Title

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Fortune and Identity

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Abstract

While group identity can generate in-group bias, the topic of how activities generate group affiliation is largely unexplored. We experimentally study the effect of shared experience on group affiliation, varying shared experiences by paying subjects differently for the same task. The results show that shared fortune leads to in-group bias, while shared misfortune does not.

Keywords: experiment, distributive preference, identity, in-group bias, shared experience

JEL codes: C91, D01, D91, Z13

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1. Introduction

Economists have provided evidence that people exhibit an in-group bias in a variety of contexts, including charity (Chen and Li, 2009) and truth-telling (Rong et al., 2016). Many studies have found in-group favoritism even with the minimal-group paradigm, an almost trivial intergroup categorization. However, typically economists have only considered natural-identity categories such as race, gender, ethnic and religion (Hoff and Pandey, 2006; Benjamin et al., 2010). We extend the minimal-group paradigm to an environment where initial monetary reward based one's induced group identity is based on pure luck.

It is intuitive to think that shared experience would establish a bond among people, potentially encouraging them to help and cooperate with each other. Therefore, matching people with the same experience might lead to a form of in-group bias. However, it is difficult to study the effect of shared experience in the field without confounds. Lab experiments offer a high degree of control and seem a useful tool for studying the effect of shared experiences in a stylized environment.

This study investigates how shared misfortune and fortune shape one's sense of group affiliation. We assume that shared experiences generate group cohesion. In addition, the literature on prospect theory and loss aversion has provided considerable evidence that negative events have a larger effect on people's behavior than positive events. Thus, we further expected that unfortunate participants would show more in-group favoritism than the fortunate participants.

The closest cousin to our study is Caesar and Klein (2019), who found that lottery failures favor other lottery failures more than other people, and there was no significant in-group bias among lottery winners. Our results differ from theirs in that shared fortune leads to in-group bias, while shared misfortune does not. The difference may come from the inequality-generation part. Cassai and Klein (2019) informed subjects of their absolute performance in a real-effort task, and the fact that their payoffs are randomly decided. It was not clear how people identified themselves with two pieces of information. The largest contribution of our experiment is that we resolve this concern. In our experiment, participants do the same task, and have the same performance. So, it is quite clear that their payoffs from this task only reflect random luck.

2. The Experiment

The experiment was conducted at the Experimental and Behavioral Economics Laboratory at University of California, Santa Barbara, from February to April 2022. Each subject received a $5 show-up fee, and the payments earned in the experiment. We recruited 143 subjects, who earned an average of $9.50 for about 20 minutes in the lab.

We have a main treatment and a control treatment. In the main treatment, each subject was asked to play two parts. Part 1 manipulated the shared experience and Part 2 elicited subjects' allocation decisions. Specifically, subjects were asked to count the number of zeros in 10 tables. They could not proceed to the next table with an incorrect response and had to try again until they answered it correctly. After finishing the counting task, they learnt their payments privately. Subjects' payments for Part 1 were randomly determined. Two-thirds received $3, and one-third received $0. This variation allowed us to separate subjects into two groups who did the same task: the fortunate and unfortunate groups. Again, note that all participants completed the task.

In Part 2, subjects played a disinterested allocator game. We used the strategy method to elicit allocators' strategy profiles. Everyone conditionally allocated a total of $5 to the other two recipients, under the three scenarios: if both received $3 in Part 1, if both received $0, or if they received different amounts. Every three subjects were randomly grouped together to determine the payment for Part 2. One of the three in a group was assigned as an allocator, receiving a flat payment $X. The other two were assigned as recipients, and they got payments based on their real situation and the allocators' decisions. In total, we collected three choices from each subject.

In the control group, we assigned one-third of subjects as allocators and two-thirds as receivers, and we separated them into different sessions. In this setting, allocators still played two parts as in the main treatment, while recipients only played Part 1. We collected allocation decisions only from the allocators. The main feature of the control-group allocators is that they equally received a flat payment ($Y) in Part 1 and shared no experience with any recipient who received unequal payments (either $3 or $0). We call them neutral allocators. In Part 2, allocators

did the same allocation decisions as in the main treatment. Subjects were told they would receive $Z for allocation completion.

It is important to realize that the values of X, Y, and Z were unknown to the subjects at the time of their decisions. We told people that the value of X, or Y and Z would be divulged at the end of the session. This device prevents the allocator from making comparisons between own payoffs and those of the other parties (Charness and Rabin, 2002). We set X = 2, Y = 2, Z = 3.

3. Results

We first consider allocations to recipients from the same group. A great majority (74%) of individuals choose to equalize for recipients from the same group. The result implies that if there is no chance for group discrimination, most allocators prefer equality for others.

Regarding allocations to recipients from different groups, the neutral allocators provide a benchmark net of shared experience. One might expect that they would equalize recipients' final payoffs since there is no chance for group discrimination. This would lead to allocators distributing $4 to the unfortunate recipient and $1 for the fortunate recipient, since the aggregate payoff for each recipient is thereby $4. In fact, 55% of fortunate allocators, 68% of neutral allocators and 74% of unfortunate allocators chose to equalize the total payoffs of the other parties.

The treatment groups capture the effects of shared experiences. Fortunate allocators distribute about 40% ($0.60) more on average to the fortunate recipient than the neutral allocators. Unfortunate allocators distribute about 10% ($0.35) more on average to the unfortunate recipient than the neutral allocators. The direction of the treatment effects is consistent with in-group bias.

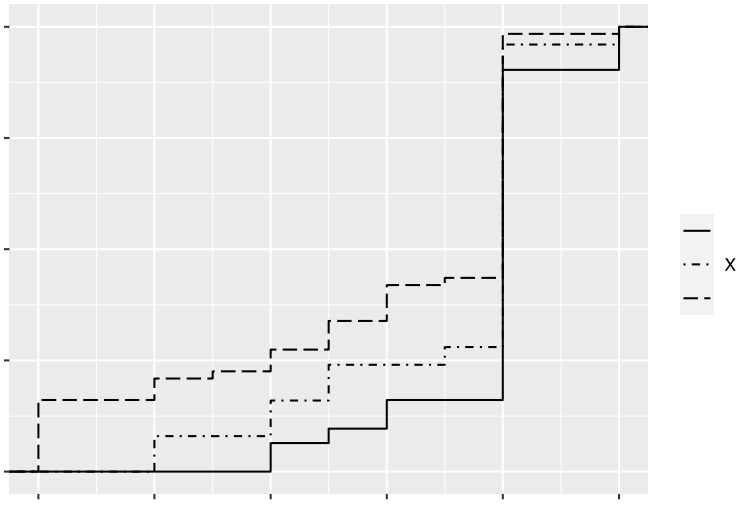

Figure 1. Cumulative Distributions of Allocations to Unfortunate Recipients

We next check the significance of the results on an individual level. Figure 1 depicts the cumulative distribution functions of the allocations (of the $5) to the unfortunate recipients. There is no significant difference if we compare decisions from neutral allocators (the dot-dashed line) to those from fortunate (the dashed line) or unfortunate allocators (the solid line) (Kolmogorov-Smirnov tests give $p > 0.60$ for each of the two).

Even though the difference in percentage choosing equalization between each treatment group and the control group is modest, the difference between the two treatment groups is large. Indeed, comparing decisions from fortunate and unfortunate allocators, the difference is at least marginally-significant on a two-tailed Kolmogorov-Smirnov test ($p = 0.089$) and quite significant on a Wilcoxon ranksum test ($p = 0.006$, two-tailed test). The average difference is driven by a subset (approximately 16%) of fortunate allocators who distribute all money to the fortunate recipients. This indicates that the in-group bias coming from the effect of shared experience is at play.

Result 1. More than half of allocators choose to equalize recipients' final payoffs when recipients come from the same group in each treatment. Even though there is no major difference in decisions between each treatment and the control group, fortunate allocators significantly distribute more money to fortunate recipients than unfortunate allocators do, and *vice versa*.

Finally, the econometric model below tests the magnitude of the effect of shared experiences:

$$Y_i = \alpha + \beta_1 (UF)_i + \beta_2 (F)_i + \gamma X_i + \varepsilon_i$$

Here Y_i is how much the allocator distributes to the unfortunate recipient when recipients are from different groups; $(UF)_i$equals one if the allocator is unfortunate; $(F)_i$equals one if the allocator is fortunate; we also include X_i, which captures the time each subject used to finish the counting task; and ε_i denotes the noise term. Therefore, α measures how much on average a neutral allocator distributed to an unfortunate recipient, β_1 measures how much more on average an unfortunate allocator distributed, β_2 measures how much less on average a fortunate allocator distributed, and γ measures how much the efforts matter in the allocations.

	Dependent Variable: Allocation to the unfortunate recipient ($)	
Misfortune	0.355	0.387
	(0.342)	(0.335)
Fortune	-0.597**	-0.512*
	(0.301)	(0.297)
Time		-0.004**
		(0.002)
Constant	3.500***	4.336***
	(0.254)	(0.427)
Observations	118	118
R^2	0.098	0.142
Adjusted R^2	0.083	0.119

Note: standard error in the parenthesis, * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$, two-tailed tests

Table 1: OLS Regression

Table 1 shows the results of the regression. The second and third columns present the results with and without time. We can see from both columns that only shared fortune has a significant effect on allocations; the coefficient for Misfortune is significant only at $p = 0.248$ with time, and $p = 0.299$ without time.

Result 2. The effect of shared fortune is significant, while the effect of shared misfortune is only modest.

The insignificance of shared misfortune may reflect a lack of power. We conduct a power analysis using the current data from column 2 as the pilot result, we find that 192 observations for the neutral and the unfortunate groups would be needed for the desired level of significance, which is more than triple what we have. Regardless, the striking finding is that the effect of shared fortune is larger than the effect of shared misfortune. This observation goes against our original expectation that negative events impact identity more than positive ones. It could also be that pure in-group discrimination is not the only driving force for these decisions or that other concerns are involved in the in-group bias. For example, it might well be the case that fortunate allocators wish to legitimize their earnings to themselves, and one way to do so is to reward others who gain the fortune in the same way!

4 Conclusion

We study if shared experiences generate in-group bias. Our data exhibit no effect of shared misfortune, but an in-group bias arises from shared fortune. Social preferences have a strong effect since most subjects in each treatment distributed money to equalize total payoffs. The significant effect of shared fortune mainly comes from the extreme cases that some fortunate allocators distribute all the money to fortunate recipients. The asymmetric effects of shared experiences suggest that there may be some other concerns involved beyond pure in-group discrimination.

Our study is exploratory research that provides evidence regarding the aspects of identity that influence behavior. It does not appear to be the case that in-group members simply favor their own in-group members. More research is certainly needed to understand the many facets of identity and how these various facets affect behavior.

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