

Do people behave in experiments as in the field?—evidence from donations

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Published online: 15 February 2008
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Abstract Laboratory experiments are an important methodology in economics, especially in the field of behavioral economics. However, it is still debated to what extent results from laboratory experiments are informative about behavior in field settings. One highly important question about the external validity of experiments is whether the same individuals act in experiments as they would in the field. This paper presents evidence on how individuals behave in donation experiments and how the same individuals behave in a naturally occurring decision situation on charitable giving. While we find evidence that pro-social behavior is more accentuated in the lab, the data show that pro-social behavior in experiments is correlated with behavior in the field.

Keywords Experiments · External validity · Methodology · Charitable giving

JEL Classification C91 · C93 · D01 · D64

1 Introduction

In the last two decades, many insights have been gained from laboratory experiments. In particular, behavior in experiments showed that people deviate systematically from the model of the self-interested material pay-off maximizing actor. It has been documented, for example, that people share quite a substantial part of their endowment in dictator games and that they contribute to laboratory public goods, results that are

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not predicted by standard economic theory (for a survey, see Camerer 2003). The findings from experimental economics have thus been proposed to measure and isolate pro-social preferences (Camerer and Fehr 2005). The question, however, remains whether and how individuals' behavior in experiments is related to their behavior outside the laboratory. Critics of experimental methods in economics claim that people's behavior in the lab is specific to the experimental situation and might be uninformative about their behavior in the field. They therefore question the external validity of experimental results.

Levitt and List (2007a, 2007b) present a theoretical model which illustrates three crucial differences between lab and field settings that can lead pro-social behavior to be quite different in the lab and the field: (a) *Stakes*: Subjects in the laboratory 'play' with money they just received, whereas in a field setting the money at stake is earned in one way or another, i.e. the entitlement of the money at stake may differ substantially. In laboratory experiments, it has been shown to matter whether the money involved in a dictator game is earned in a trivial task or randomly distributed (for example, Cherry et al. 2002). (b) *Social norm*: Social norms might be triggered differently in context-free lab environments and in context-rich environments. The artificial laboratory context has, on the one hand, the important advantage that the variables of interest can be isolated from many confounding factors. The laboratory, on the other hand, lacks the rich real-life context that may be important for behavior in the field (Bardsley 2005). (c) *Scrutiny*: Experimental studies may be less anonymous and therefore subject to an 'experimenter demand' effect (Orne 1962). Subjects who are ungenerous in a field setting might start contributing in an experiment either because they think that is what they are supposed to do or because they want to please the experimenter (for example, Carpenter et al. 2005).

Thus, the difference between lab and field settings can influence two important aspects of external validity of laboratory studies on pro-social behavior. First, field and lab settings can generate different levels of pro-social behavior. List (2006) provides evidence that pro-social preferences are more important in the lab than in the field and that consequentially, the level of pro-social activity measured in the lab is higher than in the field. Second, individual's pro-social behavior might not correlate between the lab and the field setting. If this is the case, pro-social behavior in laboratory experiments is uninformative about what individuals would do in a similar field setting. If behavior between the lab and the field does not correlate, this can either mean that pro-social traits are not stable across situations or that individuals are differently affected by the three factors mentioned above (Levitt and List 2007a).

This paper tests whether levels of pro-social behavior differ in the lab compared to the field and, in particular, whether the same individuals' behavior in the laboratory correlates with their behavior in a very similar situation in the field. We undertook donation experiments in order to compare students' behavior in those games with their behavior in an unconnected decision situation to donate to two social funds at the University of Zurich. The class-room experiments analyze, in study 1, students' behavior in a donation experiment in which students could give to exactly those two social funds. In study 2, the donation experiment involved decisions to donate part or all of the endowment to two charities completely unrelated to the University. We

match students' decision in the class-room setting with their charitable giving towards the two social funds at the University of Zurich. The panel structure of the dataset allows analyzing whether past behavior in the field explains behavior in the lab, and also whether behavior in the lab explains future behavior in the field. This paper is therefore one of the first to directly compare the same subjects' behavior in the lab and in the field.

A few studies in economics have documented relationships between behavior in experiments and decisions outside the laboratory. Karlan (2006) shows for borrowers in a Peruvian microcredit program that behavior in a trust game predicts repay rates of subjects' loans. Persons who are identified as being trustworthier are more likely to repay their loans one year later. The same study also finds, however, that pro-social behavior in a public goods game is not correlated with repay probabilities. Carpenter and Seki (2004) find that social preferences exhibited in a public good game predict the productivity of fishermen in Japan. Fishermen who behave more pro-socially in experiments are found to be more productive. In contrast, Laury and Taylor (2006) do not find much support for a correlation between contributions to a laboratory, context-free public good and voluntary contributions to a naturally occurring public good. The previous work therefore suggests that the question whether individuals' pro-social behavior in experiments correlates with their pro-social behavior in the field is still largely open. Our study contributes to the debate by directly connecting the behavior of students in experiments to their pro-social behavior outside the laboratory. The particular focus on students is important, as they still constitute the standard experimental subject pool in economics and other social sciences. Moreover, we exploit a unique dataset that allows us to link students' behavior in a laboratory experiment with completely unrelated donation decisions in the field spanning up to two years before and after the experiment.

Our results provide some evidence that the level of pro-social behavior can differ in the lab and in the field. In particular, individuals who never donated in the field setting start giving in the experiment. Overall, however, our results lend remarkable support to the notion that behavior in an artificial experiment corresponds to students' behavior outside the laboratory. We find correlations between behavior in the two settings ranging from 0.25 to 0.4. Students' behavior in the class-room experiment can be shown to correlate both with behavior up to two years before the experiment and up to two years after the experiment. On the one hand, this suggests that experiments can provide useful information about behavior in the field. On the other hand, it might be argued that the observed correlations are rather weak. We discuss arguments for both views, relating to a long-lasting debate in psychology on whether individual behavior is mainly determined by stable personality traits or rather by situational factors (Mischel 1968; Epstein and O'Brien 1985). We also outline implications of our results for the interpretation of experimental evidence.

The paper proceeds as follows: Sect. 2 presents the data and the experimental design. In Sect. 3, the results are discussed. Section 4 interprets the results and draws conclusions about their importance.

2 Field data and experimental design

We observe the following naturally occurring decision setting at the University of Zurich: Each semester, every student has to decide anonymously whether or not he or she wants to contribute to two social funds—in addition to the compulsory tuition fee. On the official letter for renewing their registration, the students are asked whether they want to voluntarily donate a specific amount of money (CHF 7.-, about US \$5) to a fund which offers cheap loans to students in financial difficulties and/or a specific amount of money (CHF 5.-, about US \$3) to a second fund supporting foreigners who study for up to three semesters at the University of Zurich. Without their explicit consent (by ticking a box), students do not contribute to any fund at all. Students have the choice of donating to no fund, only one fund or both funds. Students make their decision in an anonymous setting at home before they send in the registration letter. We obtained a panel data set from the University administration composed of the decisions of all students during their time at the University (for more details on the decision setting, see Frey and Meier 2004). In order to test whether students behave similarly in an experimental study, we chose a selection of students and investigated their behavior in two sorts of class-room experiments. In the first of the two donation experiments, students could make contributions to the exactly same social funds at the University of Zurich, whereas in the second experiment, the contributions had to be made to charities completely unconnected with the University. We therefore varied the degree of the similarity between the decision in the field setting and the experimental studies. The experiments are most similar to the experiments by Eckel and Grossman (1996). Students took only part in one of the two experimental settings. 99 students participated in the experiment ‘Social Funds’ and 83 students in the experiment ‘Charities’.¹ Table 1 presents summary statistics of the two experimental groups.

Experiment ‘Social Funds’: The experiment was performed at the end of two regular classes attended by law and arts & humanities students at the University of Zurich. The students received an endowment of in total 12 CHF (about US \$8) and had to decide how much of the money they wanted to give to the two social funds at the University. Students had to decide to give $x_1 \in [0, 7]$ to one of the social funds and to give $x_2 \in [0, 5]$ to the other funds, i.e. they could donate any amount between zero and the total endowment in increments of 0.5 CHF. As we varied the social funds between decision 1 and decision 2, we calculate the total contribution students made to either the Loan Fund or the Foreigner Fund. Students on average contributed 9.46 CHF of their endowment of 12 CHF to the two social funds. Subjects thus passed almost 80 percent in both decisions to either the Loan Fund or the Foreigner Fund.

¹In the experiment ‘Charities’, one student was not enrolled for one semester before the experiment took place and one student was not enrolled for all four semesters after the experiment. Therefore the number of observations is 82 if we use either just one semester before the experiment or the student’s future pro-social decisions.

Table 1 Summary statistics

Variable	Experiment 'Social Funds'		Experiment 'Charities'	
	Mean	(s.d.)	Mean	(s.d.)
<i>Demographics</i>				
Gender (Women=1)	0.37		0.47	
Citizenship (Foreigner=1)	0.04		0.07	
# of Semesters (at the time of the experiment)	6.13	(5.05)	6.11	(3.95)
Age (at the time of the experiment)	24.63	(5.21)	24.13	(3.97)
<i>Experimental Outcome</i>				
Donation Decision 1 (CHF)	5.56	(2.09)	6.06	(2.63)
Donation Decision 2 (CHF)	3.90	(1.68)	5.59	(2.76)
Total Donation in Experiment (CHF)	9.46	(3.56)	11.65	(5.19)
Proportion of Endowment in Decision 1	0.78	(0.32)	0.67	(0.29)
Proportion of Endowment in Decision 2	0.79	(0.32)	0.62	(0.31)
<i>Field Outcome</i>				
Average Donation in the Four Semesters <i>Before</i> the Experiment	9.07	(4.35)	8.94	(4.08)
Proportion 'Never Contributed in Past'	0.11		0.08	
Proportion 'Sometimes Contributed in Past'	0.27		0.35	
Proportion 'Always Contributed Maximum in Past'	0.62		0.57	
Average Donation in the Four Semesters <i>After</i> the Experiment	9.55	(4.24)	9.45	(4.11)
Proportion 'Never Contributes in Future'	0.11		0.11	
Proportion 'Sometimes Contributes in Future'	0.20		0.24	
Proportion 'Always Contributes Maximum in Future'	0.69		0.65	
# of Observations	99		83	

Experiment 'Charities': The second experiment was performed at the end of four regular classes attended by arts & humanities students. The experiment is basically the same as the first one, but students had an endowment of 18 CHF and had to decide in decision 1 to give $x_1 \in [0, 9]$ to an accredited charity and to give $x_2 \in [0, 9]$ to another charity, i.e. again students could donate any amount between zero and the total endowment in increments of 0.5 CHF. The two charities were randomly selected from a list of accredited Swiss charities after the experiment, and all the donations in decision 1 were transferred to charity 1 and donations in decision 2 were transferred to charity 2. Students were given a card with an Internet address where they could look up the charities selected the day after the experiment. Table 1 shows that students in this experiment contributed on average of 11.65 CHF (out of 18 CHF). Subjects thus passed about 65 percent of their endowment to the two charities.²

²A sample of the instructions (translated from German) can be found on http://www.bos.frb.org/economic/econbios/meier/instructions_social_funds.pdf.

Field behavior: The observations of students in the experimental studies are matched with their naturally occurring decisions at the University of Zurich. Students did not know that their behavior in the field was used for a scientific study, and therefore that their behavior in the experiments would be matched with their behavior in the field setting. The panel data set allows observing real-life behavior of students *before* the experiment as well as *after* the experiment. Table 1 reports individuals' average donation to the two social funds in the four semesters before the experiments were undertaken and in the four semesters after the experiments were undertaken. Subjects that participated in the experiment 'Social Funds' had contributed, on average, 9.07 CHF per semester (out of a maximum of 12 CHF) to the two social funds *before* the experiment, and 9.55 CHF *after* the experiment. The descriptive statistics are similar for the experiment 'Charities'. If subjects are divided into three groups according to their behavior in the field setting, around 11 percent of the subjects in the experiment 'Social Funds' had *never* contributed in the past four decisions to the social funds (8 percent in the experiment 'Charities'), 62 (57) percent had *always* contributed to both funds, and 27 (35) percent had contributed *at least once but not always* to the funds. Similar numbers are obtained for the donation behavior after the experiments.

In the following, we analyze the behavior in the lab compared to the behavior in the field.

3 Results

The results are presented in two steps. First, field and laboratory behavior is compared for the experiment 'Social Funds', i.e. the experiment that closely replicated the naturally occurring donation situation in an experimental setting. In a second step, the experiment 'Charities' is analyzed, involving a donation situation completely unrelated to the University's social funds.

3.1 Experiment 'Social Funds'

Figure 1 reports how people that never, sometimes or always contributed to the two social funds before (Fig. 1a) or after the experiment (Fig. 1b) behave in the experiment. The figure presents two important findings. First, it shows that even students who never contributed to the charitable organizations in the field (before or after the experiment) donate 8 CHF and 6.4 CHF in the experimental setting, respectively. The result that people who never contributed to the social funds in the field donated around 65 percent of their endowment in the experimental study is supportive of the hypothesis that pro-social behavior is more pronounced in the lab compared to the field (Levitt and List 2007a). However, it is difficult to make strong inferences, because the decisions in the lab and the field differ substantially in how continuous donations can be made. In the lab, students are allowed to make donations in increments of 0.5 CHF, whereas in the field, students have to donate to either one, both or none of the charities. As a result, also individuals who always contributed to the two social funds in the field exhibit a different donation behavior in the lab, giving only

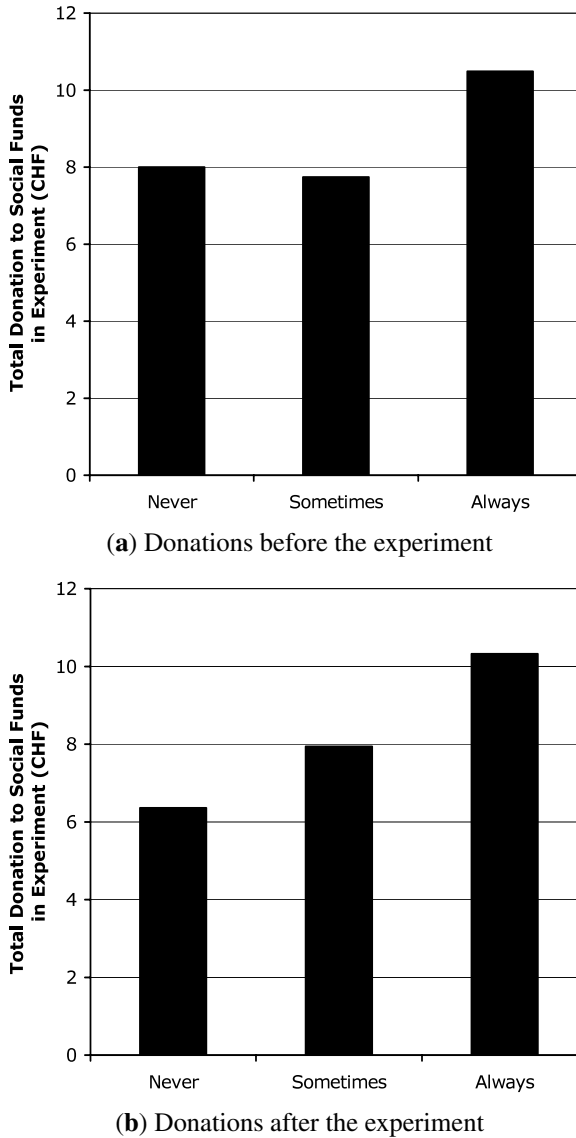


Fig. 1 Donations in experiment ‘Social Funds’

roughly 87 percent of their endowment. If all individuals are considered, the level of donations is somewhat higher in the lab than in the field, although not significantly so.

The second important result from the experiment ‘Social Funds’ is that people’s behavior in experiments correlates with their behavior in the field. Figure 1a illustrates that individuals who always contributed the maximum amount to the two social funds in the past donate on average 10.5 CHF in the experiment. The differences

Table 2 Donations in the experiment ‘Social Funds’

Dependent variable: Individual Donation in the Experiment (in CHF)						
	(1)	(2)	(3)	(4)	(5)	(6)
Estimation model	OLS	Tobit	OLS	OLS	OLS	OLS
# of semesters used for field behavior	4	4	4	3	2	1
Panel 1: Field behavior before the experiment						
Average donation in the past	0.21** (0.08)	0.48* (0.19)	0.23** (0.08)	0.21** (0.08)	0.20** (0.07)	0.15* (0.07)
<i>Control variables</i>	<i>yes</i>	<i>no</i>	<i>no</i>	<i>no</i>	<i>no</i>	<i>no</i>
# of Observations	99	99	99	99	99	99
F-Test/Chi ² -Test	2.11*	6.45*	8.36**	7.00*	2.45°	1.70
R ²	0.14	0.02	0.08	0.07	0.09	0.07
Panel 2: Field behavior after the experiment						
Average donation in the future	0.31** (0.08)	0.70** (0.18)	0.34** (0.08)	0.33** (0.08)	0.32** (0.08)	0.30** (0.08)
<i>Control variables</i>	<i>yes</i>	<i>no</i>	<i>No</i>	<i>no</i>	<i>no</i>	<i>no</i>
# of Observations	97	97	97	97	97	97
F-Test/Chi ² -Test	2.05**	15.37**	18.16**	16.85**	14.97**	13.62**
R ²	0.19	0.04	0.16	0.15	0.14	0.13

Standard errors in parentheses. Significance levels: ** $p < 0.01$, * $0.01 < p < 0.05$, ° $0.05 < p < 0.1$

between donations of students who always contributed and students who only sometimes or never contributed in the past are statistically significant on the 99-percent level (7.7 CHF vs. 10.5 CHF) and the 95-percent level (8 CHF vs. 10.5 CHF), respectively (Mann-Whitney U-test), while donations of students who never or only sometimes contributed in the past are not significantly different. Figure 1b reports a similar picture for the four semesters after the experiment. Students who always contribute to the social funds after the experiment donated significantly more than students that only sometimes contribute (7.9 CHF vs. 10.3 CHF, $p < 0.01$) and than students who never contribute to the two social funds after the experiment (6.4 CHF vs. 10.3 CHF, $p < 0.001$). The result that individuals’ behavior in an experimental situation is related to both their past and their future behavior in a naturally occurring field setting is reflected also in the correlation of 0.28 ($p < 0.01$) between individuals’ average donation in the experiment and their average donation in the past four semesters. The corresponding correlation with the average donation in the four semesters after the experiment is 0.40 ($p < 0.001$).

Table 2 investigates the robustness of this finding to various specifications. The multivariate regressions include, in some specifications, a set of socio-demographic control variables, apply different estimation techniques, and, most importantly, vary the number of semesters used to measure pro-social behavior in the field.

The results reported in Table 2 indicate that the observed relationship between lab and field behavior is a robust phenomenon. Panel 1 of the table presents the re-

sults relating to behavior in the field *before* the experiment took place, and Panel 2 presents the findings relating to field behavior in the semesters *after* the experiment was conducted. The first column shows that the results remain almost unchanged if a set of control variables on personal characteristics is included in an OLS-regression, relating to an individual's gender, nationality, number of semester studied and age at the time of the experiment.³ Column 2 estimates a tobit regression in addition to OLS because the range of possible donations is limited to $[0, 12]$. It indicates that this change in the estimation method does not alter the results. Lastly, the number of semesters included in the calculation of field behavior is varied. Column 3 reproduces the correlation between contributions in the lab experiment and the average donations in the four semesters before (Panel 1) and four semesters after (Panel 2) the experiment. For every CHF students contributed more in the past to the two social funds, they give 0.23 CHF more in the experiment ($p < 0.01$). Similarly, for every CHF students contribute more in the four periods after the experiment, their contribution is 0.34 CHF higher in the experimental study ($p < 0.01$).⁴ The following columns reduce the semesters used to calculate the average behavior in the field decisions. In column 4, only the three semesters before or after the experiment are taken into account to measure pro-social behavior in the field, and in columns 5 and 6 the respective numbers are lowered to two and one semester. The results show that using less information on individuals' field behavior leads to less precise estimates of the field-lab relationship, but a significant correlation between field and lab behavior is found even when only one semester before or after the experiment is taken into account (column 6).

3.2 Experiment 'Charities'

In contrast to the experiment 'Social Funds', the experiment 'Charities' involves a donation situation completely unrelated to the University's social funds. People were asked to donate any amount of their endowment to two accredited Swiss charities, whose name they did not know at the time of the experiment. Thus, donation behavior is analyzed in a considerably different setting.

The findings from the experiment 'Charities' is very similar to the results from the experiment 'Social Funds'. The relationship between behavior in the field and the lab is, however, somewhat weaker, probably reflecting the larger difference in the decision setting. Figure 2 shows again behavior in the experiment of three groups; individuals who never contribute to the social funds before or after the experiment, individuals who only sometimes contribute, and individuals who always contribute to the social funds. As in the experiment 'Social Funds', students who never contributed before or after the experiment in the field donated a substantial amount of their endowment in the laboratory study, about 50 percent of their endowment (8.9

³The full table, including the results on the treatment and control variables, is available from the authors on request.

⁴The coefficients of the average donation in the past (Panel 1) and the future (Panel 2) do not differ statistically significantly. This indicates that the correlation between field and lab behavior was not influenced by the lab experiment.

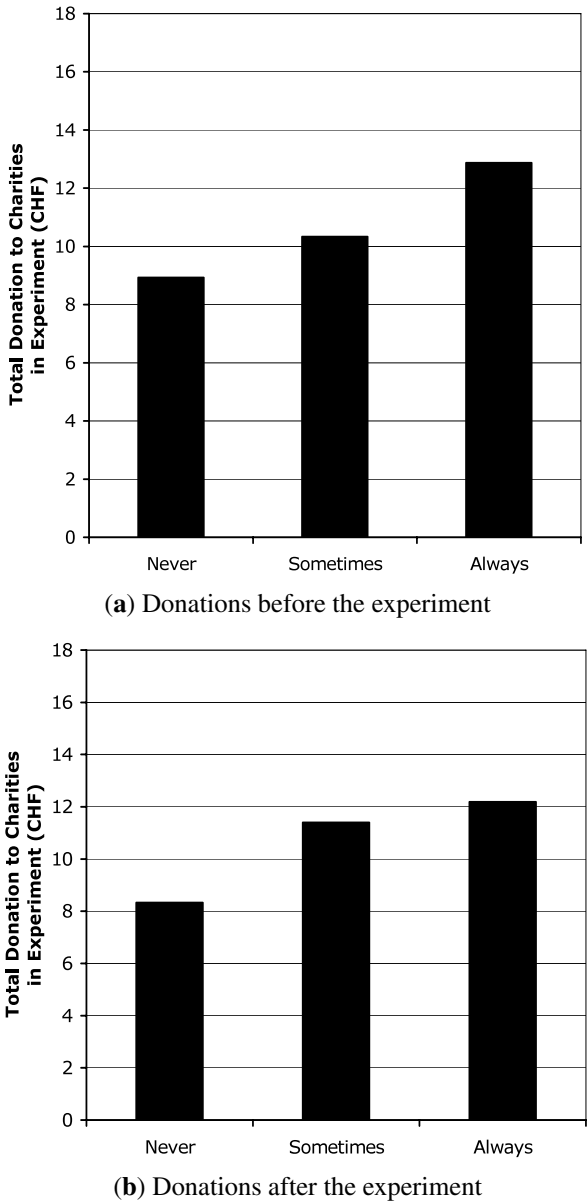


Fig. 2 Donations in the experiment ‘Charities’

CHF and 8.3 CHF, respectively). This result reinforces the suggestive evidence from the first experiment that lab and field might create different levels of pro-social behavior. However, it also has to be taken into account for the experiment ‘Charities’ that it is difficult to make strong inferences, because the decisions in the lab and the field differ substantially in how continuous donations can be made.

Table 3 Donations in the experiment ‘Charities’

Dependent variable: Individual Donation in the Experiment (in CHF)						
	(1)	(2)	(3)	(4)	(5)	(6)
Estimation model	OLS	Tobit	OLS	OLS	OLS	OLS
# of semesters used for field behavior	4	4	4	3	2	1
Panel 1: Field behavior before the experiment						
Average donation in the past	0.29 ^o	0.45 [*]	0.34 [*]	0.27 [*]	0.17	0.18
	(0.15)	(0.19)	(0.14)	(0.13)	(0.13)	(0.12)
<i>Control variables</i>	<i>yes</i>	<i>no</i>	<i>no</i>	<i>no</i>	<i>no</i>	<i>no</i>
# of Observations	83	83	83	83	83	83
F-Test/Chi ² -Test	2.39 [*]	5.59 [*]	6.23 [*]	4.17 [*]	1.71	2.07
R ²	0.18	0.02	0.07	0.05	0.02	0.03
Panel 2: Field behavior after the experiment						
Average donation in the future	0.30 [*]	0.41 [*]	0.31 [*]	0.29 [*]	0.28 [*]	0.21
	(0.15)	(0.19)	(0.14)	(0.14)	(0.14)	(0.13)
<i>Control variables</i>	<i>yes</i>	<i>no</i>	<i>no</i>	<i>no</i>	<i>no</i>	<i>no</i>
# of Observations	82	82	82	82	82	82
F-Test/Chi ² -Test	2.65 [*]	4.86 [*]	5.28 [*]	4.60 [*]	4.39 [*]	2.77 ^o
R ²	0.20	0.01	0.06	0.05	0.05	0.03

Standard errors in parentheses. Significance levels: ** $p < 0.01$, * $0.01 < p < 0.05$, ^o $0.05 < p < 0.1$

Figure 2, in addition, shows that behavior in the lab and in the field correlate. As seen in Fig. 2a, individuals who always contributed to the social funds in the past donate on average 12.9 CHF to the charities in the experiment, while people who only sometimes contributed give a comparatively lower amount of 10.3 CHF ($p < 0.05$), and people who never contributed in the field donate only 8.9 CHF ($p < 0.1$). A similar pattern is documented in Fig. 2b. Experimental donations are highest for students who always contribute to the social funds in the four semesters subsequent to the experiment (12.2 CHF), followed by students who only sometimes contribute (11.4 CHF, n.s.) and students who never contribute (8.3 CHF, $p < 0.1$). The result is supported when analyzing the raw correlations between donations in the experiment and donations in the naturally occurring decision setting, which are 0.26 ($p < 0.05$) for past behavior, and 0.25 ($p < 0.05$) for behavior in the four semesters after the experiment.

Table 3 investigates the robustness of the relationship between behavior in the experiment ‘Charities’ and the field. It contains the results from identical analyses as those conducted for the experiment ‘Social Funds’. Column 1 shows that the relationship between field and lab behavior is hardly affected by including a set of control variables on personal characteristics in the regression (gender, nationality, number of semesters and age). Column 2 applies a tobit estimator instead of OLS, because donations in the experiment are limited to a range between 0 and 18. This change in the estimation procedure does not alter the results. Column 3 shows regression results re-

lating donations in the experiment to field behavior in the four semesters before/after the experiment. The estimates in Panel 1 show that for every CHF an individual contributed in the field, donations in the experiment increase by 0.34 CHF ($p < 0.05$). Similarly, the first column in Panel 2 of the table documents that field behavior in the four semesters after the experiment is related to donations in the experimental setting. The estimated coefficient in this case is 0.31 ($p < 0.05$). In column 4, only the three semesters before or after the experiment are taken into account in constructing the variable on pro-social behavior in the field. Compared to the variable based on four semesters, a somewhat weaker, but still statistically significant relationship between donations in the field and in the experiment is found. Columns 5 and 6 show that the fewer semesters are taken into consideration (and correspondingly, the fewer information is included in the variable on field behavior), the lower and less precise are the estimated relationships between field and lab behavior. If only one semester before or after the experiment is taken into account, the estimated coefficients drop to 0.18 ($p = 0.15$) and 0.21 ($p = 0.10$). Although these last results are at the border of statistical significance, the overall conclusion seems warranted that field and laboratory behavior are systematically related. Individuals' donations in the experiment 'Charities' partly correspond to their pro-social behavior in a completely unrelated, naturally occurring donation situation at the University of Zurich.

4 Discussion and conclusion

This paper presents evidence on the question whether people behave in an experimental setting as they do in the field. The comparison of people's behavior inside and outside the lab is important, as the practical relevance of experiments at least partly depends on their external validity.

As illustrated by the theoretical model of Levitt and List (2007a), various factors vary between experimental settings and the field. This can lead to differences in the level of pro-social behavior in the lab and the field, and it can affect the correlation between individuals' behavior in both contexts. While our study is not perfectly tailored to investigate the question of whether pro-social behavior is more accentuated in the lab, we present suggestive evidence that it does. Individuals who never contribute to two social funds in the field give a substantial amount of their endowment when asked to give to the same social funds in an experimental study. A similar result is found when subjects are asked to donate to other charitable organizations. However, average donations for all individuals are roughly similar across the two settings.

More importantly, our findings document a systematic and positive correlation between pro-social behavior in the lab and the field ranging between 0.25 and 0.4. Experimental measures of pro-social behavior can therefore provide information about both people's past and future behavior in a more contextual environment in the field.

Our findings also show, however, that the variance in behavior is quite large and that only a small fraction of the variance can be accounted for. Seen from this angle, the correlation between experimental and field behavior might be considered as rather weak. It is an interesting question, however, what correlation should be expected in the first place. In psychology, a long-standing debate on the 'the person vs. the situation' has addressed this issue in detail. It is argued that the correlation in individuals'

behavior between two situations—independent of whether the situations involve field or laboratory settings—will be limited if behavior is influenced mainly by situational factors and not by stable personality traits. Indeed, a large number of psychological studies reports correlations of behavior in different situations not exceeding 0.1, and hardly any study could show correlations exceeding the barrier of 0.3 (Mischel 1968; Ross and Nisbett 1991). Seen in the light of this line of research, the correlations between field and laboratory behavior reported in this paper appear to be rather strong. The person-situation debate also suggests that aggregation of behavior over various situations decreases the variance and captures the underlying preferences better (see, e.g., Epstein and O'Brien 1985). A similar effect is present in our study. Averaging behavior in the field over the past (future) four decisions yields a higher correlation with the behavior in the lab than relying on fewer decisions. While pro-social preferences exhibited in the field can be measured more or less precisely in this manner, the measurement of pro-social preferences in the experiment still depends on the behavior in a single decision only. As this decision is argued to be quite sensitive to small changes in the context (see Camerer and Thaler 1995 for a discussion of dictator games), the observed correlation between donations in the experiment and the field seems to be quite remarkable.

The generally low correlations between behavior in various situations have been interpreted by psychologists as evidence for the importance of situational factors versus personality traits. Although people might behave more consistently in exactly the same decision situation over time,⁵ the person-situation debate suggests that individuals' behavior in even seemingly similar situations is characterized by a huge variance—which also applies for different field settings. While psychologists have interpreted a low correlation as evidence against general cross-situational pro-social preferences (traits), a low correlation between lab and field can also result if one situational setting triggers pro-social preferences more than another.

The results of this study have two implications for (experimental) economics. First, experimental measures of pro-social preferences can tell us something about behavior in similar situations in the field. Second, the discussion of the person-situation debate in psychology has to be taken more seriously in experimental economics and economics as a social science more generally. Individuals' behavior seems to be extremely situationally dependent and very hard to generalize—either because there are no cross-situational traits or because pro-social preferences are triggered differently in various settings. As a consequence, people's behavior correlates only weakly between various situations—independent of whether the decision situations are inside or outside the lab. This suggests that it is problematic to speak of different 'types' of persons, but rather that the different conditions under which pro-social behavior prevails or vanishes should be investigated in more detail.

Acknowledgements We are grateful for helpful comments from Iris Bohnet, Jeff Carpenter, Bruno S. Frey, Simon Gächter, Lorenz Götte, Benedikt Herrmann, Alois Stutzer, conference participants at the ESA North America Meeting 2005, the referees, and the editor. The views expressed herein are solely those of the authors and not those of the Federal Reserve System or the Federal Reserve Bank of Boston.

⁵Students in our field setting, like people in other studies (Ross and Nisbett 1991), show extremely consistent behavior over time, which leads to a correlation between decisions in the field (the different semesters) of around 0.8.

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