically attractive recipients in the PS condition. The same result shown in Figure Three holds in the speech-only condition: both men and women treat physically attractive recipients slightly worse. This suggests that oral and visual interaction through speech and photograph complement each other.

Are recipients themselves aware of the circumstances under which physical attractiveness pays? When I analyzed the interaction between recipients' expectations and their own gender and physical attractiveness, I found that more attractive recipients (by one standard deviation)

Figure Three
Average Allocations by Male and Female Allocators in the Speech Only (S) Condition



expected 0.40 pesos more in the photo plus speech scenarios. In contrast, in the photo-only and speech-only conditions, attractive recipients expected much smaller beauty premiums, which were also not statistically significant. This suggests that the physically attractive recipients in my experiment have some awareness that the photo plus speech condition provides them with the most promising opportunity to increase their earnings.

As a first step in trying to uncover the mechanism that encouraged the female allocators to better reward the more physically attractive recipients, I examined whether the *content* of the recorded statement seemed to have an impact on earnings. For this purpose, I coded each of the recorded speeches based on content. Recipients typically used four different types of messages in their attempt to persuade the allocators. One group claimed they needed funding to complete their university studies or pursue alternative careers. Another group stressed the poor economic conditions in Argentina and provided details on their specific family needs. A third group appealed to the allocators' sense of fairness. Finally, a small, predominantly female group of recipients proposed to use the money to enhance the well-being of others.

Despite the distinctiveness of these themes, however, I found no statistically significant difference in the results for either the S or PS conditions according to the particular type of message used by recipients. While female allocators did not respond significantly to three of the message

themes, I found some statistically significant evidence that, in condition PS only, their donations were smaller when the recipients' statements focused on their own financial needs. I found this effect did not seem to correlate to either the physical attractiveness or the gender of the recipient, which indicates that it was the content itself that had an impact on the allocation decision.

In this experiment, it seems that the "beauty premium" that some recipients received in certain conditions resulted not from the content of their statements but through some interaction of vocal attractiveness, facial attractiveness, and message content. While these results could in part be driven by the one-way communication structure, they are in line with research in social psychology that documents that women are more likely to pay attention to and react to nonverbal cues. It appears that, in this setting, physical attractiveness enhances the effectiveness of oral messages in convincing female allocators to share a larger part of the total surplus while leaving male allocators unaffected.

Conclusion

In this article, I used dictator game experiments with visual and oral interaction to investigate the negotiation channel as an explanation for the beauty premium. In my experiment, I found that female allocators in dictator games treated physically attractive recipients more generously when they both listened to a prerecorded statement and viewed the recipient's photograph. While oral messages were not directly coded for the attractiveness of the voice, the fact that physically attractive recipients did not achieve better outcomes in speech-only condition suggests that, in this setting, voice mattered only when combined with an attractive photograph. This finding is consistent with research results that suggest that physical and vocal attractiveness complement each other (Zuckerman, Hodgins, and Miyake 2005). Similar explanations hold for the content of messages: female allocators seem to react more favorably to similar content when it is delivered by a physically attractive party as opposed to a much less physically attractive counterpart (i.e., someone whose looks were judged to be "below average").

While more research is necessary to understand the exact process, one explanation is that physical attractiveness amplifies the effect of voice and message content on female allocators. One reason may be that female allocators pay more attention to the nonverbal content of communication (Hall 1978, 1984; Rosenthal et al. 1984), which strengthens their perceptions of how "deserving" the other party is. Interestingly, physically attractive recipients seem to anticipate their stronger appeal in the PS condition because they expected to receive more in that particular condition. Because recipients were not directly prompted about the gender of the allocators when they formed their expectations about allocators' donations,

it is not possible to find out whether they anticipated any gender difference in the allocators' response. Another explanation for the association between speech and physical attractiveness in the PS condition is that women might need a threshold "sensory load" for the gender differences to become apparent (Myers-Levy and Sternthal 1991).

What lessons can practitioners take from these findings for real-world bargaining situations? First of all, a number of important caveats are in order:

1. While the dictator game design allowed me to abstract away from strategic considerations, it also implies an extreme power imbalance between the negotiating parties and will likely hold less relevance in situations in which both parties can directly influence the negotiated outcome. For example, in many professional hiring situations in which applicants are highly sought after or in better labor markets (those with lower unemployment or with labor shortages) in which applicants have greater bargaining power, this design appears less relevant. It would be interesting to compare my results to an ultimatum game design, which is identical to the dictator game except that the recipient can reject an offer (and both players receive nothing). Because I found that physically attractive recipients expect to get higher transfers, such expectations could force allocators to send even more money in an ultimatum game than in the dictator game to avoid rejection.[10]

2. It remains an open question as to whether these findings have relevance in bargaining situations that feature richer communication protocols, such as two-sided communication with more back-and-forth bargaining. Two-sidedness could weaken the impact of what I have called the negotiation channel by mitigating the impact of the "first impression" that the recipient creates with his or her initial message. But two-sidedness could also strengthen the negotiation channel because the recipient can send more messages and has more opportunities to be "seen."

3. A related interesting question is whether transcribed speech delivered through electronic messaging has the same effect as spoken speech. Because I found that the actual content of spoken messages had only a limited effect on allocation decisions in this article, I think it is plausible that the way in which the message was delivered was more important than the content of the message itself.

4. The external validity of these findings should be tested in real-world labor market transactions. In particular, it is possible that the effect only applies to inexperienced negotiators and to those who have less at stake in the negotiation.

Wage negotiations between human resource officers and employees might be the real-world scenario that is closest to the experiment in this article in terms of power balance. One tentative lesson of this article for practitioners might be to advise employers to be flexible in how they approach negotiations with employees. For example, employees could be given the opportunity to negotiate in writing rather than through a face-to-face conversation. Such "opt-outs" could address the grievances of employees who feel discriminated against in other modes of communication.

Perhaps a more radical approach to job interviews would involve limiting the availability of visual and oral interaction altogether, especially for jobs in which neither physical attractiveness nor communication skills improve productivity. For example, Claudia Goldin and Cecilia Rouse (2000) found that introduction of "blind" auditions for symphony orchestras — in which a screen is placed so that the evaluator can hear but not see the performer — have contributed to a substantial increase in the number of women who have secured these positions. Therefore, for jobs in which a particular set of skills can be evaluated "blindly" through written or computer exams and tests, it might be advisable to limit the visual and oral interactions that are pervasive in most hiring processes. Such a policy might decrease the quality of job matches along other dimensions, however, because employers learn valuable private information during the interview stage.

NOTES

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1. Offers in the dictator game tend to be of lower value than in the strategic ultimatum games where the second player has the opportunity to reject an offer (Camerer and Thaler 1995; Camerer 2003).

2. In his version of the game, recipients first took a trivia quiz, and the results determined the size of the pie. Allocators rewarded winners by allocating more to them when compared with a treatment in which pie size was randomly determined.

3. While most studies neither collect information on the gender of participants nor prime participants on gender, several notable exceptions are discussed extensively in Eckel, de Oliveira, and Grossman (2008).

4. Interestingly, they show that one-way identification of recipients in which allocators see who the recipients are, but recipients do not see the allocators, is sufficient to evoke higher donations on part of the allocators.

5. For single-peaked beliefs, the subject's optimal assessment is to predict an allocation that is at most a distance away from the allocation which she regards as the most likely. Mobius and Rosenblat (2006) use an alternative belief elicitation mechanism by imposing a penalty fee proportional to the assessment error. In this case the optimal assessment equals the median of the belief distribution. The mechanism in this article is particularly simple and easy to explain to subjects.

6. Allocators listened through headsets in order to ensure privacy. They were required to listen to each speech at least once but were allowed to listen to it additional times if necessary.

7. Both UNT and UTN are public universities that charge students very low tuition; most subjects were recruited from these two schools (82 percent and 12 percent, respectively). UNSTA is a private university that typically draws students from upper-middle-class families because tuition is considerably more expensive. UTN is an institute of technology where students can major exclusively in engineering or computer science only.

8. Salta Publica is a large public university, and Salta Privada is a private university. The share of subjects coming from Salta Publica ranged between 62 and 74 percent across the four scenarios.

9. An additional interaction term between recipient's gender and physical attractiveness is not significant.

10. Interestingly, Solnick and Schweitzer (1999) document that physically attractive recipients in an ultimatum game do not specify higher minimum acceptance levels for transfers from allocators compared with their unattractive counterparts. Therefore, higher transfers to the physically attractive in their experiment cannot be explained by the rejection threat. The authors did not elicit whether the recipients in fact expected to get higher transfers.

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