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You Cannot Judge a Book by Its Cover: Evidence from a Laboratory Experiment on Recognizing Generosity from Facial Information

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You Cannot Judge a Book by Its Cover: Evidence from a Laboratory Experiment on Recognizing Generosity from Facial Information

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Abstract

People form first impressions of others and make judgments about their social traits and character on the basis of facial perceptions. We implement a controlled laboratory experiment to investigate whether people can glean information about another person's other-regarding preferences from photographs of their face. To do so, we conduct a dictator game with an allocator and a recipient, and then present pairs of allocator photos to observers. Each pair portrays one relatively generous allocator and another who has demonstrated less generosity. The experimental results show that the observers cannot accurately recognize more generous allocators, but instead make systematic errors. In particular, the observers believe that allocators who are rated as being more attractive by others are more generous, despite there being no actual relationship between physical attractiveness and generosity.

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1. Introduction

A person's face is considered by many as a major source of information about that person's attitudes and personality. People form first impressions of others and make judgments about their social traits and character on the basis of facial perceptions (Samper, Yang and Daniels, 2018). With the advent of technology such as social media, photos of people are becoming more accessible for establishing and building social interactions and relationships. To the extent that people hold accurate beliefs that faces contain cues that can be used to infer characters and intentions, seeing a photo of a person's face may serve to reduce transaction costs and resolve social dilemmas in a variety of socioeconomic settings.

Earlier research has documented the role of a person's face in social interactions (e.g. Ballew and Todorov, 2007; Todorov et al., 2005). For example, Willis and Todorov (2006) found that as little as 100 milli-seconds of exposure to a face is sufficient for making a variety of judgments about a person such as their trustworthiness, competence and aggressiveness. Similarly, Wang and Emurian (2005) found that having a seller's photo increased trust in an online e-commerce setting. In experimental economics, reported evidence suggests that economic decisions are affected when subjects are shown their transacting counterpart's photo (e.g. Andreoni and Petrie, 2004, 2008; Mobius and Rosenblat, 2006, Solnick and Schweitzer, 1999; Wilson and Eckel, 2006), and that subjects are willing to pay to view such a photo, suggesting that people believe they are able to "read" another person by viewing a photo of them (Eckel and Petrie, 2011).

In this study, we implement a controlled laboratory experiment to investigate whether people can glean information about another person's other-regarding preferences from photographs of their face. To do so, we conduct a dictator game with an allocator and a recipient and then present pairs of

allocator photos to observers. Each pair portrays one relatively generous allocator and another who has demonstrated less generosity.[1] The experimental results show that the observers cannot identify generous allocators, but instead make systematic errors: in particular, the observers believe that allocators who are rated more attractive by others offer more; however, there is actually no relationship between attractiveness and generosity in practice.

The remainder of this paper is structured as follows. Section 2 offers a review of the previous literature on 'face value', while Section 3 presents the details of our experimental design. We present our results in Section 4, and conclude in Section 5.

2. Relevant Literature on 'Face Value'

The previous literature shows that people place economic value on the right to observe the face of a counterpart in a transaction. For example, Eckel and Petrie (2011) implemented an experimental trust game in which the trustor could pay to view the trustee's picture before deciding on the transfer amount, while the trustee did not know whether her picture was viewed by the trustor. The results showed that many trustors were willing to pay to view the trustee's face. Moreover, Yang (2014) found that in P2P lending, people are more willing to lend money to a person whose photograph appears trustworthy.

Two recent studies discuss whether one can recognize an economic agent's type based on their appearance. Van Leeuwen *et al.* (2018) showed pairs of photos consisting of one responder who rejected and one responder who accepted (a low offer) in an experimental Ultimatum Game to an independent group of observers. They found that observers are significantly better than random chance

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[1] We recognize that there are many behavioral models purporting to explain unselfish behavior in Dictator Games. Examples include social norms (Hoffman, McCabe and Smith 1996), inequality aversion (Bolton and Ockenfels 1998, Fehr and Schmidt 1999), altruism (Andreoni and Miller 2002), and many more. The purpose of this study is not to distinguish between these models. We use the term 'generosity' as a simple convenience to indicate the willingness to give.

at detecting who rejected the low offer. In contrast Chen et al. (2020) studied whether seeing a borrower's face improves loan approval decisions at a P2P lending company. They found that human lenders do not recognize untrustworthy borrowers, despite the fact that providing borrowers' facial information helps better predict repayment behavior in machine learning algorithms. We contribute to this literature by investigating whether people can recognize generosity based on facial appearance, and find that on average they cannot.

While it may be challenging to predict a person's behavior from their facial appearance, it is much easier to form an opinion about whether a person is good-looking or not based on a photo of their face. This can affect how we treat the person. In some circumstances, beauty commands a premium. For example, attractive fundraisers can obtain twice as much in donations as their unattractive counterparts (Reingen and Kernan 1993). Attractive female buyers obtain lower prices in produce markets than their plain-looking counterparts (Ruffle, Sherman and Shtudiner 2020). Similarly, a good-looking salesperson enhances customer evaluation of the product (Argo, Dahl, and Morales 2008). Moreover, better-looking male instructors receive higher instructional ratings (Hamermesh and Parker 2005). Studies of seller profile pictures on C2C e-commerce platforms show that both attractive and unattractive people sell significantly more than plain-looking people (Peng, Cui, Chung and Zheng 2020).

Given the inability of our subjects to accurately predict generous behavior based on facial information, we subsequently examine whether they make systematic errors by erroneously linking beauty with generosity, and find evidence supporting this notion as explained in the results section.

3. Experimental Design

The experiment consisted of two phases, conducted on different dates. In the first phase, allocators

were photographed after making decisions in a Dictator Game (DG). In the second phase, we showed

pairs of allocator photos to an independent set of observers and asked them to identify which of the two

paired allocators offered the higher amount. Details on the procedures and instructions are outlined

below and included in Appendix A.

3.1 Photo and the Dictator Game

The first phase of the experiment was conducted in November, 2019. We invited allocators and

recipients to come to the laboratory separately. Subjects played only one role, either that of an allocator

or that of a recipient. All subjects received a 10 Chinese Yuan (¥10) show-up fee in addition to their

earnings in the experiment. The 58 allocators were third-year undergraduate students at the School of

Economics, Shanghai University of Finance and Economics (SOE, SUFE).[2] Allocators were asked to

allocate 50 Yuan between herself (himself) and the recipient. When the allocators got paid, they were

asked if they would agree to have a facial photograph taken with neutral facial expression for later use.

All of the 58 participants agreed, and they were photographed in front of a curtain in the laboratory.

The 58 recipients were undergraduate students in years other than the third year at SOE, SUFE.

They were randomly matched with each of the allocators and then paid.

Later, we recruited 3 male and 3 female raters (all were students at SUFE) to rate the allocators'

appearance. Each rater received 50 Yuan. 58 allocator photos were presented to each rater in a random

sequence. Each rater scored each photo on a five-point scale from 1 ("very unattractive") to 5 ("very

attractive").

**3.2 Behavior in the Dictator Game**

We first briefly report the behavioral results of the first phase of the experiment. As shown in Figure

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[2] There are around 300 undergraduate students in each year at the School of Economics, Shanghai University of
Finance and Economics.

1 below, among 58 allocators 27 offered zero to their recipients. The maximum offer to the recipient was

25 Yuan**.**

Figure 1: Frequency of Recipient Earnings from the Dictator Game
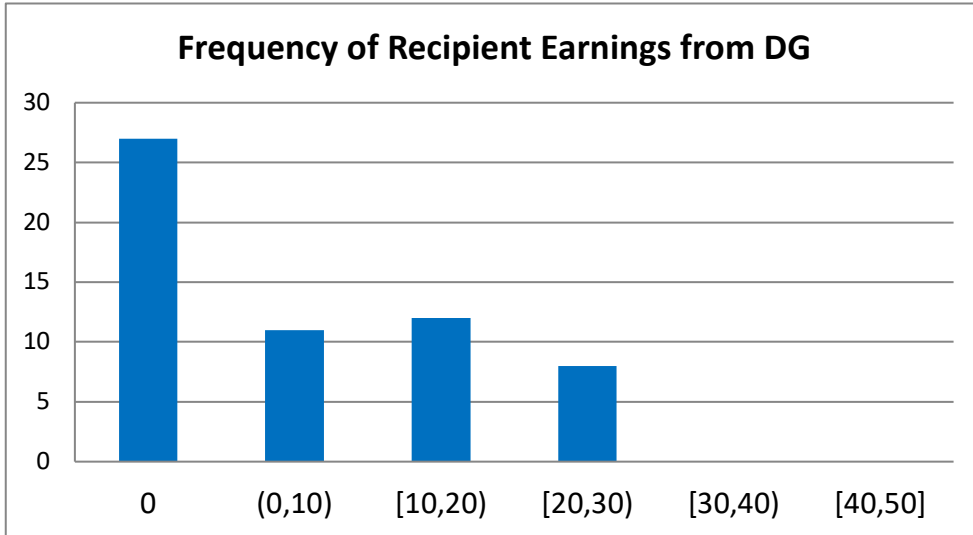
We choose 10 Yuan (20 percent of the pie) as a cutoff for high offers. As shown in Figure 2, there

are 34 female allocators and 24 male allocators. 16 female allocators offered at least 10 Yuan to their

recipients while only 4 male allocators offered this amount.

Figure 2: Offers to the Recipient in the Dictator Game
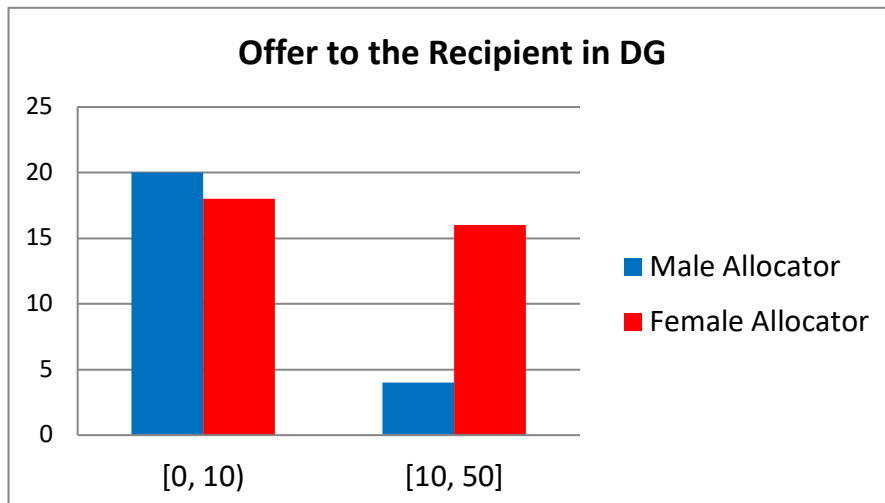
3.3 Observers

We conducted the second phase of the experiment in October, 2020. In the second phase, we

presented photos of allocators to an independent group of observers. To minimize the chance that any observer knew any of the allocators whom they were evaluating, students from SOE, SUFE were excluded from the subject pool. Subjects were thus from other schools at SUFE. All subjects received a 10 Yuan (¥10) show-up fee in addition to their earnings in the experiment.

We arranged the allocators' photos into pairs. Each pair consisted of one allocator who offered at least 10 Yuan to the recipient and another allocator who offered less than 10 Yuan. Allocators in the same pair were always of the same gender. Since there were four relatively more generous male allocators who offered at least 10 and 20 less generous male allocators who offered less than 10, there were $4 \times 20 = 80$ male pairs in total. Similarly, since there were 16 more generous female allocators who offered at least 10 and 18 less generous female allocators who offered less than 10, there were $16 \times 18 = 288$ female pairs in total. Thus, there were $80 + 288 = 368$ pairs in total. We then divided the 368 pairs into 23 sets of photos. Each set of photos included 16 distinct pairs of allocators (i.e., each set of photos included 32 different allocators' faces).

We recruited six observers for each of the 23 sets of 16 pairs of photos ($23 \times 6 = 138$ observers in total). The 16 pairs of photos in each set were presented to each of the six observers on a computer screen in a random order. The observers were told that in each pair there was one allocator who offered 10 Yuan or more to the recipient while the other allocator offered less than 10 Yuan. Then the observers were asked to mark the face of the allocator who offered 10 Yuan or more in each pair of the photos. The observers received 3 Yuan for each correctly marked photo.

4. Results

All 138 observers completed the study, thus generating a sample size of 2208 ($138 \times 16 = 2208$) observations. Table 1 summarizes the key data that we will utilize for our analysis.

Table 1 Data Summary: Means and Standard Deviations

	Mean	Std. Dev.
Female Allocator Pair	0.78	0.41
Female Observer	0.63	0.48
Allocator-Observer Gender Match	0.58	0.49
Correct Choice	0.50	0.50

Result 1: The observers cannot identify the more generous allocator in a given pair.

The average rate at which observers identified the more generous allocator in a pair was 0.503,

which is not significantly different from the random-chance probability of 0.5 (Ranksum Test, *p*=0.833;

Kolmorogov-Smirnov Test, *p*=1.000).

We also estimated an econometric model in which we clustered the data by individual observers

to control for data dependence. Using a random-effect logit regression framework[3], we examined

whether and to what extent observers could correctly identify who is the more generous in a given pair

of allocators. We regressed this binary dependent variable, whether or not the more generous allocator

in a given pair of allocators was identified by the observer (dummy coded for correct identification as

1, and incorrect identification as 0), on the following three independent variables: the allocator pair's

gender (dummy coded as 1 for female and 0 for male), observer's gender (dummy coded as 1 for

female and 0 for male), the gender-match between the allocator pair and the observer (dummy coded as

1 for match and 0 for mismatch), and the actual difference in the paired dictators' offers. All

coefficients are estimated with robust standard errors, adjusted for clusters by observer. The results are

reported in Table 2. Consistent with the non-parametric results, these results are unable to reject the

null hypothesis that observers were unable to identify who was the more generous person in an

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[3] Linear probability regressions not reported here but available from the authors yield results consistent with the
logit probability regression and associated tests reported.

allocator pair. Moreover, there was no significant impact of the allocators' gender, the observer's gender, or the gender match on this result. Thus, we conclude that the perceived generosity/kindness based on the photos fails to match the actual behaviorally exhibited generosity/kindness, measured by the amount allocated to a passive recipient in a dictator game.

Table 2: Determinants of the Observers' Choices being Correct: Mixed-Effect Logit Regression, Clustered at Observer Level

	Coef.	Std. Err.	p-value
Constant	0.008	0.111	0.942
Female Allocator Pair	-0.053	0.111	0.634
Female Observer	0.004	0.111	0.971
Allocator-Observer Gender Match	0.071	0.111	0.523
Difference in the Paired Allocators' Offers	0.011	0.007	0.129

Note: Number of observations: 2208. Clusters: Number of observers: 138.

Result 2: There is significantly more agreement among the six observers on which allocator in a given pair is the more generous than would occur by random chance.

In our data set, there are 368 pairs (23 sets of 16 pairs) of allocators. We assigned six observers for each set of 16 distinct pairs. For each pair of allocators, there are four possible levels of agreement among the six observers' choices: Case I, three observers make the same choice and the other three observers make the other choice; Case II, four observers make the same choice and the other two observers make the other choice; Case III, five observers make the same choice and the other one observer makes the other choice; Case IV, all six observers make the same choice. To investigate how similar the observers' choices were, we assigned agreement scores for these four cases: 0 for Case I, 1/3 for Case II, 2/3 for Case III and 1 for Case IV.

As a benchmark, suppose that each observer makes a random choice (i.e., determining which one of the two photos in the pair to select randomly with 50% probability). Then if the six observers make their random choices independently, the probability of Case I is 20/64, the probability of Case II is 30/64, the probability of Case III is 12/64 and the probability of Case IV is 2/64. We compared the

9

observed agreement scores in our data set with the distribution of agreement scores under the null

hypothesis that the observers made random and independent choices. The Kolmogorov-Smirnov test

yields $p<0.001$. The null-hypothesis expected agreement score conditional on random choice would be

$0*(20/64)+(1/3)*(30/64)+(2/3)*(12/64)+1*(2/64)=20/64$. The rank-sum test shows that the observed

level of agreement in our data is significantly higher than this amount ($p<0.001$).

This result implies that, even though observers were unable to correctly identify who was the

more generous one in an allocator pair, they were not making random choices. Many of them shared

the same opinion when they were rating generosity from the photos of the two allocators.

Result 3: There is a significant correlation between being considered good-looking and being considered generous.

We now have established that 1) observers were not able to recognize generosity from

appearance; and 2) there is more agreement than would occur by random chance about who is the more

generous from a given pair of allocators among the six observers. The interesting question that remains

is: what were the observers agreeing on? It is important to note that the observers were instructed and

incentivized to judge generosity, which is not observable. So were there any observable

characteristics/traits, which observers used in common to erroneously infer generosity? Drawing on the

literature reviewed above documenting the role of attractiveness in social judgments and the idea of a

"beauty premium" from social psychology and marketing research (e.g. Argo et al., 2008; Eagly et al.,

1991; Langlois et al., 2000; Peng et al., 2020), we next explored whether and to what extent observers'

judgments about a person's generosity were based on perceptions about the person's level of

attractiveness.

To examine this issue, we recruited six (three male and three female) independent raters to

evaluate all allocators' beauty/looks, using the same photos given to observers. The six appearance-raters did not participate in the dictator game, nor participate as observers. Each rater received a fixed fee of 50 Yuan to rate all 58 allocators, whose photos were presented to them one at a time in random orders. They were asked to rate the appearance of each allocator on a five-point scale from 1 ("very unattractive") to 5 ("very attractive").

We carried out several steps in our investigation about whether and to what extent judgments about generosity are correlated with judgments about appearance. First, we checked the inter-rater agreement by appearance-raters. Inter-rater agreement was high among the three female raters (*alpha* coefficient is 0.77), among the three male raters (*alpha* coefficient is 0.72), as well as among all six raters combined (*alpha* coefficient is 0.85). Second, we examined the correlation between observed giving by each allocator and the average appearance rating he/she received from the six raters. These two variables were not significantly correlated (0.02, $p = 0.82$), implying that there was no systematic relationship between perceptions of beauty and actual generosity.

Third, we examined whether the allocator who was rated the more attractive of the two allocators in each pair was more likely to be perceived as the more generous of the two. To do so, we calculated a binary dummy variable coded as 1 when the more generous allocator was rated as the more attractive one and 0 when that was not the case. When the two allocators in a given pair received the same ratings on their looks, the pair was omitted from the analysis. This involved dropping 210 pairs, leaving 1998 pairs in the analysis. Adding this dummy variable to the econometric model outlined earlier in Result 1 and Table 2, we obtained the results displayed in Table 3. While the other determinants continued to play insignificant roles, the estimated coefficient for the dummy variable indicating whether the more generous person was rated more attractive was 0.758 ($p<0.0001$). This tells us that there was a

significantly higher probability of the observer correctly guessing which allocator was more generous when that allocator was also rated more attractive. Conversely, it of course also implies that when the less generous allocator was rated most attractive (dummy variable equals 0), there was a higher probability of the observer incorrectly guessing that the more attractive but less generous allocator was the more generous of the two.

Table 3: Determinants of the Observers' Choices being Correct: Mixed-Effect Logit Regression, Clustered at Observer Level

	Coef.	Std. Err.	p-value
Constant	-0.522	0.175	0.003
Female Allocator Pair	0.014	0.118	0.908
Female Observer	0.017	0.118	0.882
Allocator-Observer Gender Match	0.048	0.118	0.683
Difference in the Paired Allocators' Offers	0.008	0.008	0.286
The more generous one being rated as more attractive	0.758	0.092	0.000

Note: Number of observations: 1998. Clusters: Number of observers: 138.

Fourth, we examined whether and to what extent the difference in attractiveness scores between the two allocators in each pair is related to the probability of the allocator with the higher beauty score being perceived as the more generous of the two. To do so, we employed the difference score of the physical attractiveness rating between the more and less generous allocators in each of the 2208 pairs[4]. This measure has the advantage of not requiring any pairs to be omitted. When added to the earlier model, the results presented in Table 4 indicate that while the other variables continue to be insignificant, the estimated coefficient for the difference in physical attractiveness rating was a significant 0.497 ($p<0.0001$). This indicates a strong correlation between the difference in attractiveness ratings between the more and less generous allocators and the probability of the observer correctly guessing who was more generous. Thus, it is not only who is rated as more attractive that

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[4] As a robustness check, we also used the standardized mean ratings to this difference to account for differences in judges' idiosyncratic rating tendencies. Using standardized scores for this set of analysis yields qualitatively identical results as reported in Table 4.

matters, but also how much more attractive they are relative to the other allocator in the pair.

Table 4: Determinants of the Observers' Choices being Correct: Mixed-Effect Logit Regression, Clustered at Observer Level

	Coef.	Std. Err.	*p*-value
Constant	0.034	0.166	0.836
Female Allocator Pair	-0.050	0.114	0.663
Female Observer	0.009	0.113	0.939
Allocator-Observer Gender Match	0.073	0.113	0.521
Difference in the Paired Allocators' Offers	0.001	0.008	0.914
Appearance Difference	0.496	0.059	0.000

Note: Number of observations: 2208. Clusters: Number of observers: 138.

5. Discussion

In this research project, we started by asking whether people are able to recognize other-regarding preferences such as generosity by examining photos of people's faces? Data collected from our controlled laboratory experiment answer this question in the negative. In particular, subjects were unable to identify who was the more generous one from two people's photos. We then asked whether their erroneous judgments were completely random and independent. Our analysis showed that, even though people were no better at identifying generosity from facial information than would occur by random chance, their choices were not in fact random or independent. Rather, there was significantly more agreement among our subjects than would occur by random chance. This motivated us to examine whether physical attractiveness influenced judgments of generosity. Our results demonstrated that they are indeed significantly correlated, implying that when people were asked to identify generosity embodied as the amount an allocator allocated to the recipient, they relied on physical attractiveness as a proxy in their judgment. This was erroneous because there was in fact no relationship between physical attractiveness and actual generosity in our data.

Many real world socioeconomic interactions are either face-to-face, or accompanied by photos of transacting parties if such interactions take place on social media or other internet-based platforms.

Though many people may believe that they can glean important information such as a person's character and traits from his/her face, the key result from our paper shows that such a belief is questionable. The value of facial information may be over-emphasized and lead to prejudiced and misleading conclusions by erroneously conflating a beautiful face with a generous or pro-social personality.

Indeed, consistent with the literature on affect-based evaluation heuristics (Schwarz and Clore, 1988), which suggests that initial, affective reactions of a first encounter are typically formed on the basis of hedonic (feeling-related) criteria, as well as the notion of a beauty premium, our subjects mistakenly used physical attractiveness to infer generosity, when in fact there was no relationship between appearance and generosity. As such, posting an attractive profile photo on social media and other online platforms instead of an avatar or landscape could make a difference as people unconsciously decode "good-looking" into other desirable social traits and character.

As the sharing economy gains more popularity as evidenced by the increasing number of services offering peer-to-peer lending, ride-sharing, and knowledge/talent-sharing, consumers now face a large number of potential transacting partners about whom they have little information on which to make a selection decision. Our results suggest that profile photos posted by such service providers will often be regarded as an important piece of information in this decision-making process, and can thus be used by the beautiful among them or imposters in cases where looks are not easily verifiable to market themselves and build an attractive brand that extends beyond their appearance. At the same time, our study sends an important cautionary message to consumers that they should not allow physical appearance to cloud their judgment of a person's character.

References:

Andreoni, J., and Miller, J. (2002). Giving according to GARP: An experimental test of the consistency of preferences for altruism. *Econometrica*, 70: 737-753.

Andreoni, J., and Petrie, R. (2004). Public goods experiments without confidentiality: A glimpse into fund-raising. *Journal of Public Economics*, 88: 1605-1623.

Andreoni, J., and Petrie, R. (2008). Beauty, gender and stereotypes: Evidence from laboratory experiments. *Journal of Economic Psychology*, 29: 73-93.

Argo, J., Dahl, D., and Morales, A. (2008). Positive consumer contagion: Responses to attractive others in a retail context. *Journal of Marketing Research*, 45: 690-701.

Ballew, C. and Todorov, A. (2007). Predicting political elections from rapid and unreflective face judgments. Proceedings of the National Academy of Sciences, 104 (46) 17948-17953.

Bolton, G., and Ockenfels, A. (2000). ERC: A theory of equity, reciprocity and competition. *American Economic Review,* 90: 166-193.

Chen, Z., Liu, Y., Meng, J., and Wang, Z. (2020). What's in a face? An experiment on facial information and loan approval decision. *Working Paper*.

Eagly, A., Ashmore, R., Makjijani, M., and Longo, L. (1991). What is beautiful is good, but…: A meta-analytic review of research on the physical attractiveness stereotype. *Psychological Bulletin*, 110: 109-128.

Eckel, C., Petrie, R. (2011). Face value. *American Economic Review*, 101: 1497-1513.

Fehr, E., and Schmidt, K. (1999) A theory of fairness, competition and cooperation. *Quarterly Journal of Economics*, 114: 817-868.

Gheorghiu, A., Callan, M., and Skylark, W. (2017). Facial appearance affects science communication. *Proceedings of the National Academy of Sciences of the United States of America (PNAS)*, 114: 5970-5975.

Hamermesh, D., and Parker, A. (2005) Beauty in the classroom: Instructors' pulchritude and putative pedagogical productivity. *Economics of Education Review*, 24: 369-376.

Hoffman, E., McCabe, K., and Smith, V. (1996). Social distance and other-regarding behavior in Dictator Games. *American Economic Review*, 86: 653-660.

Langlois, J., Kalakanis, L., Rubenstein, A., Larson, A., Hallam, M. and Smoot, M. (2000). Maxims or myths of beauty? A meta-analytic and theoretical review. *Psychological Bulletin*, 126: 390-423.

Mobius, M., and Rosenblat, T. (2006). Why beauty matters. *American Economic Review*, 96: 222-235.

Peng, L., Cui, G., Chung, Y. and Zheng, W. (2020). The faces of success: Beauty and ugliness premiums in e-Commerce platforms. *Journal of Marketing*, 84: 67-85.

Reingen, P., and Kernan, J. (1993). Social perception and interpersonal influence: Some consequences of the physical attractiveness stereotype in a personal selling setting. *Journal of Consumer Psychology*, 2: 25-38.

Ruffle, B. J., Sherman, A. and Shtudiner, Z. (2020). Good-Looking Prices. *Working Paper*.

Samper, A., Yang, L., and Daniels, M. (2018). Beauty, effort, and misrepresentation: How beauty work affects judgments of moral character and consumer preference. *Journal of Consumer Research*, 45: 126-147.

Schwarz, N., and Clore, G. (1988). How do I feel about it? Informative functions of affective states. In Klaus Fiedler and Joseph P. Forgas (Eds), *Affect, Cognition and Social Behavior*, ed. Toronto: Hogrefe, 44–62.

Solnick, S., and Schweitzer, M. (1999). The influence of physical attractivess and gender on ultimatum

decisions. ***Organizational Behavior and Human Decision Processes***, 79: 199-215.

Todorov, A. Mandisodza, A., Goren, A., and Hall, C. (2005) Inferences of Competence from Faces Predict Election Outcomes. ***Science***, 308: 1623-1626.

van Leeuwen, B., Noussair, C., Offerman, T., Suetens, S., van Veelen, M., and van de Ven, J. (2018). Predictably angry – Facial cues provide a credible signal of destructive behavior. ***Management Science***, 64: 3352-3364.

Wang, Y., and Emurian, H. (2005). An overview of online trust: Concepts, elements, and implications. ***Computers in Human Behavior***, 21: 105-125.

Willis, Y., and Todorov, A. (2006). First impressions: Making up your mind after a 100-ms exposure to a face. ***Psychological Science***, 17: 592-598.

Wilson, R., and Eckel, C. (2006). Judging a book by its cover. ***Political Research Quarterly***, 59: 189-202.

Yang, X. (2014) The role of photographs in online peer-to-peer lending behavior. ***Social Behavior and Personality***: 42:445-452.

Appendix A: Instructions

Instructions in Chinese

<div align="center">

分配者实验说明

</div>

实验编号： _____

性别：　　　　□男　　□女

　　欢迎参与有关个人决策的实验。如果你有疑问随时可以举手示意，我们将十分乐于回答你的问题。从现在起直到实验结束你离开实验室以前，严格禁止实验参加者之间相互交谈。

　　今天的实验里，每名按时到达的参加者都会得到10元的实验参与费。除此之外，请你按实验说明所描述的规则认真进行决策，这将决定你在实验中的收入。实验结束后，我们会将10元实验参与费和你在实验中的收入一起以现金的形式发放给你。

　　当我们一起读完实验说明后，实验将开始。

实验概述

在实验中，每个参加者将被指定为一名分配者或是一名接受者。

你是一名分配者，由你来决定你自己和另外一名接受者之间50元人民币的分配，而接受者不做任何分配决策。与你配对的接受者是一名自愿参加实验的在校生，他将在其它时段来参加实验、领取所得。

请选择一个分配方案，以决定你自己（分配者）和接受者的所得：

你的所得：_____（请填入不超过50的整数）　元
接受者的所得：<u>50 – 你的所得</u>　　　　　　　　　　元

填写完毕，请将此面朝下放置于桌面上。

欢迎参与有关个人决策的实验。如果你有疑问随时可以举手示意，我们将十分乐于回答你的问题。从现在起直到实验结束你离开实验室以前，严格禁止实验参加者之间相互交谈。

今天的实验里，每名按时到达的参加者都会得到10元的实验参与费。除此之外，如果你在实验说明所描述的规则下认真进行了决策，你将有机会在实验中得到收入。实验结束后，我们会将10元实验参与费和你在实验中的收入一起以现金的形式发放给你。

当我们一起完成对实验说明的阅读之后，实验将开始。

实验概述

在实验中，每个参加者将被指定为一名分配者或是一名接受者。

你是一名接受者。你在实验中抽取一个实验编号，一名与你实验编号匹配的分配者会决定你在实验中的所得。

你所抽取的实验编号为____号

观察者实验说明

　　欢迎参与有关个人决策的实验。如果你有疑问随时可以举手示意,我们将十分乐于回答你的问题。从现在起直到实验结束你离开实验室以前,严格禁止实验参加者之间相互交谈。

　　今天的实验里,每名按时到达的参加者都会得到10元的实验参与费。除此之外,请你按实验说明所描述的规则认真进行决策,这将决定你在实验中的收入。实验结束后,我们会将10元实验参与费和你在实验中的收入一起以现金的形式发放给你。

　　当我们一起读完实验说明后,实验将开始。

实验概述

　　实验分为两个阶段。第一阶段中,实验参与者被指定为分配者或接受者。一名分配者与一名接受者随机匹配,由分配者来决定他(她)本人和接受者之间50元人民币的分配,而接受者不做任何分配决策。本实验中的分配者和接受者都是自愿参加实验的在校生,他们已经在其它时段来参加实验、领取所得。

　　你作为第二阶段的实验参与者,实验组织者将向你展示16组分配者的照片。每组分配者有两名,其中一名分给其接受者的金额大于等于10元,而另一名分给其接受者的金额小于10元。请在每组中选出分给其接受者的金额大于等于10元的分配者,选择正确将带给你3元所得。因此,你在实验中总的所得为　3 ×(选择正确的个数)　元人民币。

Instructions for the Allocators

Experimental ID: _____

Gender： □Male □Female

Welcome to the economic decision experiment. If you have any questions, please raise your hand and one of us will come to your desk to answer it. From now until the end of the experiment any communication with other participants is not permitted.

At the end of the experiment, you will receive 10 Yuan for showing up on time for the experiment and you will also be paid, in cash, the sum of the payoffs that you earn in the experiment.

The experiment begins after we finish reading the instructions together.

Experimental Procedure

In this experiment, participants are assigned to either an allocator role or a recipient role. You are an allocator. You will be asked to allocate 50 Yuan between yourself and a recipient. The recipient does not make any allocation decisions. The recipient paired with you in this experiment is a student at SUFE, who has volunteered to participate in this experiment. The recipient will receive his/her earnings in another time slot.

Please make an allocation decision, to determine your earnings (as the allocator) and the earnings for the recipient with whom you are paired.

Your earnings: _____ (Please fill in an integer number no greater than 50) Yuan
The Recipient's earnings: (50 – Your earnings) Yuan

Please turn this piece of paper upside down when you finish.

Instructions for the Recipients

Welcome to the economic decision experiment. If you have any questions, please raise your hand and one of us will come to your desk to answer it. From now until the end of the experiment any communication with other participants is not permitted.

At the end of the experiment, you will receive 10 Yuan for showing up on time for the experiment and you will also be paid, in cash, the sum of the payoffs that you earn in the experiment.

The experiment begins after we finish reading the instructions together.

Experimental Procedure

In this experiment, participants are assigned to either an allocator role or a recipient role. You are a recipient. In the experiment, you will randomly draw an experimental ID number. The allocator with the corresponding experimental ID number has allocated a sum of money for you, which you will then receive.

The Experimental ID number you drew: #_____

Instructions for the Observers

Experimental ID: _____
Gender： □**Male** □**Female**

Welcome to the economic decision experiment. If you have any questions, please raise your hand and one of us will come to your desk to answer it. From now until the end of the experiment any communication with other participants is not permitted.

At the end of the experiment, you will receive 10 Yuan for showing up on time for the experiment and you will also be paid the sum of the payoffs that you earn in the experiment. You will receive your earnings via Alipay (or in cash if you prefer).

The experiment will begin after we finish reading the instructions together.

Experimental Procedure

This experiment includes two phases. In the first phase, participants were assigned to either an allocator role or a recipient role. An allocator was randomly matched with a recipient. The allocator was asked to allocate 50 Yuan between herself/himself and the recipient. The recipient did not make any allocation decisions. Both the allocators and the recipient were SUFE students, who volunteered to participate in this experiment. The allocators and the recipient have already participated in this experiment and received their earnings.

Now you are a participant in the second phase of the experiment. The experimenter will show you 16 pairs of allocators' photos. There are two allocators in each pair: one allocator offered 10 Yuan or more to her/his recipient, and the other allocator offered less than 10 Yuan to her/his recipient. For each pair, please mark the allocator that you believe is the one who offered 10 Yuan or more to her/his recipient. You will earn 3 Yuan for each correct mark. Therefore, your total earnings in this experiment are 3×(the Number of Correct Marks) Yuan.