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Psychological ownership, group affiliation and other-regarding behaviour: Some evidence from dictator games

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ABSTRACT

We find that dictator giving is higher in group environments, where the dictator and recipient share a common group affiliation, and the funds are group-owned, than in the benchmark individual environment, where the dictator and recipient do not share a group affiliation, and the funds are owned by the dictator. A move to the group environment from the individual environment involves two distinct shifts: one, a shift in affiliation, where the dictator gives to a group member, rather than just a randomly matched partner out of his own fund, and, two, a shift in ownership, where the dictator gives out of group-owned rather than personal funds, in either case to a group member. We implemented these two shifts through linguistic framing of instructions. Our results show that,although simple group framing does lead to a somewhat higher give rate, group framing combined with joint psychological ownership of the endowment leads to significantly higher average offers in the dictator game.

Introduction

Does the amount given in dictator games depend on psychological ownership over the divisible surplus? Cherry, Frykblom, and Shogren (2002) and Oxoby and Spraggon (2008) have shown that whether or not the surplus is earned, and whether the dictator or the recipient earns it, can affect giving, with the dictator keeping more when he earns the endowment.[1] The results of these studies suggest that the sense of personal property induced by earning reduces the amount given.[2]

In this present paper, we study whether psychological ownership effects can be generated when ownership is induced through the weaker mechanism of linguistic framing of instructions. We consider an environment where the dictator and the recipient share (also through framing of instructions) a common group affiliation, and analyze the impact of transferring ownership of the endowment to be divided from the dictator to the group. We find this leads to a substantially increased proportion of equal (50:50) offers. Average giving is also raised significantly, if measured by the median. Mean giving is slightly higher as well, but not significantly so.

Mean giving is significantly higher when the ownership and affiliation effects work jointly; i.e., when we compare the group environment, where the dictator and recipient share a group affiliation and ownership of the endowment is with the group, to the benchmark individual environment studied in the literature, where the dictator and recipient do not share a group affiliation, and ownership is with the dictator.[3] Further, we find that the affiliation effect in itself is of inadequate strength: when the dictator gives out of his own funds, whether or not the dictator and recipient share group affiliation makes little difference to average giving or the proportion of equal offers.

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[1] In order to have economy of speech, in this manuscript, an agent characterized as "he", denotes "he or she".

[2] In a dictator game, an active dictator agent unilaterally decides how much of a surplus to give to a passive recipient agent, keeping the rest for himself. We refer to the version in Forsythe, Horowitz, Savin, and Sefton (1994). An earlier version is by Kahneman, Knetsch, and Thaler (1986).

[3] While the rational benchmark predicts the dictator will keep the entire surplus, experimental evidence shows many dictator subjects leave a part, sometimes substantial, for the recipient (see, e.g., Engel, 2011). This has generally been understood to indicate the presence of dispositions for altruism. Intense research has been conducted over the last two decades devoted to understanding the factors determining dictator decisions; however, very little literature exists exploring the effects of group affiliation and ownership (see Section 'Related literature').

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Specifically, we examine dictator behaviour under three incremental linguistic frames that define the same surplus-sharing problem. In the benchmark *individual* frame (*I*), the dictator decides how much of a fund owned by him to give to the recipient subject.[4] The *group affiliation* frame (*GA*) adds a few words to the instructions of frame *I* stating that the dictator and the recipient are in a group; the dictator's problem is still cast in terms of giving out of his own funds. The instructions of the *group affiliation-ownership* frame (*GAO*) are very similar to those of frame *GA* and also state that the dictator and recipient are in a group. However, they differ in that they state the dictator has to allocate a *group* fund among the two.[5]

The affiliation effect can thus be investigated by comparing outcomes under frame *I* to those under frame *GA*.[6] Both instruct the dictator to choose how much to give to the recipient, with the fund being owned by the dictator. However, while the two paired participants are implicitly framed as separate individuals in *I*, they are explicitly framed as members of a group in *GA*. We find no effect in this case. Median offers are the same in the two situations (30%). Mean offers and the proportion of equal offers are slightly higher in *GA* (31.5% and 24%, respectively) compared with *I* (27.5% and 16%, respectively), but are not significantly different.

The ownership effect; i.e., the effect of a shift in reference with regard to how fund-ownership is notionally allocated, given group affiliation, in its turn can be analyzed by comparing outcomes under frame *GA* with those under frame *GAO*. In both, the paired participants are explicitly deemed as being part of a group. However, while in *GA* the dictator is instructed to choose how much to give to the recipient out of his own fund, in *GAO* the instructions say he has to allocate a group fund. Mean offers are slightly higher in *GAO* (35.4%), but not significantly different from those in *GA*. However, median offers and the proportion of equal offers are substantially higher in *GAO* (40% and 42%, respectively).

These findings suggest that psychological ownership effects can be generated, at least weakly, through framing in group contexts. However, group affiliation is difficult to engender only by framing. Further, dictator behaviour differs substantially between the individual and group environments, suggesting that ownership and affiliation effects have important joint consequences.[7]

Demographic data were collected from the subjects. We find that most demographic variables (gender, having a sibling, subject of study, family size and location) have little or no effect on outcomes. However, two of these, age and family income, do have effects, with age increasing the award to the recipient, and family income reducing it. Finally, the use of a hurdle regression approach yields the result that the dictator's decision on whether to give is affected only by ownership transfer, whereas the actual amount given to the recipient (conditional on choosing to give a positive amount) is not affected by framing at all.

The rest of the paper is organized as follows: Section 'Related literature' discusses the literature; Section 'Experimental design' details our experimental design and protocol; Section 'Results' presents results; and Section 'Discussion' offers a conclusion.

[4] This is similar to the standard neutrally worded frame that the majority of dictator game studies have used.

[5] In the *GAO* treatment, the endowment to be shared is framed to be notionally owned by the "group" comprising the dictator and the recipient. Thus, the move from *I* to *GA* uses label framing, while the move from *GA* to *GAO* uses value framing, in the terminology of Dufwenberg, Gächter, and Hennig-Schmidt (2011).

[6] Each of the three frames constitutes a separate treatment. We use the same letters (*I*, *GA* and *GAO*) to denote frame as well as treatment.

[7] Hence, in a similar vein, whether a frame can induce a difference in outcome may depend on where in a hierarchy the frame lies, or its degree of marginality (or substantiality). Relatively marginal frames are unlikely to have an impact, while more substantial ones may.

Related literature

The present paper is linked to several strands of the literature. We compare our work with prior research in each strand separately.

Psychological ownership in dictator games: our contribution to the literature

One factor that is posited to influence dictator giving is psychological ownership of the endowment that is to be shared by the dictator. Accordingly, if ownership is notionally with the dictator, he may be willing to give a smaller fraction to the recipient compared with a situation in which the ownership is joint.

Oxoby and Spraggon (2008) induce ownership by allowing the dictator endowment to be earned by either the dictator or the recipient (through an exam). These investigators find that the amount given is smallest when the dictators earn, largest when the recipients earn, and intermediate with exogenous assignment. List (2007) also induces ownership through earning, although he uses a routine mail-sorting task rather than an exam. He finds that average giving is smaller with exogenous assignment than with earning.[8] These results thus emphasize the importance of property rights in determining individuals' social preferences.

In contrast to the papers above, we induce ownership through framing of instructions. We find that even with this weak mechanism, psychological ownership transfers may impact dictator giving. Specifically, dictators are more egalitarian with group ownership, and dictator giving to a group member is found to be higher when the fund is group-owned than when it is dictator-owned, if medians are compared. However, the ownership effect is not strong enough in itself to generate higher mean giving; it does so when bolstered by a psychological affiliation effect.

A seminal paper by Hoffman, McCabe, and Smith (1996) was the first to point towards this sort of psychological ownership, although in that study the effect was reported as a reduction in social distance leading to higher dictator giving. In the replication by Hoffman et al. (1996) of the study by Forsythe, Horowitz, Savin, and Sefton (1994), whose instructions "provisionally allocated to each pair" a certain sum which the dictators were then asked to allocate, Hoffman et al. (1996) included a variant that "weaken(ed) the dictator's sense of community with his or her counterpart" (p. 657). The dictator was now simply to "divide" between himself and the randomly paired other. Hoffman et al. (1996) found that this change in the instructions reduced the amount of dictator giving, but the difference was not statistically significant. Our study differs in that we calibrate this movement from a "high social distance" environment (unilateral transfer with no joint endowment and no group affiliation) to a "low social distance" environment (unilateral transfer with group affiliation and joint endowment), by introducing an intermediate variant that has the dictator and recipient in a group but with no notionally joint endowment. We find that the increase in giving that Hoffman et al. (1996) attribute to reduced social distance may be driven largely by psychological joint ownership of the endowment rather than the group framing of instructions. Furthermore, unlike Hoffman et al. (1996), we find that this effect is strong in our sample.

Group affiliation in games

The recognition that people belong to groups, sometimes many groups at the same time, and that individual decision-making may be influenced by group affiliation, has led to research on

[8] Here, we compare Treatments Take ($5) and Earnings in List (2007).