ADVICEAND PRO-SOCIAL BEHAVIOR

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Abstract

Policy makers are often interested in motivating pro-social (i.e. less selfish) decisions. We investigate how decision makers faced with a choice between a selfish action and a pro-social action are affected by advice from an advisor, when the advisor's interests are aligned with that of the decision maker (and not the pro-social outcome).We find that decision makers who received advice even from such an advisor nevertheless make more pro-social choices than decision makers who did not receive any advice. Interestingly, this was true regardless of whether the advice from the advisor recommended a selfish action or a pro-social action. We conclude that forced consultation may lead to more pro-social outcomes, even when the incentives of advisorsand decision makers are not aligned with that pro-social outcome. This finding may have important implications in many economic and business settings.

Keywords: Advice, Pro-social Behavior, Experiment, Diffusion of Responsibility, Altruistic Punishment.

What role does advice play in decision making? In many important economic decisions, decision makers depend on experts to give them advice related to a decision that they are about to make. Economists have been long interested in advice in situations where the incentives of the two parties are not aligned (e.g., Gneezy 2005, Erat and Gneezy 2012, Danilov et al. 2013, Ismayilov and Potters 2013). For example, individual investors may obtain assistance selecting investments from financial advisors with superior knowledge but conflicting interests. In such cases, while advisors are better-informed about the investment options, the advisor may act in a way that benefits herself at the expense of the decision maker.

However, in many other economic situations, there is no conflict of interest between the advisor and the decision maker. But while the incentives of the decision makers and the advisor are aligned, they arenot aligned with the interests of third parties. For example,a house owner who seeks advice from his real estate agent about what information to disclose to a potential buyer. To the best of our knowledge, the effect of advice in such cases has yet to be addressed in the economic literature.Therefore, it's not clear whether advice in such cases will lead to a more selfish outcome (hiding crucial information from a potential buyer) or a more prosocial (less selfish) outcome compared withdecision making without the assistance of an advisor.

While the question has yet to be examined in the literature, two different streams of research that may shed light on this situation make opposing predictions. The first stream of research, which suggests a decrease in pro-social behavior, is diffusion of responsibility (Darley and Latane, 1968). According to this theory, people may feel less responsibility for social outcomes when others are involved in the decision. In such cases, responsibility for decisions and for the resulting consequences may be diffused in a fashion that enable individuals totake self-interested actions they would eschew if acting unilaterally. For example, Dana, Weber and Kuag (2007) show that when more than one dictator is responsible for a recipient's outcome, diffusion of responsibility can lead to less fair behavior and outcomes. Similarly, Hamman, Loewenstein and Weber (2010) show that when participates can choose to hire an agent to make a dictatorial decision, they systematically hire agents who act selfishly on their behalf. Moreover, when asked to evaluate their behavior, decision makers who acted through agents felt less responsible for the unfair outcomes they had produced and perceived them as fairer. Hence, working through an intermediary can serve as a mechanism to diffuse responsibility in a way that allows the decision maker to make selfish decisions without feeling bad about it.

The second stream of literature, which suggests an increase of pro-social behavior, is that of altruistic punishment. According to this theory, individuals have a strong preference for fairness and equitable outcomes and they are willing to punish violators of social norms to enforce cooperation and pro-social behaviors even when it is costly to do so (Fehr and Fischbacher, 2004a; Fehr and Gachter, 2000). Past literature found that this type of costly punishment is employed not only by directly affected parties (parties that were negatively affected by the decision and are taking revenge against the violator), but also by unaffected parties (third parties) who are willing to accept personal costs to reinforce social norms and punish the violator without any overt benefits [Fehr and Fischbacher, 2004b; Henrich et al., 2006; Strobel et al., 2011, Bartling and Weber (2014)).

In order to decide between the two theories, we conduct an *incentivized* experiment where participants are paid based on decisions they make in the experiment (thus their decisions have direct consequences and in this sense they are incentivized to consider the consequences more carefully before making a decision). The experiment consists of three roles – a decision maker, recipient and an advisor. The *decision maker* decides between one of two actions- Choice A and Choice B - with the possibility of sacrificing some of her own payoff for the benefit of a passive *recipient*. There is a small chance of 10% that the state of the world is aligned between the incentives of the decision maker and the recipient –that is - Choice A is in the best interest of both the decision maker and the recipient. But there is a 90% chance that the incentives of the decision maker and the recipient are not aligned, and the recipient will be harmed if the decision maker chooses Choice A. The decision maker has the benefit of receiving a recommendation from an *advisor*. The advisor's interests are aligned with those of the decision maker, as the advisor too receives a higher payoff if the decision maker choses Choice A. The decision maker knows that the interests of the advisor are aligned with hers. In addition, the decision maker knows the probability that if she chooses Choice A she will harm the recipient for every recommendation that the advisor sends.

In order to isolate the effect of the advisor on the decision maker's decision, we construct a *NoAdvisor* treatment that mirror the probabilities that are given to the decision maker in the main treatment, but now without receiving a recommendation from an advisor. Because the information about the state of the world is identical in both treatments, we are able to control for the information given, and isolate the effect of receiving a recommendation from an advisor.

Our main finding is that when decision makers receive a recommendation from advisors whose interests are aligned with that of the decision makers, they tend to choose more often the pro-social action - Choice B, against their own interest. This happens both when the advisor recommends a pro-social action, and when she recommends a selfish action. Therefore, as a policy implication, we find that even having an advisor whose interest is aligned with that of the decision maker is preferable to improving pro-social decisions. From a theoretical point of view, our study finds support for altruistic punishment in behavior of decision makers but not to diffusion of responsibility. Future research is needed to examine whether this generalizes to other contexts.

Experimental Design.

Participants in the study were recruited on Mturk from the U.S worker population. To be eligible to participate in the study, all participants had to clear several attention check questions to demonstrate that they understood the instructions. A total of 250 recruits were eligible to participate in this study. Each participant received **50 cents as a participation fee. In addition, each participant could make an additional payment of up to 50 cents, depending on their role and the decisions made in the study.**

Of the 250 recruits, 50 participants were assigned a role of Advisors, 100 participants were assigned a role of Decision Makers and 100 participants - a role of Recipients. Decision Makers and Recipients were randomly divided into two treatment groups - *Assigned Advisor* and *No Advisor* treatments (50 Decision Makers and 50 Recipients in each group). All 50 Advisors were assigned to the *Assigned Advisor* treatment. In the *Assigned Advisor* treatment –each Decision Maker was randomly matched with an Advisor and with a Recipient. In the *No Advisor* treatment, each Decision Maker was randomly matched with a Recipient (but not with an Advisor). Treatment conditions and participants are summarized in the Table 1 below.

The role of the Decision Maker is to decide between one of two actions- Choice A and Choice B - with the possibility of sacrificing some of her own payoff for the benefit of a passive Recipient (who does not make any decision in the study). Choice A always gives a higher payoff to the Decision Maker, but there is a small chance of 10% that the state of the world is aligned between the incentives of the Decision Maker and

Recipient. In this case, the Decision Maker's selfish action - Choice A - is also in the best interest of the Recipient. Otherwise, Choice B is in the best interest of the Recipient (this happens 90% of the time).

Table 1: Treatment conditions and participants (total 250 participants)

Treatment	Number of **Decision Maker** participants	Number of **Recipient** participants	Number of **Advisor** participants
Assigned Advisor	50	50	50
No Advisor	50	50	0

Figure 1 describes the payoffs of the Decision Maker and the Recipient for every choice of the Decision Maker and state of the world

Figure 1: States of the World and Payoffs of Decision Maker and Recipient

State 1 Misaligned Interest Probability - 90%	Decision Maker	Recipient
Choice A	50	0
Choice B	40	50

State 2 aligned Interests Probability - 10%	Decision Maker	Recipient
Choice A	50	50
Choice B	40	0

***Assigned Advisor* treatment (main treatment)**

The Decision Maker (she) does not know the state of the world, and therefore which choice - A or B - is in the Recipient's best interest.However, before deciding, she receivesa recommendation from an Advisor.The advisor (he) knows what the state of the world is and he can send the Decision Maker one of two messages: "I recommend that you choose Choice A" or "I recommend that you choose Choice B". The Advisor is incentivized to send the message "I recommend that you choose Choice A", because hereceives a higher payoff if the Decision Makerfinally chooses Choice A – 50 cents if the Decision Maker chooses Choice A, and 0 if the Decision Maker chooses Choice B.

In addition to the recommendation of the Advisor, for every recommendation – A or B of the Advisor, we inform the Decision Makers about the probability that they will harm the Recipient if they finally choose A. Those probabilities were calculated from the aggregate decisions made by all advisorssending that specific message.

After receiving all that information, the Decision Maker makes her decision. Then, the state of the world is realized (randomly chosen by a computer) and all players receive their payoffs according to the decision made by the Decision Maker and the state of the world.

To understand behaviors better, we use the *strategy method* to elicit the Advisor's choice. Under the strategy method, each advisor reports what advice he would send the Decision Maker for each realization of state of the world -i.e, what advice he would like to send if the state of the world is 1 and if the state of the world is 2. We also use the strategy method to elicit the Decision Maker's choice following every possible advicefrom an Advisor.After the Decision Maker makes her choice for every possible Advisor's recommendation – the State of the world is randomly chosen by a computer (90% of the time – state 1 and 10% state 2). Then, we implement the choice of the Advisor for that state of the world. Lastly, we implement the choice of the Decision Maker for the specific Advisor's recommendation. Payoffs to all players are determined accordingly and participants are paid.

No Advisor Treatment (control treatment)

In order to isolate the effect of the advice, we also construct the ***No Advisor*** treatment condition based on the observed behaviors of advisors in the ***Assigned Advisor*** treatment. In this treatment, there is no actual advisor. We inform the Decision Makers about the probability that they will harm the recipient if they finally choose Choice A. Thisis the same probability that was calculated from the aggregate decisions made by all advisors in the *Assigned Advisor* treatment condition and was provided to Decision Makers also in the *Assigned Advisor* treatment. Therefore, the only difference between the *Assigned Advisor* and *No Advisor* conditions is that in the *Assigned Advisor* treatment, Decision Makers also receive a recommendation message from an Advisor. This allows us to control for the information and isolate the effect that advicehas on decision making.

Experimental Results

a. **Advisors' Behaviors**

The following table summarizes the percentage of Advisors (in the *Assigned Advisor* treatment) that sent the Decision Maker the message "I recommend that you choose Choice A", for each state of the world.

Table 2: Percentage of Advisors that sent the Decision Maker the message "I recommend that you choose Choice A" by state of the world

The true state of the world	% of Advisors recommending Choice A
State 1	72% (N=36)
State 2	100% (N=50)

Recall that Advisorsreceive a higher monetary payoff when the Decision Maker choses Choice A. Therefore, the Advisorhas an incentive to recommend Choice Aalso when Choice B is in the Recipient's best interest (State 1). 72% of Advisorswould recommend Choice A, when the state of the world is 1.AllAdvisors (100%) recommend Choice A, when the state of the world is 2 (Choice A is also in the best interest of the Recipient). Using those probabilities, and the probability that the state of the world is 1 (90%),we calculated the conditional probabilities that the state of the world is 1(so choosing Choice A will harm the Recipient) for every possible message of the Advisor:

Prob(state is 1/ An advisor recommend Choice A) = 0.9*0.72/(0.9*0.72+0.1)= 87%
Prob(state is 1 / An advisor recommend Choice B) = 0.9*0.28/(0.9*0.28+0.1*0)=100%

The above probabilities are used in both *No Advsior*and *Assigned Advsior* treatments. In the *No Advisor* treatment,Decision Makersdecide between two choices under two scenarios – when the probability of state 1 is 100 % (in this case there is no uncertainty and the Decision Makers knows for sure that if she chooses Choice A she will harm the Recipient), and when the probability for state 1 is 87%. In the *Assigned advisor*treatment, Decision Makers are matched with Advisors who send them a recommendation (I recommend Choice "A (B)) and in addition are given the conditional probability that the state is 1, for each message – 87% and 100% respectively.

b. **Decision Makers'Behaviors**

The following table summarizes the percentage of Decision Makers who chose Choice A, by treatment and Advisor's message. Message "A" ("B") refers to the advisor's message – "I recommend that you choose Choice A (B)". In the *No advisor* treatment, message "A" ("B") is the probability that choosing Choice A will harm the Recipient that was calculated based on the aggregate messages"A" ("B") of Advisors in the *Assigned Advisor*treatment.

Table 3: Percentage of Decision Makers choosing Choice A by treatment and Advisor message

Treatment	Message	Percentage Choosing A
No Advisor	B	78% (N=39)
	A	92% (N=46)
Assigned Advisor	B	50% (N=25)
	A	76% (N=38)

The results show that advicehas a large effect on decisions of Decision Makers

1. Decision when Receiving Message B

When Decision Makers receive a message "B", they know for sure that by choosing Choice A will harm the Recipient. Therefore, we can use this messageto measure the selfishness of Decision Makers under full information.

We see remarkable differences in selfishness levels between the "*No Advisor*" and "*Assigned Advisor*" treatments.

In the *No Advisor* condition78% of Decision Makers choose the selfish action(Choice A). In the *Assigned Advisor* treatment when on top of knowing that there is a 100% chance that they will harm the Recipient, they also receive a recommendation of the Advisor to choose Choice B – only 50%of Decision Makers choose the Selfish action. Those differences are statistically significant (*P-value*=0.0035, two tailed test*)*Thus, Decision Makers were less selfish when receiving advice.

2. Decision when Receiving Message A

In the *No Advisor* treatment, 92% of Decision Makers choose Choice A in spite of knowing that there is an 87% probability that the state is misaligned (state 1), and that theRecipient will be hurt.

On the other hand, under *Assigned Advisor*, 76% of Decision Makers chose the selfish action A, in spite of knowing that there is an 87% probability that the state is misaligned (state 1) after being recommended to choose this option by the Advisor. Those differences are statistically significant (*P-value* = 0.029, two tailed test).Thus, Decision Makers were again less selfish when receiving advice.

Discussion and Conclusions

Our experiment shows that individuals with a social action tend to act less selfishly after receiving advice from advisors. This is true both whenthe advisor recommends the non- selfish action and when she recommends a selfish action.

When the advisor recommends a non-selfish action, against her own monetary incentives, many individuals find it difficult to go against that recommendation, and they follow the advice.With full information and no Advisor, only 22% of Decision makers were willing to give up some of their payoff to benefit a passive Recipient. However, a substantial 50% of Decision Makerswere willing to do sofollowing a recommendation of an Advisor against her own monetary interest.This showsthat a decision to act pro-socially is not only driven byintrinsic preference for equitable outcomes, but can be influenced by situations where behaving selfishly will make the individualappear immoral or unfair – to themselves or to others. Our experiment shows that one such situation is when advisors make a recommendation to act pro-socially against their own monetary incentives.

On the other hand, when the advisor recommends a selfish action, which coincideswiththe advisor's ownmonetary incentives, many individualswill not follow thatadvice;24% of Decision Makersin our experiments made a pro-social choice, against their monetary incentives in the *Assigned Advisor* treatment, compared with only 8% in the*No Advisor* treatment.This suggests that advice does not allow for diffusion of responsibility.Diffusion of responsibility occurs when individuals ae ableto shift the blame from themselves to others, so they feel less guilty to act selfishly, and therefore more selfish behaviorisobserved. Our findings reject this theory in advice setting. Moreover, we find evidence for altruistic punishments in behavior of individuals. Decisions Makers in our experiment were willing to sacrifice some of their own payoff to penalizeselfishAdvisor who wanted to benefit themselves at the expense of a passive Recipient.

This paper makes several key contributions to the economic literature. First, the economic literature has assumed that advice matters because of the information that the advice adds to the decision maker. However, we show that advice matters even after controlling for that information;information about the state of the world is identical in both *Assigned Advisor* and *No Advisor* treatments – and yet individuals make substantially different decisions. Second, we look at a setting that has been generally overlooked by the economic literature – a setting in which the interests of advisors are aligned with those of decision makers, and find that in this setting advice leads to more pro-social choices.Lastly, this paper also makes a theoretical contribution to the literature on diffusion of responsibility;Past literature on diffusion of responsibility dealt with situations where decision makers delegated the decision to another decision maker, or shared the responsibility for an unequitable outcome with other individuals who made the decision together with them. The case of advice is substantially different from that of delegation or a decision taken by multiple decision makers because with advice the decision maker is still making the final decision on her own. We show that in the advice setting, individuals are unable to shift the blame to third parties. Future research is needed to examine whether this generalizes to other contexts.

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