To know or not to know? Looking at payoffs signals selfish behavior, but it does not actually mean so

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ABSTRACT

Costs and benefits of everyday actions are often not known beforehand. In such situations, people can either make a choice "without looking" at the payoffs, or they can "look" and learn the exact payoffs involved before making the actual choice. Recent studies suggest that the mere act of looking at payoffs will be met with distrust by observers: "lookers" are both less trustworthy and perceived to be less trustworthy than "non-lookers". Here we extend this line of work by changing the measure of pro-sociality: instead of trustworthiness, we consider altruism. Does "looking at payoffs" signal self-regarding preferences? Do observers' beliefs match decision makers' actions? Two experiments demonstrate that: (i) the level of altruism among "lookers" is not different from the level of altruism among "non-lookers", but (ii) "lookers" are perceived to be less altruistic than "non-lookers". These results hold both when the measure of altruism is the choice whether to help or not in the so-called "envelope game" (Experiment 1) or when the measure of altruism is the donation in a standard Dictator Game (Experiment 2). In sum, these results uncover a perception gap according to which looking at payoffs signals selfish behavior, but it does not actually mean so.

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1. Introduction

Virtually all studies on human pro-sociality assume that decision makers know the exact costs and benefits of a pro-social action beforehand. While this assumption is helpful to develop theoretical models (Fehr and Schmidt, 1999; Bolton and Ocken-fels, 2000; Charness and Rabin, 2002; Capraro, 2013) and conduct behavioral experiments (Rapoport, 1965; Kahneman et al., 1986; Camerer, 2003), in many everyday situations people do not actually know the exact payoffs involved beforehand, but can gather this information only in a subsequent stage.

Such situations abound in real life. For example, when a friend asks you to drive her to some store, before making your decision, you can decide to ask for additional information to learn the exact cost of helping (How far is the store? How long will it take?). Similarly, when a friend tells you he is in trouble and needs a temporary loan, before making your decision, you may ask him the exact amount he needs and when he expects to return it. Analogously, before deciding whether to join an ethical cause, you might or might not decide to gather additional information about how much effort (time and money) you need to invest for this cause.

One simple way to formalize this type of situations is by means of a two-stage decision problem with one decision-maker and one observer (see Fig. 1). Initially, decision-makers know that they will have to decide between "helping" and "not helping". They know that helping leads to a fair payoff, while not helping is individually optimal. However, they do not know the exact payoffs. In Stage 1, decision-makers have to decide between "looking at payoffs" and "not looking at payoffs". In case a decision-maker decides to look, she or he learns the complete payoff structure of the game, that is, she or he learns the payoffs for both players. Then, in Stage 2, decision-makers make their actual choice between helping and not helping.

This decision problem is similar to the envelope game introduced for iterated interactions by Hoffman et al. (2015) and for one-shot games by Hilbe et al. (2015). These theoretical studies posit that "the mere act of considering one's strategic options and gathering information about the possible costs and benefits of an action will be met with distrust" (Hilbe et al., 2015).

In agreement with this intuition, Jordan et al. (2016) found that "lookers" are both less trustworthy and perceived to be less trustworthy than "non-lookers" in a standard Trust Game.

Here we aim at extending this line of work by changing the measure of pro-sociality. Instead of asking ourselves whether "lookers" are less trustworthy than "non-lookers", we ask ourselves

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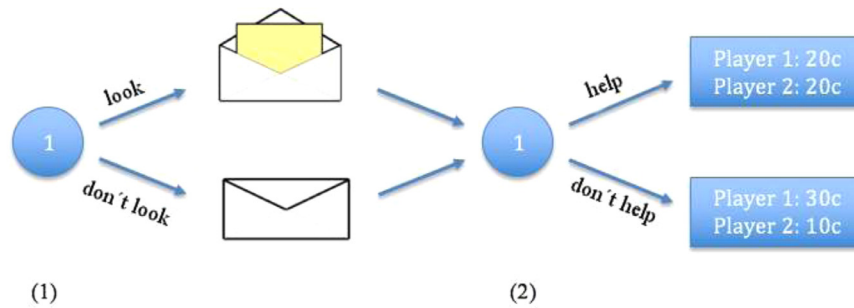 E-mail address: caprarovalerio@gmail.com (V. Capraro).

Fig. 1. The "envelope game" that we are going to use in Experiment 1. In Stage (1), the decision maker, Player 1, decides whether to look at the payoffs corresponding to "help" and "don't help", or not. If Player 1 decides to look at the payoffs, then she or he is informed about the complete payoff structure of the game, that is, she or he learns the payoffs for both players in both situations. In stage (2), Player 1 decides whether to help or not. Player 2 is passive and has no influence on the result of the game.

whether they are less *altruistic* than non-lookers, where altruism is defined as unilaterally giving money to an anonymous stranger.

There is indeed one theoretical reason to expect that considering altruism instead of trustworthiness will lead to results which differ from those by Jordan et al. (2016). Hoffman et al. (2015) suggest that looking at payoffs will be met with distrust by observers because looking at payoffs signals that the decision maker is deliberating about the available choices; whereas, "non-looking at payoffs" signals that the decision maker is not deliberating and so he or she will be more likely to use heuristics (i.e., automatic choices that people internalize, because they are payoff-maximizing in real life interactions, and use as default strategies when they have no opportunity to reason about all available options). While both trustworthiness and altruism are not payoff-maximizing in one-shot anonymous laboratory experiments, they behave differently in terms of heuristics internalized from everyday interactions. Since most people's everyday interactions are with friends, family members, and coworkers, and thus they are repeated, people tend to internalize heuristics that are optimal in iterated games (Rand et al., 2012, 2014, 2016; Capraro and Cococcioni, 2015). The crucial difference between trustworthiness and altruism is that the former is optimal in the long run, while the latter is not. Specifically, the standard way to measure trustworthiness is through the Trust Game, which is a positive-sum game. Thus, it is optimal in the long-run to be trustworthy, because the benefit of partner's reciprocal trust overcome the initial cost of trustworthiness. Indeed, a meta-analysis of studies exploring the effect of promoting intuition versus deliberation in positive-sum games, including the Trust Game, shows that subjects tend to internalize trustworthiness as their default strategy (Rand, in press). This logic does not apply to altruism: unilaterally giving money is zero-sum, and thus altruistic behavior is never optimal, neither in one-shot, nor in iterated games. Consequently, the amount of altruism should not depend on whether a person is deliberating or not. Indeed, a recent meta-analysis of 22 experiments has shown that promoting intuition over deliberation has no effect on altruistic behavior (Rand et al., 2016).

Taking into account this theoretical difference between altruism and trustworthiness, we formulate the following hypothesis.

Hypothesis. Subjects who look at payoffs are not significantly less altruistic than those who do not look at payoffs.

We test this hypothesis by means of two experiments, which demonstrate that indeed (i) "lookers" are not less altruistic than "non-lookers". Interestingly, in doing so, we also uncover a perception bias according to which (ii) "lookers" are perceived to be far more selfish than they actually are.

In sum, we show that looking at payoffs signals selfish behavior, but it does not actually mean so.

2. Experiment 1

As mentioned above, we aim to (i) measure a possible change in observers' beliefs about decision-makers' levels of altruism, caused by knowing that the decision-maker has decided to look at the cost of helping before making their decision, and (ii) measure whether a possible change in observers' beliefs corresponds to a change in decision-makers' actual behavior.

2.1. Method

Subjects were living in the US at the time of the experiment and were recruited using the online labor market Amazon Mechanical Turk (Paolacci et al., 2010; Horton et al., 2011; Paolacci and Chandler, 2014). In none of the studies presented in this paper and a priori power analysis was conducted, but the planned sample sizes were based on previous studies investigating behavioral changes in games involving pro-social behavior (Capraro et al., 2014a).

Each of 1088 participants (57% males, mean age = 32) was randomly assigned to one of seven conditions and passed standard comprehension questions to make sure they understood the decision problem at hand. Any subjects that did not pass the comprehension questions were automatically excluded from the survey. The seven experimental conditions were as follows.

Received. In this condition all participants were decision makers, to whom we asked to decide between Option A and Option B. Option A would give 20c to both themselves and the person they were paired with (participating in the *Guess Received* condition described below). Option B would give 30c to themselves and 10c to the other person.

Denied. This condition was similar to the *Received* condition, but decision makers (paired with participants in the *Guess Denied* condition) were not told the payoffs corresponding to the two options. Moreover, participants were not given the choice to learn them. The only information they had was that, if they chose Option A, then both themselves and the other participant would receive the same amount of money, while, if they chose Option B, they would get more money at the expenses of the other participant.

Choose. This condition was similar to the *Denied* condition. Participants were told that Option A would allocate the same amount of money to themselves and the other participant, but Option B would maximize their payoff at the expenses of the other participant. After giving this piece of information, we asked participants whether they wanted to know the exact amounts of money corresponding to each of the two options. As in Jordan et al. (2016), finding out the cost of help-