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Abstract

Selfless ignorance: Too good to be true

by Homayoon Moradi*

We use a range of dictator game experiments to investigate whether people avoid information altruistically. After learning about a product with positive externalities, a consumer may avoid learning the cost of the product so that she does not hesitate to act altruistically. We find that although a few altruistic people avoid information about their own costs, this does not change the overall rate of altruistic behavior. The result suggests that although concealing costs upfront might make a few people let go of learning them, it does not increase the rate of altruistic behavior.

Keywords: Pro–social behavior, Self–Image, Information Avoidance, Moral Wiggle Room

JEL classification: C91, D64, D83, D01

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1. Introduction

After learning about a product with positive externalities, a consumer may avoid learning how much it costs so that she does not have to hesitate in acting altruistically. The consumer uses the ignorance about own payoffs to act selflessly. Despite the recent growing literature on the adverse impact of information avoidance (for the literature review see Gino et al. 2016; Golman, Hagmann, and Loewenstein 2017), we know little about the beneficial impact of information avoidance. Can ignorance help us make more altruistic choices?

The struggle between pro-self and pro-social behavior is at the core of many fundamental difficulties of our time, such as, for example, the reduction of air pollution and the redistribution of scarce resources. For the welfare of our societies, it is thus essential to investigate possible mechanisms such as ignorance about own payoffs to promote pro-social choices over selfish ones.

Drawing attention away from potential costs upfront is cheap and easy to implement. It may change people's behavior without forbidding any options. By providing information about an environmentally friendly product upfront, an altruistic consumer may prefer not to learn the cost of it. If such a mechanism works, it has a promising potential to impact on crucial matters like air pollution and environmentally friendly and sustainable consumption.

This paper relates to the recent growing literature on moral wiggle room. According to the concept of moral wiggle room, people might prefer to remain uncertain about the effect of their choices on others. In the seminal experiment of Dana, Weber, and Kuang (2007), a dictator facing the option to lower her own payoff is initially uncertain as to

whether that sacrifice will help or hurt the recipient, but she can click a button to reveal this information.[1] The authors demonstrate that many dictators will avoid this information and, as a result, significantly fewer dictators choose the altruistic option in this game than in a baseline dictator game with full information.

The closest study to this paper is Kandul and Ritov (2017), who provide experimental evidence similar to our design. Although their data shows no treatment effect, they conclude that ignorance increases altruistic choices. We challenge this conclusion. As we describe below, although our experimental result is consistent with theirs, our interpretation is rather different. This paper also improves on theirs in terms of statistical power and also investigating the impact of the underlying uncertainty on information avoidance.

The interplay between information avoidance and uncertainty about own payoffs is important. Information avoidance is a choice to seek rather than reduce uncertainty (Hertwig & Engel, 2016). Many believe that uncertainty over the outcomes drives the information avoidance behavior (Dana et al., 2007) since the uncertainty works as a veil of ignorance protecting the ego of the decision-maker from facing the reality of the consequences of her choices. Although the finding in the lab is inconsistent with this claim (Moradi & Nesterov, 2018), people seem to react to uncertainty about their own payoffs differently than to the uncertainty about others' payoffs (Exley 2016). Thus, it is not clear whether the uncertainty about own payoffs plays a key role in prosocial behavior.

[1] This result has been widely replicated (Feiler, 2014; Grossman, 2014; Grossman & van der Weele, 2017; Larson & Capra, 2009; Regner & Matthey, 2012; van der Weele, 2012).

The definition that reflects the uncertainty in the moral wiggle room is the following: Uncertainty of a random variable is the amount of information gained when it is realized. In information theory, this variation of uncertainty is called *information content* or *suprisal*. For example, a product with a 50% chance of being more expensive than a rival product has a higher level of uncertainty than a product with a 10% chance. While two products with a 10% or 90% chance have the same level of uncertainty. Since the term uncertainty has a broad meaning with distinct definitions, while terms can sometimes be used interchangeably (Epstein, 1999), we stick to the definition above whenever we mention uncertainty.

This paper presents an experiment that sheds light on whether ignorance regarding own payoffs can enhance altruistic behavior. We use the experimental design of Moradi and Nesterov (2018) to distinguish two distinct features about ignorance: the mere possibility of information avoidance in the own payoff, and the underlying uncertainty about own payoffs to answer two specific questions:

1. Does the possibility of ignorance regarding own payoffs enhance altruistic behavior?

2. Does the level of uncertainty about own payoffs impact altruistic behavior?

To investigate whether ignorance about own payoffs enhances altruistic behavior, we use a simple binary dictator game with hidden information, similar to the moral wiggle room game of Dana, Weber, and Kuang (2007). The ignorance game is a two-player game in which a dictator has a binary choice between two choices where one of them leads to a higher payoff for the recipient than the other, but the own payoff of the dictator is unknown. There are two possible states of the world. In the conflicting state,

the altruistic choice leads to a lower own payoff, and in the nonconflicting state to a higher own payoff. All the dictators need to do is to click a button in order to find out whether the state is conflicting or nonconflicting.

The first experimental manipulation contrasts the possibility of remaining ignorant about own payoffs. In the full information treatment, subjects play a binary dictator game with a conflicting state, i.e., with no possibility of information avoidance. Whereas in the high uncertainty treatment, both conflicting and nonconflicting states of the world are equally likely and the choice to remain ignorant about own payoffs is introduced. Ignorance can only explain the difference between the two treatments if the high uncertainty treatment has a significantly higher rate of altruistic choices than the full information treatment.

We find that although about one-third of dictators avoid information about their own payoffs, the overall rate of altruistic choices does not significantly change between the full information treatment and the high uncertainty treatment. This result suggests that ignorance about own payoffs does not increase the altruistic behavior. Although approximately one-third of dictators choose to remain ignorant about their own payoffs, this does not significantly change the overall rate of altruistic choices from the full information treatment. The fact that some remain ignorant can be explained in that they are altruistic types who would choose altruistically even if they knew their own payoffs.

Although some may selflessly ignore learning their own payoffs and may choose altruistically, the key measure is the overall rate of altruistic choices. This point is downplayed in Kandul and Ritov (2017). The authors ran only two treatments similar

to our full information and high uncertainty treatments.[2] Instead of comparing the result of altruistic choices between the two treatments, they compare the ratio of altruistic choices of dictators who chose to remain ignorant to the baseline. Kandul and Ritov (2017) conclude that "information avoidance can help to increase pro-social behavior—" without mentioning that the ratio of altruistic dictators is not large enough to generate a significant increase in the overall rate of altruistic behavior.

By running a power analysis beforehand, we choose the sample size according to the statistical power at the recommended level of 0.8. Thus, we can rely on the no-treatment effect of our results. Because of a similar design, if we assume the same effect size between our treatments and Kandul and Ritov (2017), the sample size has a statistical power at the level of 0.62. Kandul and Ritov (2017) did not vary the level of uncertainty.

The second experimental manipulation varies the level of uncertainty about own payoffs. The low uncertainty treatment varies the likelihood of conflicting state in the high uncertainty treatment from 50% to the extreme likelihood of 99%. In this way, we make sure that the level of uncertainty regarding the own payoffs is trivial. If uncertainty about own payoffs plays no role in altruistic behavior, we should not expect to see any significant difference in the rate of altruistic choices between treatments. However, if we see significantly higher altruistic choices in the low uncertainty treatment compared to the high uncertainty treatment, then uncertainty should play a role in altruistic behavior.

[2] Kandul and Ritov (2017) ran their experiment later than when we ran our main treatments, however, as they managed to publish sooner than us we therefore became aware of their results.

We find that the rate of altruistic choices does not change significantly as the level of uncertainty decreases. Ignorance about own payoffs with either a high or a low level of uncertainty does not increase altruistic behavior.

Our result has an important policy implication. Imagine that a new environmental policy aims to increase the rate of a new environmentally friendly product by concealing its costs upfront. Our result suggests that although a few people may let go of learning the costs and choose the environmentally friendly options, the overall rate of environmentally friendly consumption choices does not change, regardless of whether there is an upfront concealment of costs or not.

The paper is structured as follows. The next section presents the experimental design and results. Section III concludes.

2. Experiment

Figure 3 displays the three treatments in the experiment. The full information treatment is a binary dictator game as a benchmark comparison. The next two treatments introduce the possibility of remaining ignorant of the own payoffs; one has a higher level of uncertainty than the other. Each treatment is described below.

1. Full information: This treatment exactly replicates DWK's baseline treatment. Dictators choose between two options A and B with conflicting payoffs as shown in Figure 1. Option A has a payoff of 6€ for the dictator and a payoff of 1€ for the recipient while option B has the same payoff of 5€ for both the dictator and the recipient.

Figure 1 Payoff of the full information treatment

Player X's choices			
	A	X:6	Y:1
	B	X:5	Y:5

2. High uncertainty: Participants were presented with the two versions of the game where option A has a payoff of 1€ for the recipient and option B has a 5€ payoff for the recipient. They were told that the true payoffs were equally likely and would never be revealed publicly but the dictator could reveal them by clicking a button. The recipient would not be informed about the revelation choice of the dictator.

Figure 2 Payoffs of high uncertainty and low uncertainty treatments

Player X's choices			
	A	X:?	Y:1
	B	X:?	Y:5

Left

A	X:6	Y:1
B	X:5	Y:5

Right

A	X:5	Y:1
B	X:6	Y:5

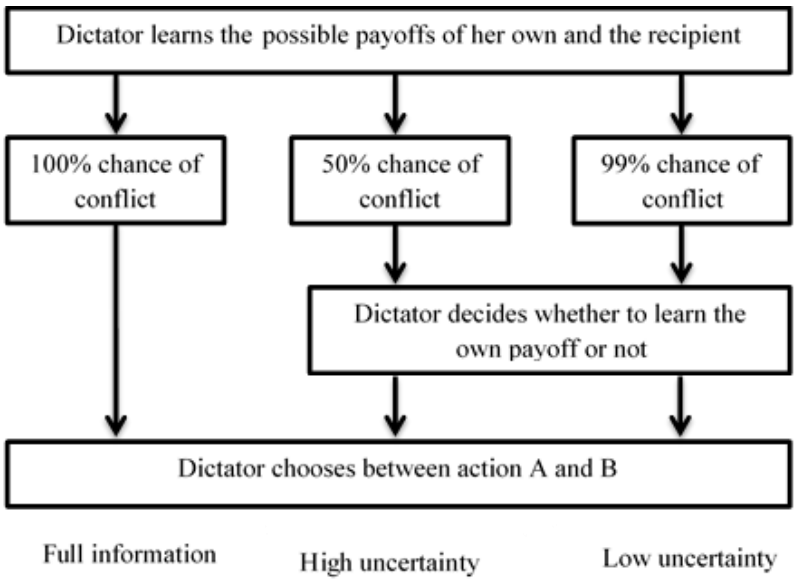
3. Low uncertainty: This treatment differed from the high uncertainty only in that the probability of the game with conflicting interests occurring was 99 percent instead of 50 percent.

Following the design of Moradi and Nesterov (2018), the extreme probability of 99 percent allows us to minimize the uncertainty while still keeping the possibility of information avoidance.

Participants completed a brief quiz to make sure they understood the instructions. The quiz was administered prior to the start of the experiment, so participants were unlikely

to forget. The answers were read aloud; the participants were then asked whether they had any doubts or questions. Recipients made a hypothetical choice for the same game.

Figure 3 Overview of the Experimental Treatments



2.1. Hypotheses

Our design tests the two hypotheses listed below.

Hypothesis 1. The rate of altruistic choices between full information treatment and high uncertainty treatment does not differ.

Hypothesis 1 suggests that if ignorance about the own payoffs plays no role in altruistic behavior, we should not expect to see any significant difference in the rate of altruistic choices between treatments. Based on the other regarding payoff maximization, the rate of altruistic choices between full information and high uncertainty treatment does not differ.

Hypothesis 2. The rate of altruistic choices and also information avoidance choices between the high uncertainty treatment and the low uncertainty treatment does not differ.

This hypothesis allows us to examine the role of uncertainty in ignorance. An altruistic dictator would like to remain ignorant of her own payoff but does not like a high level of uncertainty about her payoffs. She may act altruistically in the low uncertainty treatment but not in the high uncertainty treatment.

2.2. Results

A total of 394 subjects participated across the three conditions, with exactly half (197) playing the role of dictator. A previous power analysis revealed that on the basis of the mean, between-groups comparison effect size observed in the Moradi and Nesterov (2018) study (d = .6), an approximate number of 43 dictators for the ignorance treatment would be needed to obtain statistical power at the recommended .80 level. Thus, all treatments have at least 43 observations.

On average, participants earned 9.70€, including a 5€ show-up fee. Sessions lasted approximately 20 minutes. The participants were recruited via the online recruitment system ORSEE (Greiner, 2015). The experiment was implemented by a z-Tree software (Fischbacher, 2007).

Result 1. Ignorance about own payoffs does not significantly increase the altruistic choices.

Figure 2 depicts the rates of information avoidance choices and altruistic choices in all treatments. In the full information treatment, 34 out of 48 dictators (71%) choose the altruistic action. This is not significantly different from the rate of altruistic choices in the high uncertainty treatment, in which 32 out of 44 (73%) dictators choose the altruistic choices ($X^2(1) = 0, p = 1$). In the low uncertainty treatment, 28 out of 48 dictators (58%) choose the altruistic action. This is not significantly different from the

rate of altruistic choices in both the high uncertainty treatment ($X^2(1) = 2, p = 0.2$) and the full information treatment ($X^2(1) = 1, p = 0.3$).

The result suggests that ignorance about own payoffs with either a high or low uncertainty does not significantly impact the rate of altruistic choices. Thus, we cannot reject the first hypothesis.

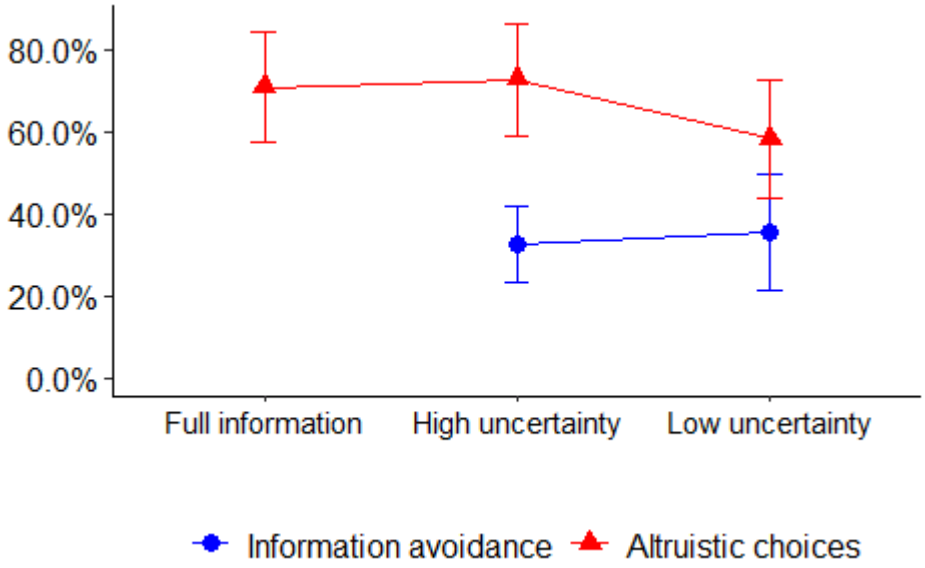
Result 2. In total, approximately one-third of dictators avoid information about their own payoffs in both ignorance treatments.

In the high uncertainty treatment, 33 out of 101 dictators (32%) choose to avoid information regarding their own payoffs. Of these 33 dictators, 27 (82%) choose the altruistic action. Although in the conflicting interests games, 14 out of 44 (32%) avoid information about their own payoffs and choose the altruistic option B, their rate is not large enough to yield a significant difference in the rate of altruistic choices between Full information treatment and the high uncertainty.

In the low uncertainty treatment, 17 out of 48 dictators (35%) choose to avoid information about their own payoffs, which is not significantly different from the high uncertainty treatment ($X^2(1) = 0.02, p = 0.9$).

Out of 17 dictators who choose to avoid information about their own payoffs, only nine of them (53%) choose altruistically in the low uncertainty treatment, which is significantly different from the high uncertainty treatment ($X^2(1) = 3, p = 0.07$).

Figure 4 Altruistic choices and information avoidance by treatment.



"Altruistic choices" is the fraction of subjects who played the game with conflicting interests and chose the action B. "Information avoidance choices" is the fraction of subjects choosing not to reveal their own payoffs. The error bars represent +/-95% confidence interval.

The low uncertainty in the low uncertainty treatment has a two-sided effect on selfish and altruistic-type dictators who sort into information avoidance. First, the expected cost of not revealing and then choosing altruistically decreases for selfish-type dictators as the probability of conflicting games increases. That is because the selfish types care only about their own payoffs. The uncertainty is so low that selfish-type dictators do not bother revealing the information. This increases the rate of selfish types among dictators who choose to avoid information.

Consistent with this explanation, the rate of dictators who choose to avoid information and choose the non-altruistic option significantly increases from 4% (2 out of 44) in the high uncertainty treatment to 16% (8 out of 48) in the low uncertainty treatment ($p =$

$0.09, Fisher's\ exact\ test$).[3] The dictators' questionnaire provides supporting evidence. Most of the dictators who remain ignorant and choose the non-altruistic option state that they were certain of their own payoffs.

Another impact of the low level of uncertainty is that altruistic dictators may avoid information. The uncertainty might help altruistic dictators appear to be a selfless altruistic person when she voluntarily remains ignorant about her own payoff. But, when the uncertainty is almost removed, as in the low uncertainty treatment, it is much harder to keep an image of selfless altruism when she almost surely knows her own payoffs. Then, the information avoidance choice loses its attractiveness for an altruistic type.

Consistent with this explanation, the rate of dictators who choose to avoid information and select the altruistic option significantly decreases from 32% (14 out of 44) in the high uncertainty treatment to 19% (9 out of 48) in the low uncertainty ($X^2(1) = 4, p = 0.05$).

3. Conclusion

The idea moral wiggle room suggests that information avoidance can lead, or can at least "license," people to take selfish actions (Dana et al., 2007). In other words, information avoidance serves as a situational justification for people's selfishness. In contrast to this approach. Kandul & Ritov (2017) believe that "that the same mechanism of information avoidance can help to increase pro-social behavior." This paper provides evidence that in the context of moral wiggle room, information avoidance does

[3] Since the expected number of each cell is not large enough, Fisher's exact test was used.

not increase the pro-social behavior. We also find that changing the underlying uncertainty of information avoidance also does not help to increase the pro-social choices.

Although the classic design of moral wiggle room and its variation used here is similar to many real-life situations, it certainly does not include many factors. For example, in our experiment the possibility of a conflict of interest is salient. In the real world, consumers may not think in terms of certain probabilities when forming an idea about costs, because there are many other dimensions of the product that they may take into consideration. In such contexts, further studies are needed to investigate whether information avoidance can promote altruistic behavior.

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Appendix

Instructions

[All treatments]

This is an experiment in the economics of decision-making. You will be paid for your participation in the experiment. The exact amount you will be paid will depend on your and/or others' decisions. Your payment will consist of the amount you accumulate plus a 5€ participation bonus. You will be paid privately in cash at the conclusion of the experiment. If you have a question during the experiment, raise your hand and an experimenter will assist you. Please do not talk, whisper, or try to communicate with other participants during the experiment. Please put away all outside materials (such as

book bags, notebooks, etc.) before starting the experiment. Participants who violate the rules will be asked to leave the experiment and will not be paid.

In this experiment, each of you will play a game with one other person in the room. Before playing, we will randomly match people into pairs. The grouping will be anonymous, meaning that no one will ever know which person in the room they have played with. Each of you will be randomly assigned a role in this game. Your role will be player X or player Y. This role will also be kept anonymous. The difference between these roles will be described below. Thus, exactly one half of you will be a Player X and the other half a Player Y. Also, each of you will be in a pair that includes exactly one of each of these types. The game your pair will play will be like the one pictured below. Player X will choose one of two options: "A" or "B." Player Y will not make any choice. Both players will receive payments based on the choice of Player X. The numbers in the table are the payments players receive. The payments in this table were chosen only to demonstrate how the game works. In the actual game, the payments will be different. For example, if player X chooses "B," then we should look at the right square for the earnings. Here, Player X receives 3€ and Player Y receives 4€. Note that player X's payment is in the lower-left corner of the square, player Y's payment is in the upper-right corner.

Player X's choices			
	A	X:1	Y:2
	B	X:3	Y:4

At this point, to make sure that everyone understands the game, please answer the following questions:

In this example, if Player X chooses "B" then:

Player X receives __

Player Y receives __

In this example, if Player X chooses “A” then:

Player X receives __

Player Y receives __

<answers read aloud>

[Full information Treatment]

The actual game you will play is pictured below. Note that in this game, Players X gets the highest payment of 6€ by choosing A, but this gives Player Y the lowest payment of 1€. However, if player X chooses B player X will get a lower payment of 5€ while Player Y will also get a payment of 5€. Since we will only play this game once and will then end the experiment, please take a minute to think about the game.

Player X’s choices			
	A	X:5	Y:1
	B	X:6	Y:5

[High uncertainty and low uncertainty treatments]

The actual game you will play will be one of the two pictured below. Note that both games are the same except that Player X’s payments are flipped between the two. Note that both games are the same except the amounts for Player X have been exchanged. Player X will receive his highest payout (6€) if he selects A in the game LEFT or B in the game RIGHT. Otherwise, Player X will receive his lowest payout (5€). Player Y

receives his highest payout (5€) in both games if B is selected and the lowest payout (1€) if A is selected.

Left

A	X:6	Y:1
B	X:5	Y:5

Right

A	X5	Y:1
B	X:6	Y:5

You do not know which of the games you will be playing. However, note that for Player Y, the payments will be identical. The only thing that will differ is the payments for Player X.

[*High uncertainty treatment:* The actual game you will play was determined by a coin flip before the experiment.]

[*Low uncertainty treatment:* The actual game you will play was determined by a random draw using an urn before the experiment. The urn contains 100 balls consisting of 1 blue ball and 99 black balls. When the drawn ball is blue, the left game is played. If the ball is black, the right game is played.]

However, we will not publicly reveal which game you are actually playing. Before playing, Player X can choose to find out which game is being played, if they want to do so, by clicking a button. This choice will be anonymous; thus, Player Y will not know whether X knows which game is being played. Player X is not required to find out and may choose not to do so. When the game ends, we will pay each player privately.

Player X's choices	A	X:?	Y:1
	B	X:?	Y:5

At this point, to make sure that everyone understands the game, please answer the following questions:

In both games, which action gives player Y his or her highest payment of 5€?__

If Player X chooses B, then Player X receives __

i. 5€
ii. 6€
iii. Either 5€ or 6€.

<answers read aloud>

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