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AGENCY AND THE CONSTRUCTION OF SOCIAL PREFERENCE: BETWEEN INEQUALITY AVERSION AND PROSOCIAL BEHAVIOR

By

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Agency and the Construction of Social Preference: Between Inequality Aversion and Prosocial Behavior

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Abstract

The term "social preference" refers to decision makers' satisfaction with their own outcomes and those attained by comparable others. The present research was inspired by what appears to be a discrepancy in the literature on social preferences – specifically, between a class of studies demonstrating people's concern with inequality and others documenting their motivation to increase social welfare. We propose a theoretical framework to account for this puzzling difference. In particular, we argue that a characteristic of the decision setting – an individual's role in creating the outcomes, referred to as agency – critically affects decision makers' weighting of opposing social motives. Namely, in settings where people can merely judge the outcomes, but cannot affect them ("low agency"), their concern with inequality figures prominently. In contrast, in settings where people determine the outcomes for themselves and others ("high agency"), their concern with the welfare of others is prominent. Three studies employing a new salary-allocation paradigm document a robust effect of agency. In the high-agency condition participants had to assign salaries, while in the low-agency condition they indicated their satisfaction with equivalent predetermined salaries. We found that compared with low-agency participants, high-agency participants were less concerned with disadvantageous salary allocations and were even willing to sacrifice a portion of their pay to better others' outcomes. The effects of agency are discussed in connection to inequality aversion, social comparison, prosocial behavior, and preference construction.

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In evaluating their own outcomes, such as salary offers, test grades, or prices paid, individuals often pay attention to other people's outcomes. Individuals' satisfaction with their own outcomes may vary as a function of the outcomes attained by comparable others. The term "social preference" is used to capture the range of decision makers' reactions to their own and others' outcomes. Social preferences are said to depart from pure self-interest and reflect social motives, such as concern for fairness and social welfare (Fehr & Fischbacher, 2002).

Our present study was inspired by what appears to be a discrepancy in the literature on social preferences. We propose that agency plays a central role in shaping social preferences, and may explain previous results. Agency is defined as "the capacity, condition, or state of acting or of exerting power" (Webster's Dictionary). A person's agency in a given social setting refers to her degree or level of control over her outcomes and those of other parties. According to our theoretical framework, agency moderates the strengths of different social motives, thus giving rise to different social preferences. Our studies test and document the effects of agency. The framework and studies presented here shed light on theories of inequality aversion, social comparison, prosocial behavior, and preference construction.

Background

We start by describing the seemingly conflicting conclusions about the nature of social preferences obtained in previous research. A prominent body of empirical research suggests that people dislike unequal allocations, especially ones that benefit others more than the self. In one study, participants were asked to rate the attractiveness of hypothetical distributions of payoffs to oneself and one other person (Loewenstein, Thompson, & Bazerman, 1989). The participants rated options awarding equal payoffs, such as $600 for oneself and $600 for the other, more highly than options awarding a greater total payoff (or greater social welfare), such as $600 for oneself and $800 for the other. Bazerman, Loewenstein, and Blount White (1992) further suggest that "people can be so concerned about interpersonal comparisons that they will often prefer outcomes that reduce their own and other parties' payoffs in an effort to avoid inequalities" (p. 220). This stream of research implies that people's social preferences are primarily driven by inequality aversion rather than an alternative motivation to increase social welfare (Bazerman, Blount White, & Loewenstein, 1995; Fehr & Schmidt, 1999; Tricomi, Rangel, Camerer, & O'Doherty, 2010).

A different conclusion emerges from several studies by Charness and Rabin (2002) and others (e.g., Kritikos & Bolle, 2001). In these studies, participants chose among different allocations of experimental points (to be converted to money). Charness and Rabin's findings suggest that people are motivated to maximize the total payoffs for themselves and others, and are less concerned with lack of equality. Thus, in the interest of increasing social welfare, participants even settle on options that increase the difference in payoffs in favor of the other. For example, their participants tended to choose 400 for oneself and 750 for the other over the option giving 400 to each. Moreover, in the interest of choosing a higher award for the other, these participants were even willing to forgo some of their own payoffs. Charness and Grosskopf (2001) conclude by saying that "our results indicate a surprisingly low propensity to prefer lower payoffs for other people. People generally choose to maximize the material payoffs of others, even when these are greater than their own" (p. 302). In sum, these studies highlight the maximization of joint payoffs as a main social motive affecting preferences and, as such, they contrast with the studies that find inequality aversion to be a powerful social motive.

We suggest that a clue for understanding the different conclusions in past research can be found by investigating the differences between their *paradigms*. Consider first the line of research highlighting people's concern with inequality. These studies elicit social preferences by asking the participants to pass judgment on *predetermined* allocations of monetary outcomes between themselves and others; in particular, participants could not influence the distributions (Loewenstein et al., 1989).

For example, Messick and Sentis (1985) asked their participants to imagine that they and another student had worked as teaching assistants and were paid by a professor. They were asked to rank how satisfied they would be with predetermined hypothetical distributions of payments. Similarly, Tricomi et al. (2010) asked their participants to rate how appealing they found money transfers made by the experimenter to either themselves or another participant. We suggest that such experimental methods elicit a passive mode of judgment which we call *low agency*.

Consider next the second line of research highlighting people's preferences for options that maximize joint payoffs. It is our impression that the preference elicitation methods employed here differ importantly from those employed in studies showing inequality aversion. In particular, decision makers in these studies are asked to *determine* their own and others' outcomes, rather than judge a predetermined allocation of outcomes. Charness and Rabin (2002), for instance, presented their participants with a series of binary choices among various allocations of experimental points (to be converted to monetary payoffs) to themselves and another, anonymous participant. The participant's choice was final and dictated the outcomes for both parties. Similarly, Kritikos and Bolle (2001) asked students in class to choose outcomes for themselves and another, unnamed classmate. These are *high-agency* tasks in our terminology. In sum, studies showing inequality aversion seem to involve decision makers in low-agency decision making, whereas those documenting the maximization of joint payoffs tend to involve them in high-agency decision making. We suggest that agency plays a major role in producing the discrepant results in these two streams of research.

How might the level of agency create different social preferences? While people are generally self-interested, aiming to maximize their own payoffs, they are also motivated to avoid inequality and seek the maximization of social welfare. In many situations, as demonstrated in the studies above, the motivations to maximize total payoffs and to avoid inequality conflict with one another. Thus the way people resolve the conflict between these two motivations affects their social preference. We conjecture that decision makers' level of agency moderates the relative strengths of their social motives, and thereby influences their social preference.

Consider low-agency settings, where individuals are engaged in the task of judging the attractiveness of a distribution. In such settings, individuals are prone to evaluate their outcomes by comparing them with those attained by others (Festinger, 1954, Goethals & Darley, 1977; Suls, Martin, & Wheeler, 2000, 2002). Moreover, individuals tend to react negatively when confronted with unfavorable comparisons, since such comparisons invite negative inferences about the self and lead to devaluation of one's own outcomes. Individuals are thus prone to avoid them (Bazerman et al. 1992; Loewenstein et al., 1989; Messick & Sentis, 1985). Neural studies also show evidence for inequality-aversive social preferences in low-agency decision settings (Tricomi et al., 2010). In sum, the social preferences of individuals engaged in low-agency tasks are shaped by inequality aversion.

In contrast, high-agency decision makers construe the situation differently. Being active in creating the outcomes for the self and the other, they are less likely to view comparisons that favor others as reflecting poorly on themselves. Rather, they view the others' outcomes as evidence of their own effectiveness and generosity. They are therefore less concerned with inequality considerations and give more weight to prosocial, other-regarding motives, including the maximization of total payoffs. Consequently they find other-regarding options more attractive and behave more generously.

Overview of Studies

We have suggested that the differences among the results obtained in previous research paradigms are rooted in the method they employed to measure social preferences (satisfaction ratings in studies we define as low-agency, choice in those we define as high-agency). To test our hypothesis, our studies manipulated the method by which social preferences are measured. Specifically, we created the

"salary allocation paradigm," where people's social preferences are elicited in two different methods. With this new paradigm, which was used here in three studies, participants first perform a task for which they earn a sum of money. They are then asked to indicate their preference between two salary options for an anonymous participant (who is not co-present and would be recruited later) for performing the same task. The salary options pit two social motives – avoiding inequality and maximizing total payoffs – against each other. In one condition, decision makers are asked to indicate which of two *predetermined* salary allocations to the anonymous participant would satisfy them more. This condition, referred to as the low-agency condition, uses the same elicitation method used in the first research paradigm described above (e.g., Loewenstein et al., 1989). In the second condition, decision makers are asked to *determine* the salary for the other participant. This high-agency condition follows the procedure used in the other research paradigm (e.g., Charness and Rabin, 2002). Our prediction was that decision makers in the high-agency condition would express a greater preference for the payoff-maximizing option, even though it is unfavorable for them.

The salary allocation paradigm has several advantages. First, it involves a real, effortful task for which participants are remunerated. This simulates real-life settings in which individuals get paid for work. Our paradigm provides the participants with a meaningful basis for comparing their own and the other person's salaries. Thus social motives – including seeking the common good and avoiding inequality – should come into play. Second, the experimental task was carefully designed to create distinct decision settings, while holding all other aspects constant. This allows us to assess how decision makers' roles in the setting affect their preferences. Third, the procedure (conducted individually in a private room) guarantees confidentiality and anonymity in order to eliminate concerns about one's reputation or the possibility of reciprocation.

Study 1

This study, as well as the following ones, uses the salary allocation paradigm. With this paradigm, participants first perform a dummy task (price estimation) for which they earn a fixed sum of 10 Israeli Shekels (1 IS equals $0.3). Then they are asked to indicate their preferences for the salary that an anonymous participant would get for the same task, either 10 IS or 20 IS. While a salary of 10 IS for the other would maintain equality, the higher salary of 20 IS would maximize the total payoff. The preference elicitation method is manipulated as follows. With one method (corresponding to low-agency), participants are asked to indicate which of the two salary options for the other participant they would find more satisfying. With the other method (corresponding to high-agency), they are asked to choose one of the two salary options for the other participant.

We predicted that participants' level of agency in the task would influence their preference. Specifically, we predicted that their preference for the option awarding the other with a higher salary would be greater in the high- than in the low-agency condition.

Method

A total of 51 undergraduate students at the Hebrew University of Jerusalem participated in the study (35 women and 16 men, average age 23.6), in return for payment. The experimental procedure was conducted individually in a lab. Participants were seated at a table in an individual cubicle and given a complete set of research materials, allowing them to pace themselves through the task without the presence of an experimenter. First, they filled out a short survey that required them to guess the prices of each of 50 different kinds of groceries (a can of soda, a loaf of bread, etc.) at a local grocery store. This pricing task took 5 to 7 minutes to complete. Then the instructions informed the participants

that, while one goal of the study was to obtain their price estimations, another goal was to find out what they thought about the payment for performing the pricing task.

For this purpose, the participants were instructed to draw an envelope from a basket containing six brown envelopes to determine their exact payment for the task. Specifically, the instructions asked them to look for a slip of paper in their envelope which would randomly assign them to one of two groups, A or B. Those assigned to Group A would be paid 10 IS, whereas those assigned to Group B would be paid either 10 or 20 IS. In fact, all the envelopes assigned participants to Group A, promising them 10 IS at the end of the experiment (which is appropriate for a task of this duration).

The participants' random choice of an envelope actually assigned them to either a low- or a high-agency condition. Specifically, along with the slip placing them in group A, participants found further instructions and materials that differed according to their condition. Participants in the low-agency condition received a sealed white envelope and were told that it contained a slip for the payment to be paid to a matched participant in Group B for completing the *same* pricing task. They were told that the matched participant would be recruited the following week, that they would never meet him/her, and that their identity would not be revealed to him/her. Participants knew that the payment slip for the other was for the amount of either 10 or 20 IS, but did not know the exact amount, as the envelope was sealed. They were then asked,

"In which of the following cases would you be more satisfied?

(i) If participant B were paid 10 IS for performing the same task.

(ii) If participant B were paid 20 IS for performing the same task."

Participants were asked to circle the preferred option.

Participants in the high-agency condition were also assigned to Group A and promised 10 IS for completing the pricing task. However, they were then asked to *decide* on the salary to be paid to their matched participant in Group B. Here, too, participants were told that the matched participant would arrive at the lab the following week, and that complete confidentiality would be maintained with regard to their identities. On the table in front of them were two large piles of payment slips for the amounts of 10 and 20 IS. Participants were asked to pick one payment slip, place it in an empty white envelope and seal the envelope, thereby determining the amount to be paid to participant B. Then, to equalize the sequence of events in both conditions, participants were also asked to indicate on a form the option they had chosen ("I chose a 10 IS slip to be paid to participant B for performing the same task" or "I chose a 20 IS slip to be paid to participant B for performing the same task.")

At the end of this procedure, participants in both conditions were instructed to insert all the experimental materials into the larger brown envelope and insert it into a closed cardboard box with a narrow slit on top. The experimenter was not present in the room, and the participants' decisions were made privately. All the materials were unlabeled, and the cardboard box remained closed at all times. Thus the experimenter could not trace the individual decisions and analysis was possible only at the group level. This careful procedure served to ensure that strict confidentiality was maintained, ruling out reciprocity and minimizing social desirability.

Results and Discussion

In the low-agency condition (n = 24), 54.2% of the participants indicated that they would be more satisfied to find out that their matched participant would get a salary of 20 IS for performing the same task (rather than 10 IS, the salary they had received themselves). In the high-agency condition (n = 27), 81.5% of the participants chose to give their matched participant 20 IS. The difference between

the responses of decision makers in the low- and high-agency conditions was significant, $\chi^2 = 4.4$, $p < .05$; the effect size in terms of φ equaled 0.29.

These results show that agency does affect social preferences in decision making settings. All participants considered the same set of choices (10 or 20 IS) for an anonymous person, but indicated different preferences depending on their agency condition. Participants were more concerned with social welfare (total payoff of 20 vs 30 IS) and less concerned with disadvantageous inequality (difference of 10 IS in favor of the other) when asked to determine the other participant's salary than when asked to indicate their satisfaction with a predetermined salary for her or him. Remarkably, a great majority of participants in the high-agency condition chose the maximizing option, giving the other participant a higher salary than the one they themselves had received.

Earlier we theorized that in high-agency settings decision makers are motivated to seek socially desirable outcomes. If this explanation is correct, then it should lead to an even stronger prediction, whereby high-agency participants should show preference for the unfavorable maximizing option, even at some nominal (financial) cost to themselves. This prediction is tested in the next study.

Study 2

In Study 2 we tested a more rigorous version of our hypothesis. If participants are truly motivated to seek maximization, then they should even be willing to incur some nominal loss for the sake of benefiting the other. In particular, we tested whether participants would be willing to give up a fraction of their own payoff (i.e., earn 10 instead of 11 IS) in order to double the payoff for a matched participant (i.e., from 10 to 20 IS), thereby creating an unfavorable comparison for themselves. We predicted that high-agency participants would view this small sacrifice more positively than low-agency participants.

Method

A total of 76 Hebrew University undergraduate students participated in this study (38 women and 38 men; average age 23.4). As in Study 1, all participants first performed the price-estimation task. Then they drew a brown envelope at random to find out which of two groups, A or B, they were assigned to. They were told that the exact payment for each group (A or B) would be described to them shortly. Unbeknownst to them, all the participants were assigned to group A.

Half of the participants found two white envelopes in the brown one, as well as instructions that placed them in the low-agency condition. They were told that the envelope labeled 'A' contained their *own* payment, either 10 or 11 IS in cash; the other envelope, labeled 'B', contained the amount to be paid to their *matched* participant from Group B for performing the same task, either 10 or 20 IS in cash. These two envelopes were sealed, so the participants could not know the exact amounts they contained. The instructions further stated that the amounts in the envelopes were linked according to the following rule: if A receives 10 IS, then B receives 20 IS. If A receives 11 IS, then B receives 10 IS. Before opening the envelope containing their own payment, participants were asked:

"In which of the following cases would you be more satisfied:

(i) If I were paid 10 IS and participant B were paid 20 IS for performing the same task.

(ii) If I were paid 11 IS and participant B were paid 10 IS for performing the same task."

The participants were instructed to circle their preferred option and then open envelope A and collect their pay.

The other half of the participants found instructions in the brown envelope that placed them in the high-agency condition, as well as *two pairs* of white envelopes. Each pair of envelopes included one labeled 'A' and one labeled 'B', sealed and stapled together. The participants were told that they would receive the amount in one of the A envelopes and their matched participant would receive the amount in the attached B envelope. The amount of money contained in each envelope was clearly written on it. For one pair of stapled envelopes, the amounts on the A and B envelopes were 10 and 20 IS, respectively. For the second pair, the amounts were 11 and 10 IS. Participants were to *choose one pair*, thereby determining the payment for themselves and the other participant. That is, they would collect their pay from the A envelope, knowing that their matched participant would receive the amount in the attached B envelope. Then, to equalize the sequence of events in both conditions, participants were also asked to indicate on a form the option they had chosen ("I chose the option that pays me 10 IS and participant B 20 IS for performing the same task" or "I chose the option that pays me 11 IS and participant B 10 IS for performing the same task.")

Finally, participants in both conditions were asked to insert the forms and the envelopes into the sealed box to ensure the confidentiality of their responses. As in Study 1, the experimenter was not present in the room, so that the assignment of the participants to the conditions, the participants' decisions, and the collection of their payments were all made in private. We made every effort to ensure the complete confidentiality and anonymity of our participants, and to bring this anonymity to their attention.

Results and Discussion

In the low-agency condition (n = 36), 41.7% of the participants reported that they would be more satisfied with the maximizing 10-20 option (10 IS to oneself, 20 IS to the matched participant) than the nearly equal 11-10 option. In the high-agency condition (n = 40), 65.0% of participants chose the 10-20 maximizing option. The difference between the two conditions was significant, $\chi^2 = 4.15$, $p < .05$; the effect size in terms of φ equaled 0.23. The difference between the low- and high-agency conditions (23%) was similar to that obtained in Study 1 (27%). As predicted, however, the overall preference for the maximizing option (10-20) was lower in this study (53.9%) than in the previous one (68.6%), apparently since this option now involved a nominal cost.

The present results thus support the stronger prediction of our hypothesis. The high-agency participants found the maximization of joint payoffs more attractive than did the low-agency participants. Notably, the high-agency participants were so motivated to seek higher joint payoffs (total of 30 vs 21 IS) that they sacrificed a fraction of their own payment for it (reducing it from 11 to 10 IS). Admittedly, they gave up only a minute amount of money, yet this finding is significant in that high-agency participants chose to exacerbate rather than attenuate the inequality in favor of the other. The low-agency participants, in contrast, appeared to be more concerned with reducing inequality, and thus they found the maximizing option less attractive.

Study 3

In Studies 1 and 2, the choice of a higher payoff for the other also resulted in a higher joint payoff. Thus our findings could be given either of two interpretations. According to our interpretation so far, the agency factor influences participants' motivation to seek *maximization* of the total payoffs per se. According to a broader interpretation, however, the agency factor might induce a more general motivation to benefit others. Study 3 was designed to investigate these possible interpretations.

Participants were presented with two symmetric distributions of salary payments, one self-regarding (11 and 10 IS, for self and other respectively) and one other-regarding (10 and 11 IS, for self

and other). The joint payoff for self and other in both options was fixed (21 IS), so that increasing the other's payoff was at the expense of one's own. Might agency enhance the rate of other-regarding behaviors in this case? If agency is specifically connected with maximization, then we should not find an agency effect. However, if agency affects people's general tendency to care about the welfare of others, then we should observe such an effect, as in the previous studies. In particular, high-agency participants should find the option of assigning the other a higher salary more attractive than the low-agency participants.

Method

Sixty-one Hebrew University undergraduates participated in the study (42 women and 19 men; average age 23.9). As in Study 1 and 2, all participants first engaged in the price-estimation task. They were then told that their exact payment for the task would be based on a random draw of a brown envelope that would assign them to group A or B. Unbeknownst to them, they were all assigned to group A.

In this study, all participants found two white sealed envelopes and instructions for their condition in the brown envelope. Low-agency participants were told that the envelope labeled 'A' contained their own payment in cash, while the envelope labeled 'B' contained the amount to be paid to their matched participant from Group B for performing the same task. The instructions further stated that the participants' salaries were linked: "If A receives 10 IS, then B receives 11 IS. If A receives 11 IS, then B receives 10 IS." Before opening the envelope with their own payment, the participants were asked to indicate in which of two cases they would be more satisfied:

> "(i) I would be more satisfied if I were paid 10 IS and participant B were paid 11 IS for performing the same task.
>
> (ii) I would be more satisfied if I were paid 11 IS and participant B were paid 10 IS for performing the same task."

Upon circling one of the two options, participants opened envelope A and collected their pay. The high-agency participants also found a pair of white envelopes and instructions in the brown envelope. In this condition, however, the amount of money contained in each envelope was indicated on it (either 10 or 11 IS). Participants were to *choose one envelope* and collect its contents. They were told that the remaining envelope would go to the matched participant. Thus, choosing to keep 10 IS would leave 11 IS for the matched participant, and vice versa. Participants were then asked to indicate the option they had chosen on a form. As in the previous studies, the anonymity and privacy of the participants were carefully preserved throughout the procedure.

Results and Discussion

In the low-agency condition (n = 31), 6.5% of the participants indicated that they would be more satisfied to find out that they had been allotted the option that awarded the matched participant a higher outcome (i.e., 11 IS for the other and 10 IS for the self, rather than vice versa). In the high-agency condition (n = 30), 26.7% of the participants chose to get 10 IS themselves and give their matched participant 11 IS. The difference in the response rates between the low- and high-agency conditions was significant, $\chi^2 = 4.6$, $p < .05$, $\varphi = 0.27$.

On average, across conditions, participants found the other-regarding option far less attractive in Study 3 (16.4%) than in Study 2 (53.9%). This was to be expected, since in Study 2 (as well as Study 1) the other-regarding option enabled participants to increase the total payoff; in Study 3, however, the total payoff was fixed with either option, making the other-regarding option less attractive overall.

Nevertheless, an agency effect was obtained (20%), of about the same size as in Studies 1 and 2 (27% and 23%, respectively). It thus seems that the interpretation of our previous findings should be slightly modified to incorporate the agency effect found in Study 3. Rather than suggesting that agency influences an individual's motivation to seek maximal joint payoffs, it may be more appropriate to suggest that agency influences an individual's motivation to promote the welfare of others. This broader prosocial motivation also accounts for the findings of Studies 1 and 2, since choosing the other-regarding option also maximizes the joint payoff.

General Discussion

A story by Nobelist Amartya Sen (1977, p. 328) describes two boys who find two apples, one large, one small. Boy A immediately picks the larger apple. B is upset and remarks that this is grossly unfair. "Why?" asks A. "Which one would you have chosen, if you were to choose rather than me?" "The smaller one, of course," B replies. A is now triumphant: "Then what are you complaining about? That's the one you've got!" Boy B's agency in the setting mattered to him a great deal. He resented an unfavorable allocation imposed on him, although he felt he would have created the very same allocation had he been asked to propose one.

The gist of this story is that individuals' preferences may differ as a function of their role in determining the outcome. This idea is in line with the main finding of our research. The results of our studies document the dramatic impact of agency on social preferences. Our salary-allocation paradigm presented participants with two options for salaries to be paid to them and another, anonymous participant. In Studies 1 and 2, one option resulted in roughly equal outcomes for oneself and the other, while the second assigned a higher (more generous) salary to the matched participant. We compared two conditions. In the high-agency condition, participants assigned the salaries, while in the low-agency condition they indicated their satisfaction with predetermined salaries. Study 1 showed that agency increases participants' tendency to choose the more generous option; in Study 2, agency also increased generosity, even though it came at a cost. In Study 3, the sum of the salaries for oneself and the other was fixed, so that assigning a higher salary to the other did *not* increase the total payoff (like the apples in Sen's story). Nevertheless, agency enhanced generosity at one's own expense in this study as well. These results reflect participants' social preferences and cannot be readily attributed to their expectation of reciprocation, reputation formation or to social desirability, since complete confidentiality and anonymity were maintained throughout the studies.

The different preferences participants express under low- and high-agency conditions are consistent with our theoretical framework whereby agency affects decision makers' weighting of two potentially conflicting social motives. The first motive is the tendency to avoid inequality, where the self serves as a salient reference. The second motive is the other-regarding, prosocial tendency to care about outcomes received by others (and, in particular, maximizing the total payoff). We hypothesized that concern with inequality figures prominently in low-agency settings, whereas concern with the welfare of others is prominent in high-agency settings. Our results seem to reflect such a differential weighting of motives.

Our theory and findings could be used to bridge the gap between the two types of research on social preference, one highlighting inequality aversion, and the other maximization of the total payoff. The salary paradigm combines the different methods used separately in these two types and validates the gap in social preference resulting from the different preference-elicitation methods. Our low-agency condition elicited decision makers' judgments on the attractiveness of preset outcome distributions. Studies using such an elicitation paradigm have documented participants' negative reactions to disadvantageous comparisons (e.g., Loewenstein et al., 1989; Tricomi et al., 2010). In contrast, our high-agency condition elicited preferences by asking participants to dictate outcomes for themselves

and another participant. Studies using such an elicitation paradigm have found that participants choose options that maximize the general welfare over those that minimize inequality (e.g., Charness & Rabin, 2002). The earlier findings can thus be reinterpreted according to our agency hypothesis. Our findings show that, rather than being merely technical, the distinction between the high- and low-agency methods captures profound differences in participants' psychological experiences.

Agency and Related Concepts

The idea that agency is a fundamental psychological factor has been noted by different theorists. Cognitive psychologists have pointed out that "The feeling that we are agents, intentionally making things happen by our own actions, is foundational to our understanding of ourselves as humans" (Metcalfe & Greene, 2007, p. 184, see also Sebanz, 2007; Wegner, Sparrow, & Winerman, 2004). According to Bandura (1986, 2006), humans strive for agency; rather than be in the position of "passive onlookers," they seek to act upon their physical and social environment and change their life circumstances to further their personal goals.

Other research paradigms have documented the beneficial mental and physical influence of agency or control over one's own outcomes. According to self-determination theory, people are more satisfied when they are autonomous and can choose freely (Deci & Ryan, 1985; Ryan & Deci, 2000), whereas the absence of such capacity to control one's environment was found to induce unpleasant feelings and has even been associated with clinical depression (Seligman, 1975). In studies conducted in nursing homes for the elderly, residents who were given control over routine choices reported higher rates of well-being and even lived longer than residents who were not given control over the same set of choices (Langer & Rodin, 1976; Rodin & Langer, 1977).

The notion of agency in the cognitive literature refers mostly to a person's control over the outcomes of his actions in an *individual* setting; we extend this notion to *social* decision settings. We theorize that in social settings, a decision maker's control over the outcomes for herself and others could change her interpretation of the situation and outcomes and, consequently, her preferences (Weber, Kopelman, & Messick, 2004). A low-agency decision maker might regard an inferior outcome as insulting, perhaps signaling lower social status, whereas a high-agency decision maker might view the *same* outcome as reflecting her effectiveness and generosity. This novel use of the concept of agency seems to provide a potent theory of decision makers' behavior in our studies as well as in previous studies on social preference, as described above.

The notion of agency, as we envision it in social settings, is theoretically related to the concept of power – the possibility of influencing others – as conceived in recent studies of power in social decision making (Handgraaf, Van Dijk, Vermunt, Wilke, & De Dreu, 2008; Van Dijk &Vermunt, 2000). These studies manipulated power within the context of the ultimatum bargaining game. They found that decision makers who had complete, dictator-like power over the allocation of outcomes for the self and other made more generous allocations than those who had only partial power over the allocation. Thus agency and power seem to have similar influences on social decision making.

Despite this apparent similarity between these concepts, there are some profound differences in the way they have been operationalized. Importantly, the low-*power* condition in the studies by Handgraaf et al. (2008) involved participants in the task of allocating resources in an ultimatum game (Van Dijk &Vermunt, 2000), thereby triggering strategic thinking and interpersonal considerations such as reciprocity, revenge, and fear. In contrast, the low-*agency* condition in our studies involved participants in the passive task of rating given allocations (also Loewenstein et al., 1989; Messick & Sentis, 1985; Tricomi et al., 2010). Thus our low-agency task measured pure social preferences and did not involve any strategic concerns. In this respect, the effects of agency and power do not appear to be synonymous.

Agency and Prosocial Behavior

We have suggested that individuals who determine outcomes for others behave as if they derive positive utility from these outcomes. This idea is connected with the notion of a "warm glow" – namely, people's internal reward from giving to others (Andreoni, 1990). The psychological literature on helping (e.g., Cialdini et al., 1987) similarly suggests that agents derive satisfaction from improving the position of a person in need, particularly when they know that they, rather than other people, have brought about the change (but see Batson, 1987). Interestingly, Dunn, Aknin and Norton (2008) have shown that spending money on others promotes more happiness than spending an equivalent sum of money on oneself. Recent neuroscience studies have provided further relevant data on this issue (Fehr & Camerer, 2007). In particular, Harbaugh, Mayr, and Burghart (2007) found that brain areas linked to the processing of rewards are aroused more when decision makers make a voluntary donation than when the donation is imposed on them. Taken together, these findings are consistent with the hypothesis that high-agency decision makers gain some utility from giving to others.

Further, the insights of our theoretical framework with respect to high-agency decision making apply also to other paradigms, including the well-known dictator game. In Kahneman, Knetsch, and Thaler's (1986) original study, participants in a large class were asked to split $20 between themselves and another, anonymous participant in the class. Specifically, they had to choose between two possible distributions, either $10 for oneself and $10 for the other, or $18 for oneself and $2 for the other. The recipient could not contest the dictated allocation. A vast majority of the participants in Kahneman et al.'s study opted for the 10-10 option. This result surprised many, and initiated a large body of research, since participants had no strategic reasons to choose the costly altruistic option (Camerer, 2003).

In our terms, dictators are high-agency decision makers. Thus their tendency to choose the other-regarding option over the selfish one is to be expected. However, the choice of the 10-10 split could have been motivated by inequality aversion as well (Fehr & Schmidt, 1999). Further testing is needed to tease apart these possible interpretations of the dictators' behavior. Ideally, one would compare the standard (high-agency) dictator task with an appropriate low-agency analog. Yet some evidence supporting the idea that dictators' choices involve prosocial motives can already be gleaned from the data reported by Andreoni and Miller (2002). In their variant of the dictator task, participants had to dictate the value of a token (0 to 10 cents) for various allocations of tokens to themselves and an anonymous participant. The participants thus effectively determined the payment for both parties. The participants' valuations were high (nearly 9 out of 10 cents, on average), even when the allocation of the tokens was extremely skewed in favor of the other (e.g., 10 to oneself and 130 to the other). Thus the resulting monetary distributions were lopsided in favor of the other participant. The dictators showed generosity, rather than inequality aversion, as shown by the fact that they did not assign low values to the tokens. These findings seem to support our idea that dictators, being high-agency decision makers, seek other-regarding options.

Dana, Cain, and Dawes (2006) offer yet another perspective on dictators' behavior. They argue that dictators' preferences depend on what they expect the other person to know about their role in determining the outcomes. Indeed, Dana et al. found that dictators behave more generously when they know they are fulfilling another player's expectation about their own actions, compared with a setting in which the other is assumed not to have any expectations. Dana et al.'s research, together with our own, highlights the importance of studying the effects of situational characteristics on decision makers' psychological payoffs and preferences.

Limitations and Future Directions

While agency appears to be a powerful determinant of social preferences, its influence could be mitigated in several ways. Situational factors may drive decision makers' behavior to either floor or ceiling levels, thus reducing the agency effect. In particular, when the cost of generosity is high, even high-agency decision makers may shun other-regarding options, thereby eliminating the behavioral difference between them and low-agency decision makers. Alternatively, in settings where there exist strong procedural justifications for other people to have an advantage (e.g., due to their greater effort or ability), low-agency decision makers may be less prone to experience inequality aversion, and thus express similar preferences to those of high-agency decision makers.

In a different vein, agency could interact with efficiency, that is, the extent to which an option maximizes the total payoffs for oneself and the other. Our studies show that high-agency participants are attracted to the option that maximizes the total payoffs for oneself and the other. Is efficiency a necessary condition for the effect of agency? In Study 3 the effect of agency was obtained, although the other-regarding option did not maximize the payoffs, suggesting that efficiency was not necessary for the effect to occur. However, the overall rate of prosocial behavior was much lower in Study 3 than in Studies 1-2. We speculate that in certain settings, such as when the costs are high or when equality considerations are especially prominent, agency might interact with efficiency such that, in the absence of efficiency, agency would have weak or no effect on prosocial behavior. Future research should delineate further the role of efficiency in promoting prosocial behavior and in producing the agency effect.

We note also that individual differences in social orientation (Van Lange, Otten, De Bruin, & Joireman, 1997) could moderate the effects of agency. For example, "prosocials" (who tend to seek the maximization of joint outcomes) might behave differently than "competitors" (who are more concerned with relative outcomes) when presented with high- and low-agency manipulations. The interaction between types of social orientation and agency settings remains to be tested.

Finally, our participants knew how much control they had over the outcomes. In other settings, however, decision makers may not know this. In such ambiguous settings, individuals' subjective perceptions of their level of control over the outcomes could be related to their character traits, such as locus of control (Lefcourt, 1976; Rotter, 1990). Building on our previous theoretical framework, we speculate that individuals who tend to attribute outcomes to their own actions should show more generosity towards others. Those who are prone to view their actions as having little effect should, in contrast, be more tuned to social comparison; being more sensitive to inequality aversion, they should be less attracted to other-regarding options. Future research should investigate how individual differences in perceptions of locus of control might affect social preference.

Final Remarks on the Construction of Social Preference

Our framework and findings imply that social preferences change as one's level of agency changes. Which of the two types of social preferences – low or high agency – taps a person's true preference? In our view, both levels of agency involve genuine valuations of outcomes. Indeed a dominant tradition in the psychological study of individual decision making suggests that preferences are generally constructed (Ariely & Norton, 2008; Lichtenstein & Slovic, 2006; Slovic, 1995). According to this view, people do not consult hard-wired preferences as they make choices, but instead they construct their preferences "on the fly" depending on the elicitation method and other situational factors. We suggest that social preferences are also constructed and that agency is an important determinant of the construction process.

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