DOI:10.1177/0956797613496435

Procedures

Stimuli. Faces used in the Ultimatum Game were complied from the Karolinska Directed Emotional Faces (Lundqvist, Flykt, & Öhman, 1998), the Eberhardt Laboratory Face Database (Eberhardt, Davies, Purdie-Vaughns, & Johnson, 2006), the Color Facial Recognition Technology Database from the National Institute of Standards and Technology, and the NimStim Face Stimulus Set (Tottenham et al., 2009). Faces were neutral in expression (Figure 1).

Questionnaires. Following the IAT, participants completed a series of explicit measures of race attitudes, including motivation to control racial prejudice (Dunton & Fazio, 1997), social value orientation scale (Pratto, Sidanius, Stallworth, & Malle, 1994), group liking, and demographic information. There were no correlations among explicit measures and race bias in the Ultimatum Task (Please see Figure 1 for a schematic of the Ultimatum Task).

Instructions For the Ultimatum *Task.*

Today you are about to play a game called The Ultimatum Game. This game involves two players: one is called the *proposer* and the other is called the *responder*. The game rules are as follows:

At the beginning of each round, the proposer is endowed with $10 by the experimenters. Then the proposer will decide how to split the $10 endowment between him/herself and the responder. For example, the proposer can decide to split the money 90/10: 90% to him/herself ($9) and 10% ($1) to the responder. After that, the responder can decide whether to accept the proposer's split or not. If the responder accepted this example split,

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he/she would get $1 and the proposer would get $9. If the responder thinks an offer is unfair and rejects it, both the responder and the proposer get $0. This way, both parties have something at stake: the proposer needs to think about how likely it is that his/her offer would be rejected, before proposing a specific split offer; the responder needs to consider whether the offer is fair or not before accepting/rejecting it.

In today's game, you will always play the role of the responder and we will pair you with numerous proposers. These proposers participated in our game before and authorized us to use their split offers in today's task. Although you will not meet these proposers in person, we will present you with their pictures along with their split offers, and you need to decide whether to accept or reject their offer. **It is important to remember that your decisions today will affect both how much you and the proposers will get paid. This is because if you decide to accept their offers, we will pay you your share, and we will also mail the proposers checks for their share of the money. Of course, if you reject the split offer on a certain trial, neither you nor the proposer will get anything.**

For this game, you will always play against a different *proposer* during each trial. YOU WILL NEVER PLAY AGAINST THE SAME PLAYER TWICE.

To determine the final payouts for you and the proposers, the computer will randomly select three trials at the end of the experiment. The final payouts will be based on these three randomly selected trials. Also, you will have the chance to act as a proposer and

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make 5 split offers for our future subjects. Just like the proposers you are dealing with today, if your split offers are accepted by our future participants, we will contact you and mail you a check depending on the actual payouts.

For the game, at each trial, you will first see the proposed split of the $10 endowment on the computer screen. You will have 4 seconds to come to a decision (e.g. accept or reject). If you fail to respond within the time limit you will see a warning message "**Reaction window expired. Please respond faster next time!**". If you accept the offer, then the amount of money will be divided as specified in the proposal. If you reject the proposal, then both you AND the proposer will get zero. If you wish to "Accept" the proposal please hit 1 on the keyboard. If you wish to "Reject" the proposal please hit 2 on the keyboard (instructions will be displayed on the computer screen as well).

You will be asked to take a "test" run to get used to the game before the real game starts. As we mentioned above, *at the end of the experiment we would like to take your picture and have you make 5 offers as the proposer to be used as proposals for future participants if we decide to use your picture and offer in the coming weeks. If you agree, we will collect your contact information at the end of the experiment such that if our future responders accept your offer we can notify and mail the check to you. Of course, you have every right not to have your picture taken and not release your data for future use.*

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At the end of the game we will ask you to complete a short computer task and some questionnaires. Do you have any questions so far? **If not, please answer the questions on the next page.**

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Pre Task Quiz.

1. The Proposer is endowed with $10. The Proposer decides to offer you $.50. In this example, what would the Proposer keep if you accepted the offer? (circle one)

A) $10

B) $.50

C) $9.50

D) $0

E) Something else?

2. Let's say you reject the $.50 offer made by the Proposer above, how much money will we mail to the Proposer?

A) $10

B) $.50

C) $9.50

D) $0

E) Something else?

Discussion

Although we point to hostility and aggression stereotypes as potential factors driving discrimination in acceptance rates, we do not directly assess stereotyping. Instead, we included a general measure of implicit race evaluations rather than a hostility specific IAT. Stereotypes and prejudice are separate constructs. Stereotypes refer to the cognitions about a group whereas prejudice refers to the evaluations of a group. Stereotypes and prejudices can lead to different discriminatory behavior, and there is

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some support that these concepts depend on separate neural processes (Amodio & Devine, 2006; Amodio, 2008; Dovidio, Kawakami, & Gaertner, 2002). Our results do not speak to the degree to which semantic information about African Americans (e.g. hostile) versus a more general negative evaluation drives race bias in these decisions. But the fact that we observe a relationship between implicit attitudes and race bias in acceptance rates suggests that the underlying attitudes in part relate to the bias. It is possible that had we included an IAT that measured hostility associations, we may have observed an even stronger relationship between implicit cognition and economic behavior. Additionally, it is clear that the implicit and not explicit evaluations of Black targets drove the effect. We observed a small but reliable difference in self-reported liking, such that participants rated feeling warmer towards White (M=71.22°) than Black individuals (M=64.90°; $F(1,48)=4.21$, $p=.05$, $\eta_p^2=.08$). However, unlike implicit evaluations, we did not observe a correlation between self-reported evaluations and acceptance rates, emphasizing the contribution of implicit attitudes in discriminatory economic decisions.

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Figure Caption

Figure 1. Ultimatum Game and the distribution of offers. *(A)* A sample trial of the Ultimatum Game. Participants completed 160 trials. (*B)* Identical distribution of offers as a function of race. The mean offer amount for Black proposers and White proposers was identical across all offers (M=1.94, SD = .99, n = 60).

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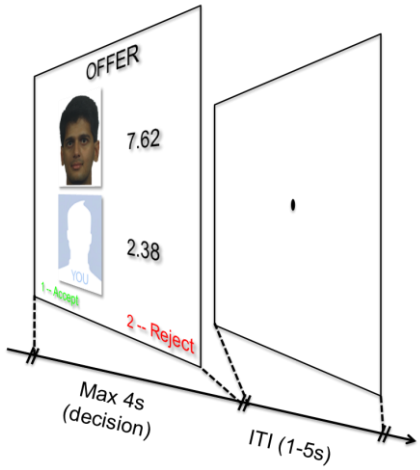
A.



B.