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Do Fields of Study Shape Social Preferences? Selection and Curricular Imprinting in Economically Oriented versus Prosocial Programs

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Abstract

This study examines whether field of study influences social preferences by contrasting an economically oriented program (business administration students) with a prosocial helping profession at the opposite end of the social-preference spectrum (social work students). Using non-strategic allocation tasks (dictator and common pool games), we compare the behaviour of first-term and final-term cohorts across both fields. We find evidence for both selection and education-induced effects in the economically oriented program: students – especially in their final term – exhibit more payoff-maximizing, self-regarding choices, whereas the prosocial field shows little to zero differences across cohorts, possibly due to a ceiling effect. The differences in economics are most pronounced in non-cooperative settings with weak normative cues, suggesting that training shapes how students respond to social norms. This suggests that economic training may indeed shape students' responses to social norms, especially in non-cooperative environments.

JEL Classification: A20, C91, D03, D64, Z13

Keywords: social preferences, self-interest, economic education, laboratory experiment

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1. Introduction

A standard assumption in textbook economics is that agents are rational payoff maximisers. Based on this assumption, standard economics makes precise predictions about optimal behaviour. Consequently, the question arises whether economic training may change social preferences in that it makes people behave more selfishly.

Starting with the pioneering study by Sawyer (1966), researchers demonstrated that economics students indeed tend to be more self-regarding than comparison groups (see Miragaya-Casillas et al. 2023, for a recent survey). However, it is not fully clear whether this difference is due to selection or ‘indoctrination’. Prior studies on the causal effect of economic training on social preferences give a mixed picture. Using data on voluntary charity giving among students, Frey & Meier (2003) and Bauman & Rose (2011) provide strong evidence for selection (economics students tend to donate less) but somewhat mixed evidence for ‘indoctrination’. Closer to textbook economics, Girardi et al. (2024) find no statistical difference in within-students’ behaviour in trust and dictator games before and after attending a course in economics. Finally, Chen et al. (2021) use discontinuities in the Chinese college-admission system and find no difference between economics and non-economics students’ behaviour in trust, dictator, and Ultimatum, also suggesting the absence of an ‘indoctrination’ effect. Given the mixed results, more research is needed on the relationship between the selection and ‘indoctrination’ effect. Miragaya-Casillas et al. (2023, p.11) conclude their survey study with the recommendation that “both—the indoctrination and self-selection hypotheses should be contrasted”. In this study, we contribute to this issue. Furthermore, little is known about how education shapes social preferences on the ‘other side of the scale’, that is, in prosocial helping profession.

In this study, we elicit social preferences using different forms of classic games with no strategic considerations involved: dictator games with and without taking, and common pool games with different initial amounts received from the first player to be shared with a third player. A common feature of all games is that payoff-maximising behaviour implies taking all that is ‘on the table’ and leaving nothing to the other player. However, games differ in the hurdles social norms set for selfish behaviour. For instance, in our variant of the dictator game with taking, a ‘take-the-whole-pie’ - strategy would involve not only not giving but also taking resources away from the partner. In the common pool games, the first player’s pass-through – determined by the experimenter – may serve as a norm-setting behaviour. Generous actions by the first player could make selfish behaviour more difficult for subsequent players. Thus, employing a variety of games allows us to examine how students differ in their responses to social norms.

Participants belong to four (balanced) groups: first-term and final-term students of (i) business administration (coded as *econ*) and (ii) social work (coded as *social*). The group composition allows us to identify possible initial differences in social preferences and the effect of ‘indoctrination’ that can be attributed to the field of study. Social work might be interpreted as being on the other end of the scale regarding expected prosocial behaviour.

Our main results support both the selection hypothesis and the ‘indoctrination through economics training’ hypothesis. Specifically, we find that business administration students transfer up to 46.46% less to the receiver, compared to the reference group of first-semester social work students. There is, however, a significant difference between first- and final-term students, which becomes most apparent in the common pool game variant where the initial player keeps 2/3 of the total payoffs for herself.

This aligns with the idea that economic training shapes students' behaviour, especially in response to a non-cooperative environment. When we estimate the probability of a 'take-it-all' - decision as the most extreme form of selfish behaviour, the results get even clearer: While first-term business students are approximately twice as likely to allocate nothing to the receiver compared to the reference group, final-term students are three times as likely. Interestingly, first-term and final-term social work students hardly differ in their behaviour. Since first-term students already exhibit very high other-regarding preferences, we interpret this to mean that selection rather than education plays a dominant role in this domain.

2. Experimental Design

2.1. Games

We tested social preferences in a sequence of non-strategic decisions in six games in which a 'windfall stake' was given. The games were, in essence, all standard dictator games (Forsythe et al. 1994) with anonymous receivers and no repeated interactions. However, the games differed in modifications of the initial conditions. In all of these games, the proposer can make his or her choice without any strategic considerations. All games thus measured a participant's willingness to sacrifice her or his own resources for the sake of more equal distributions between all parties in the experiment. The six games were comparable regarding the possible payoffs, and participants uniquely played in non-strategic positions, giving them full control of their payoffs.

The *dictator game* (Forsythe et al. 1994) served as a baseline measure. Participants received an initial endowment of €10 and were assigned to the role of the proposer. Their task was to divide this endowment between themselves and an anonymous receiving player who did not dispose of any funds. The possible payoffs for both partners thus ranged between 0 and 10 euros. In the absence of strategic considerations, participants will exhibit altruistic behaviour by sharing a portion of their endowment with the anonymous receiver.

The *taking game* differs from the baseline game in one respect only: The proposer's initial endowment was €7, while €3 was allotted to the receiver. However, proposers remained free to decide on the final outcome for both parties. For instance, proposers could claim the entire endowment of €10 for themselves by taking money from the other player. Prior research has shown that allowing proposers to take from receivers leads to a substantial drop in the level of transfers. A candidate explanation is a shift in social norms (List 2007, Bardsley 2008). However, in our specification, proposers must take from the receivers to get the whole pot of 10€, which imposes a second hurdle to this action. Hence, we expect a higher share to be allocated to the receiver than the standard DG.

Finally, the *common pool game* (Budescu et al. 1992) is a three-player game that differs from the baseline game by introducing indirect reciprocity through an additional player. In this game, the first player obtains €15 and can choose to pass on €5, €8, €10, or €12 to the second player, who then chooses how much of the received amount to pass on to the third player. All participants in this study were given the role of the second player and had to decide how much they would pass on to the third player, given the initial amount received from the first player. We expect the share allocated to the third player to be shaped by the first player's generosity (ranging from a 33% to a 80% transfer) due to indirect reciprocity. Specifically, the norm set by the first player may affect how participants balance their gains with the perceived fairness towards the third player. We use the terms *CPG-5*, *CPG-8*, *CPG-10*, and

CPG-12 for the four common pool games with €5, €8, €10, and €12, respectively.

Taken together, participants' decisions will reflect their social preferences, such as fairness, altruism, and (indirect) reciprocity. The framing and context of each game will influence the social norms and acceptable behaviours, leading to variations in how much participants are willing to share or take.

2.2. The Experiment

The six games were played by a total of 218 participants in a 2×2 between-subjects design. The sample comprised 60 first-term business administration students (mean age 21.3 years; 30 women, 30 men), 47 first-term social work students (mean age 24.3 years; 36 women, 11 men), 54 final-term business administration students (mean age = 25.1 years; 29 women, 25 men), and 57 final-term social work students (mean age = 26.3 years; 48 women, 9 men). The first-term students were tested in the first week of their studies and thus had not yet received professional training. The final-term students had at least five terms (2.5 years) of education in their disciplines. All participants played the dictator game first (the baseline); the other games were presented in random order.

The study was carried out in 2010 as an online experiment with students from the Free University, Humboldt University, and the Catholic University for Applied Social Sciences in Berlin, Germany. The study was announced in introductory sessions for first-term students and in different subject-specific courses for advanced students. Students willing to participate received a leaflet containing a short introduction, the link to the online study, and a randomised individual code. Participants could freely choose where and when to participate within a given time frame. Before making any decisions, participants were informed that their monetary payoff would be determined by randomly selecting one of their choices. They were also told that they had to give responses based on all possible actions of their counterparts (strategic method) because partners would not be matched until after the experiment. Counterparts without a specific educational background were recruited at the Max Planck Institute for Human Development. They had to indicate what they expected others to give in the receiving conditions or what they themselves wanted to give as proposers in the common pool games. After the study was finished, participants could pick up their payoffs in a university office. The person making the payoff knew nothing about the experiment and handed out sealed envelopes containing the payment after being given the individual code.

3. Results

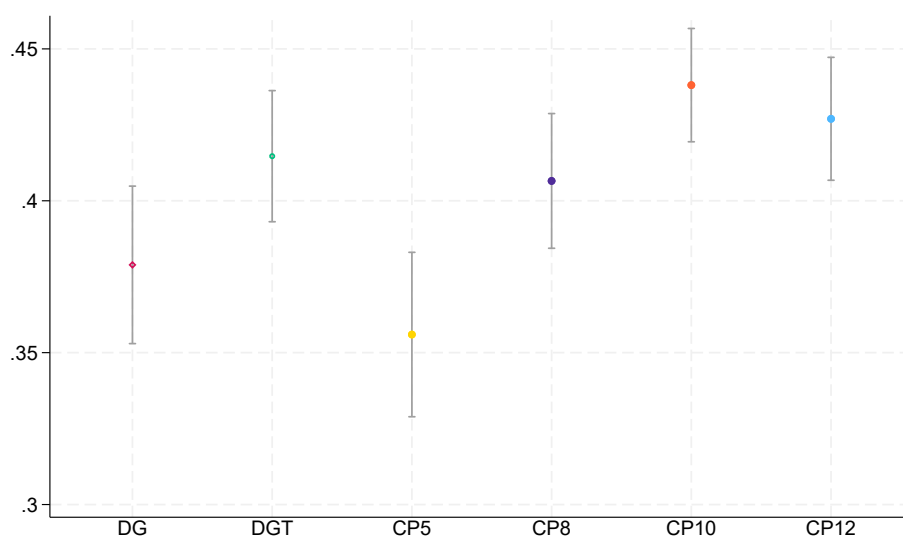
3.1. Descriptive Evidence

Figure 1 illustrates the share of total payoffs allocated to the receiver. In the dictator game (DG), this is the offer s divided by 10, whereas it is $\frac{3-t+s}{10}$ in the dictator game with the option to take an amount $t \leq 3$ from the receiver (DGT). For the common pool games, the receiver's share refers to his or her share of the initial amount $x \in (5, 8, 10, 12)$ passed through by the first player.

In line with expectations, proposers leave more to the receiver in dictator games when they would have to take from the receiver to get the whole pie. Similarly, the share of player 2's payoffs allocated to player 3 in the common pool game increases in player 1's pass-through (with saturation at CPG-10), suggesting that the initial pass-through acts as a norm-setter. The result is also in line with the concept of indirect reciprocity.

Figure 2 presents the first descriptive evidence that giving behaviour is less prevalent in the group of final-term business administration students (*econ2*), which we take as a hint for ‘indoctrination’. The mean share allocated to the receiver across games is also slightly lower for first-term business administration students than for social work students (0.392 vs 0.458, p -value = 0.003), suggesting that selection may also play a role. Note that these figures exceed the average share found in meta studies of the dictator game, which is slightly below 0.3. (Engel 2011, Doñate-Buendía et al. 2022). When it comes to the most extreme form of selfish behaviour, i.e., sharing nothing, Figure 3 points in the same direction as Figure 2: final-term business administration students stand out. Among the social work students, transfers are high and close to a 50-50 split without much difference between individuals at the beginning and end of the program. This suggests a strong selection effect, which may be powerful enough to override the potential effects of education.

FIGURE 1 — Share of total payoffs allocated to the receiver



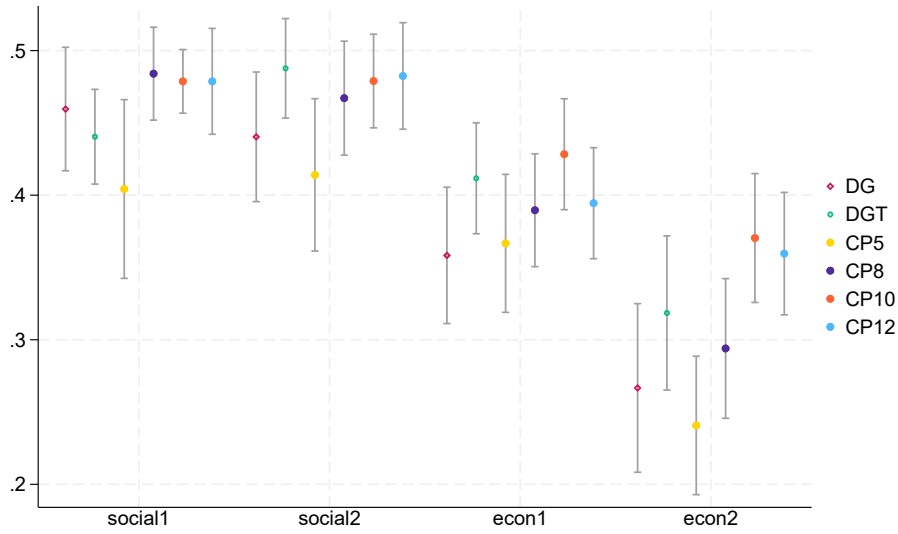
Notes: 95% confidence intervals. DG: Dictator game, DGT: Dictator game with taking, CPx: Common pool game where $x \in (5, 8, 10, 12)$ is the amount passed through by player 1.

3.2. Regression Results

Next, we regress the share of total payoffs in a game allocated to the receiver on the group indicators. Furthermore, since prior research has shown that age and gender are moderating factors of behaviour in games designed to elicit social preferences (e.g., Engel 2011, Doñate-Buendía et al. 2022), we control for these variables in a regression framework. Standard errors are clustered at the recruitment source (campus sites & Max Planck Institute mailing list) $\times$ mode (online vs. pen & paper) level.

Figure 4 shows estimates of the group indicators for each of the six games. The figure underpins the descriptive evidence presented in Section 3.1: first- and final-term social work students show similar patterns in their allocation behaviour (except for the DGT, where final-term students, on average, transfer 13.29% more to the receiver, see Table A.1 in the Appendix), suggesting that education in the profession has little to no effect on social preferences. However, we cannot rule out a ceiling effect, given that the amounts that first-term social work students attribute to the receiver are already close to a fair split. On the contrary, business administration students transfer significantly less to the receiver, with the group of

FIGURE 2 — Share of total payoffs allocated to the receiver by groups



Notes: 95% confidence intervals. DG: Dictator game, DGT: Dictator game with taking, CPx: Common pool game where $x \in (5, 8, 10, 12)$ is the amount passed through by player 1.

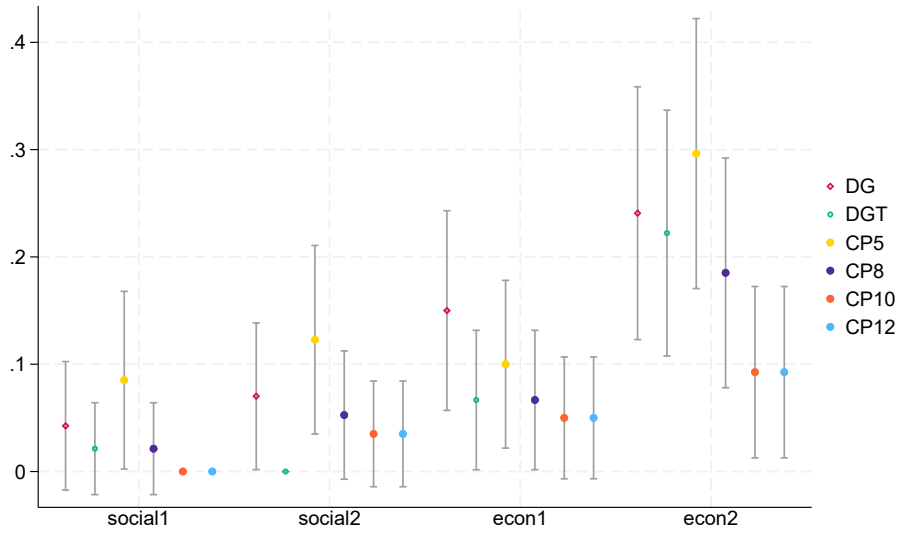
final-term students giving the least.

In detail, when evaluated at the sample mean, we find that final-term business administration students allocate between 22.32% (column 5) and 46.46% (column 1) less to the receiver compared to the reference group (first-term social work students), see Table A.1 in the Appendix. However, there is a significant difference between students at the beginning and the end of their training: Except for CPR-12 (column (6)), the difference between the estimated coefficients of the group indicators *Econ1* and *Econ2* is significantly different from zero (at least at the 10% level). In particular, there is a clear difference in choices in the CPR-5 game, i.e., when the initial pass-through by the first player is lowest and an ‘act selfish’ norm might be set (column (3)). Here, the freshmen hardly differ from the reference group, while the final-term students seem to take up the ‘act selfish’ norm (implied the the low initial transfer received from the first player) much more. Through the lens of indirect reciprocity, economics training motivates students more to act in line with negative than positive reciprocity.

The difference between the group of final-term business administration students and the rest becomes more apparent when we choose an indicator for a ‘take-it-all’ decision as the outcome variable. Leaving nothing to the receiver is the most extreme form of selfish behaviour, but also the payoff-maximising strategy implied by textbook economics. Figure 5 shows that parameter estimates for students trained in economic thinking are substantially higher than those of the others. Specifically, Table A.2 in Appendix A indicates that seniors in economics have between 8 and 16 percentage points higher probability of purely selfish behaviour than the reference group, depending on the type of game. Relative to the sample mean, the estimated coefficients translate into a 116% (column 3) to 197% (column 2) increase, meaning the probability almost triples.

More insights can be gained from the analysis. First, the probability of purely selfish behaviour is significantly lower (at the 5% level) for first-year students than for seniors in economics in the DGT and CPR-x games with low initial first-player pass-throughs. This suggests that economic training lowers ‘moral barriers’ (i.e., taking something away from someone) and makes students more responsive to

FIGURE 3 — Share of ‘take it all’ - players by groups



Notes: 95% confidence intervals. DG: Dictator game, DGT: Dictator game with taking, CPx: Common pool game where $x \in (5, 8, 10, 12)$ is the amount passed through by player 1.

negative reciprocity.

Second, the substantially larger confidence intervals for the parameter estimates of the *econ2*-indicator imply much more variation of behaviour in this group compared to the others, suggesting strong heterogeneity in strict *Homo economicus* thinking after economic training.

Third, first-term business administration students are significantly more likely to allocate nothing to the receiver in all games but the CPR-5 game than the reference group. Although these probabilities are significantly lower than those of seniors, they remain substantial, ranging from 68% (column (4)) to 111% (column (6)) when evaluated at the sample mean. Thus, as a rule of thumb, selection and ‘indoctrination’ contribute roughly equally to the difference in selfish behaviour between final-term business administration students and our reference group, i.e., first-term social work students. We conclude that economics training profoundly impacts social preferences; however, the selection effect is no less important. For students in helping professions, the selection effect is already so pronounced that any additional ‘indoctrination’ effects cannot be detected within the scope of the dictator and common pool games used to elicit social preference.

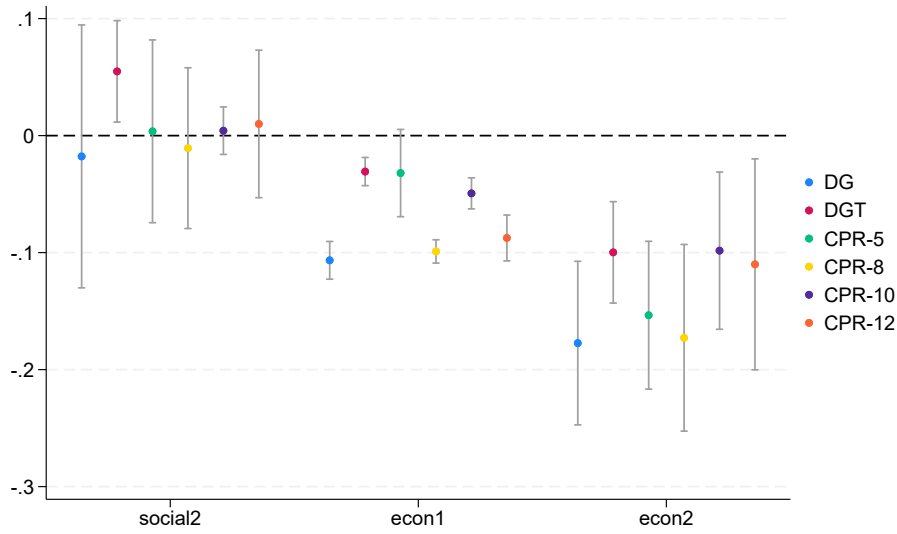
3.3. Discussion

Our analysis has provided evidence that economics training shapes social preferences elicited in dictator and common pool games, while this is not the case for the prosocial program. In this section, we want to shed some light on participants’ actual thinking and the generalisability of the results.

First, we present stylised facts from group discussions with subjects after the experiment. Participants were divided into groups of three and asked by an interviewer to (non-anonymously) rationalise their decisions. Unfortunately, for organisational reasons, only final-term students participated.

From these interviews, we were able to identify five main differences in underlying motives between the groups (representative quotes in parentheses): Business administration students explain their actions less often with . . .

FIGURE 4 — Regression results: Shares allocated to the receiver by games and groups



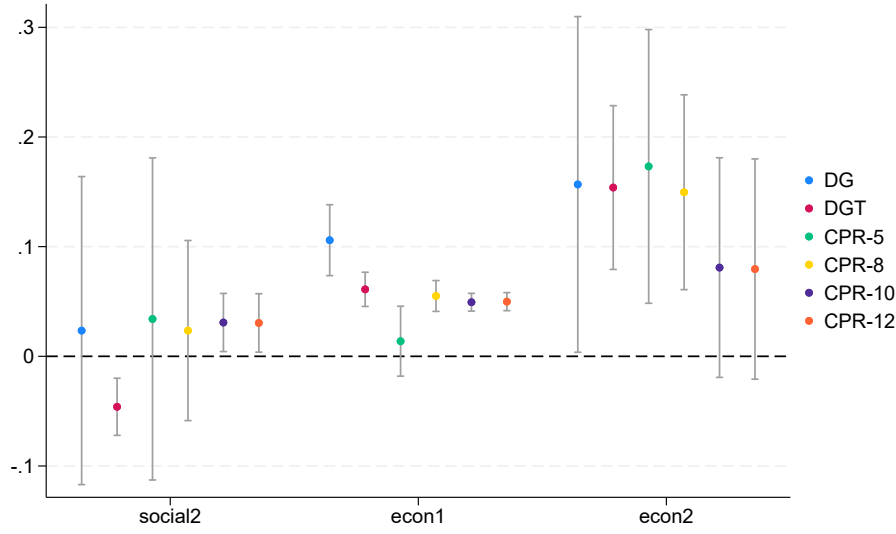
Notes: 95% confidence intervals. DG: Dictator game, DGT: Dictator game with taking, CPx: Common pool game where $x \in (5, 8, 10, 12)$ is the amount passed through by player 1.

- . . . fairness motives (“*So, I would give them half and half. So, five, out of equality, all the same amount, I think that’s fine.*”),
- . . . other-regarding preferences (“*Well, I don’t know him, so I’m assuming that, um, almost everyone is in the same situation and I’ll just divide it up like this.*”)
- . . . social image concerns (“*Yes. Are we good social workers? (All together) Because we are fair!*”)
- . . . positive use of power/responsibility (“*They don’t have a say in the matter. They could get very little from us now, but I think that’s unfair.*”)

. . . , and more often with self-orientation (“*If you have the money, you don’t really have any incentive to share.*”) compared to social work students. We interpret these differences as evidence that this group has indeed internalised the behaviour of rational agents in neoclassical economics.

Second, there are concerns that the ‘indoctrination effect’ might be rather specific and mainly present in environments designed to trigger *Homo economicus* thinking. To address this issue, we test for differences in established measures of broader values such as the Schwartz Value Survey (Schwartz 1992) and the Inglehart Index (Inglehart 1971, 1981). As a result, we do find differences between groups but not within groups (see also Petersen et al. 2019). For instance, while the Kruskal–Wallis equality-of-populations rank test rejects the null for all groups regarding Schwartz’ universalism values (p -value = 0.0001), Wilcoxon–Mann–Whitney tests do not reject for social work (p -value = 0.285) and business administration students (p -value = 0.130). We take this as suggestive evidence that economics training does not change a person’s values in a broader sense but affects behaviour in a more narrow sense. Moreover, the absence of within-field differences in broad values argues against survivorship bias as the driver of our results.

FIGURE 5 — Regression results: Probability of purely selfish behaviour by games and groups



Notes: 95% confidence intervals. DG: Dictator game, DGT: Dictator game with taking, CPx: Common pool game where $x \in (5, 8, 10, 12)$ is the amount passed through by player 1.

4. Conclusions

Our study addresses the question of whether the self-regarding behaviour observed in previous research among economics students is the result of education ('indoctrination'), selection, or both. Furthermore, we compare this group with individuals who have received training in a prosocial helping profession, which may represent the opposite end of the social preference spectrum. In our experiment, participants decide on transfers to an anonymous third party in games that differ in the hurdles social norms set for selfish behaviour to elicit social preferences.

We find that business administration students indeed transfer up to 46.46% less compared to the reference group of social work students. Further investigations suggest that this is due to both selection and indoctrination in roughly equal measure: First-term business administration students already exhibit significantly less prosocial behaviour compared to first-term social work students, suggesting substantial self-selection. The gap becomes even more pronounced among final-term students, indicating a considerable indoctrination or training effect as students progress through their economics curriculum. At the same time, we find that educational progression in social work does not produce similar changes: first- and final-term social work students show very similar social preferences. This contrast suggests a domain-specific influence of economics education. Moreover, the increased likelihood of "take-it-all" (purely selfish) decisions among economics students in later terms demonstrates a robust effect of the economics curriculum in reinforcing payoff-maximizing, self-regarding behaviour and negative reciprocity.

The role of social norms emerged as a critical factor. Behavioural differences between groups are most pronounced when normative cues are weak or ambiguous. In scenarios where the experimental design embeds stronger norms of pro-sociality, the effect of economics education, though still present, is somewhat reduced. This observation suggests that economics training particularly affects behaviour in contexts where norms are contested or can be interpreted differently.

Our additional qualitative data, derived from post-experimental group discussions, support this assumption: Final-term economics students explain their choices less often in terms of fairness, social responsibility, or consideration for others, and more often justify them by invoking self-interest and rational maximization—an orientation closely aligned with the core assumptions traditionally taught in economics and business administration.

While business administration students become more self-interested in economic games, we do not observe profound, general shifts in overarching value orientations across the course of study for either group. These findings resonate with the broader discussion about the limits of educational influence on fundamental values.

Although first- and final-term economics cohorts are not identical – which means that we cannot fully rule out selection or survivorship bias – the absence of within-field differences in broad social-value measures across cohorts (in both economics and social work) mitigates this concern. From a societal perspective, however, the distinction may be of second-order importance: whether economics education shifts social preferences through curricular socialization or by sorting more self-regarding students into and through the program, the aggregate implications for the composition and behaviour of graduates are similar (see, e.g., Gill et al. 2023).

In summary, economics education – more so than an education in social work – systematically shapes student preferences in the direction of self-interested, payoff-maximizing behaviour, primarily in contexts where social norms are unclear. Both selection and indoctrination are at work, and their effects reinforce each other throughout the study. These results underline the significance of considering the ethical and social framing within economics curricula and point to the broader responsibilities of higher education in cultivating reflexive, socially responsible economic agents.

References

- Bardsley, N. (2008), 'Dictator game giving: altruism or artefact?', *Experimental economics* **11**, 122–133.
- Bauman, Y. & Rose, E. (2011), 'Selection or indoctrination: Why do economics students donate less than the rest?', *Journal of Economic Behavior & Organization* **79**(3), 318–327.
- Budescu, D. V., Rapoport, A. & Suleiman, R. (1992), 'Simultaneous vs. sequential requests in resource dilemmas with incomplete information', *Acta Psychologica* **80**(1-3), 297–310.
- Chen, B., Lin, W. & Wang, A. (2021), 'The causal impact of economics education on decision-making: Evidence from a natural experiment in china', *Journal of Economic Behavior & Organization* **188**, 1124–1143.
- Doñate-Buendía, A., García-Gallego, A. & Petrović, M. (2022), 'Gender and other moderators of giving in the dictator game: A meta-analysis', *Journal of Economic Behavior & Organization* **198**, 280–301.
- Engel, C. (2011), 'Dictator games: A meta study', *Experimental Economics* **14**, 583–610.
- Forsythe, R., Horowitz, J. L., Savin, N. E. & Sefton, M. (1994), 'Fairness in simple bargaining experiments', *Games and Economic behavior* **6**(3), 347–369.
- Frey, B. S. & Meier, S. (2003), 'Are political economists selfish and indoctrinated? Evidence from a natural experiment', *Economic Inquiry* **41**(3), 448–462.
- Gill, A., Heinz, M., Schumacher, H. & Sutter, M. (2023), 'Social preferences of young professionals and the financial industry', *Management Science* **69**(7), 3905–3919.
- Girardi, D., Mamunuru, S. M., Halliday, S. D. & Bowles, S. (2024), 'Does studying economics make you selfish?', *Southern Economic Journal* **90**(3), 792–814.
- Inglehart, R. (1971), 'The silent revolution in europe: Intergenerational change in post-industrial societies', *American political science review* **65**(4), 991–1017.
- Inglehart, R. (1981), 'Post-materialism in an environment of insecurity', *American Political Science Review* **75**(4), 880–900.
- List, J. A. (2007), 'On the interpretation of giving in dictator games', *Journal of Political economy* **115**(3), 482–493.
- Miragaya-Casillas, C., Aguayo-Estremera, R. & Ruiz-Villaverde, A. (2023), 'University students, economics education, and self-interest. a systematic literature review', *International Review of Economics Education* **43**, 100266.
- Petersen, M., Keller, M., Weibler, J. & Hariskos, W. (2019), 'Business education: Does a focus on prosocial values increase students' pro-social behavior?', *Mind & Society* **18**, 181–190.
- Sawyer, J. (1966), 'The altruism scale: A measure of co-operative, individualistic, and competitive interpersonal orientation', *American Journal of Sociology* **71**(4), 407–416.
- Schwartz, S. H. (1992), Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries, in 'Advances in Experimental Social Psychology', Vol. 25, Elsevier, pp. 1–65.

A. Appendix

A.1. Additional Tables

TABLE A.1 — Shares allocated to the receiver by games and groups

	DG (1)	DGT (2)	CPR-5 (3)	CPR-8 (4)	CPR-10 (5)	CPR-12 (6)
<i>Social 1</i>	– reference category –					
<i>Social 2</i>	-0.018 (0.044)	0.055** (0.017)	0.004 (0.030)	-0.011 (0.027)	0.004 (0.008)	0.010 (0.025)
<i>Econ 1</i>	-0.107*** (0.006)	-0.031*** (0.005)	-0.032* (0.015)	-0.099*** (0.004)	-0.049*** (0.005)	-0.087*** (0.008)
<i>Econ 2</i>	-0.177*** (0.027)	-0.100*** (0.017)	-0.154*** (0.025)	-0.173*** (0.031)	-0.098** (0.026)	-0.110** (0.035)
Additional controls ^a	yes	yes	yes	yes	yes	yes
Sample mean	0.381	0.415	0.357	0.408	0.439	0.428
Observations	221	221	221	221	221	221
R^2	0.198	0.166	0.119	0.212	0.113	0.133

Notes: Dependent variables: Share of available payoff per game allocated to the receiver. DG: Dictator game, DGT: Dictator game with taking, CPx: Common pool game where $x \in (5, 8, 10, 12)$ is the initial amount passed through by player 1. Groups: first- and final-term social work students (*Social 1*, *Social 2*), first- and final-term business administration students (*Econ 1*, *Econ 2*). Standard errors (clustered on the group-level) in parentheses, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. ^a Additional controls: Indicator variables for age quintiles and gender. Standard errors are clustered at the recruitment source $\times$ mode level.

TABLE A.2 — Probability of ‘take it all’ - behaviour by games and groups

	DG (1)	DGT (2)	CPR-5 (3)	CPR-8 (4)	CPR-10 (5)	CPR-12 (6)
<i>Social 1</i>	– reference category –					
<i>Social 2</i>	0.023 (0.055)	-0.046*** (0.010)	0.034 (0.057)	0.024 (0.032)	0.031** (0.010)	0.030** (0.010)
<i>Econ 1</i>	0.106*** (0.013)	0.061*** (0.006)	0.014 (0.012)	0.055*** (0.005)	0.049*** (0.003)	0.050*** (0.003)
<i>Econ 2</i>	0.157** (0.060)	0.154*** (0.029)	0.173** (0.049)	0.150*** (0.035)	0.081* (0.039)	0.080* (0.039)
Additional controls ^a	yes	yes	yes	yes	yes	yes
Sample mean	0.127	0.078	0.149	0.081	0.045	0.045
Observations	221	221	221	221	221	221
R ²	0.077	0.151	0.080	0.053	0.037	0.037

Notes: Dependent variables: Indicator variable for giving nothing to the receiver. DG: Dictator game, DGT: Dictator game with taking, CPx: Common pool game where $x \in (5, 8, 10, 12)$ is the initial amount passed through by player 1. Groups: first- and final-term social work students (*Social 1*, *Social 2*), first- and final-term business administration students (*Econ 1*, *Econ 2*). Standard errors (clustered on the group-level) in parentheses, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. ^a Additional controls: Indicator variables for age quintiles and gender. Standard errors are clustered at the recruitment source $\times$ mode level.

A.2. *Instructions (German language)*

Studie «Ökonomische Entscheidungen»

FRAGEBOGEN

Teilnahmecode

Alter: ____ Jahre

Geschlecht:

☐☐

männlich | weiblich

In diesem ersten Teil der Studie werden Sie an verschiedenen Entscheidungen beteiligt, in denen es um die Verteilung von einer Geldsumme zwischen Ihnen selbst und anderen Teilnehmern geht. Jede Entscheidung, die Sie persönlich treffen, ist dabei maßgeblich für das Ergebnis aller Beteiligten, d.h. durch **Ihr Verhalten** wird beeinflusst, **wie viel Geld Sie selbst** und **wie viel Geld die anderen Teilnehmer** nach dem Abschluss der Studie erhalten.

Die anderen Teilnehmer sind Versuchspersonen am Max-Planck-Institut für Bildungsforschung, die ebenfalls freiwillig an diesem Experiment teilnehmen.

Für jede einzelne Entscheidung die Sie treffen, wird Ihnen nach dem Zufallsprinzip ein anderer Partner zugelost, d.h. jede Entscheidung, die Sie treffen, betrifft eine andere Person. Die Identität Ihres Partners wird Ihnen jedoch weder vor noch nach dem Experiment mitgeteilt, ebenso bleiben auch Sie mit Ihren Entscheidungen anonym.

Von den insgesamt **6 Entscheidungen**, die Sie im Folgenden treffen sollen, wird **eine Entscheidung** per Zufall ausgewählt und tatsächlich umgesetzt. D.h. jede Auswahl die Sie treffen, kann am Ende für Ihre eigene Auszahlung sowie für die Ihrer Partner relevant sein. M den gleichen Bedingungen gibt es am Schluss noch eine Zusatzentscheidung, die bei Auslosung Ihres Teilnahmecodes zusätzlich vergütet wird.

Entscheidungssituation 1

Ihnen wird zunächst ein Guthaben von *10 Euro* zugeteilt, Ihr Partner hingegen bekommt *kein Guthaben*. Sie haben nun allerdings die Möglichkeit, dieses Guthaben *umzuverteilen*. Ihr Partner hat *keine Möglichkeit* diese Entscheidung in irgendeiner Art zu beeinflussen.

Sie können jeden beliebigen ganzzahligen Anteil der 10 Euro als Abgabe an Ihren Partner festlegen, diesen Betrag erhält dann Ihr Partner. Entsprechend erhalten Sie 10 Euro abzüglich der von Ihnen festgelegten Abgabe.

Hierzu ein Beispiel:

Angenommen Sie entscheiden sich, 9 Euro an Ihren Partner abzugeben. Damit erhielte ihr Partner 9 Euro und Sie selbst erhielten 1 Euro.

IHRE ENTSCHEIDUNG

Abgabe an Ihren Partner (0-10 Euro):

Euro

Einbehaltenes Guthaben (10 Euro - Abgabe an Partner):

Euro

Nächste Entscheidungssituation

Ihnen wird zunächst ein Guthaben von 7 Euro zugeteilt, Ihr Partner bekommt ein Guthaben von 3 Euro. Sie haben nun allerdings die Möglichkeit, dieses Guthaben *umzuverteilen*. Ihr Partner hat *keine Möglichkeit* diese Entscheidung in irgendeiner Art zu beeinflussen.

Sie können jeden beliebigen ganzzahligen Anteil Ihrer 7 Euro als Abgabe an Ihren Partner festlegen oder einen beliebigen ganzzahligen Anteil aus dem Guthaben Ihres Partners für sich Selbst einfordern. Die Auszahlung Ihres Partners sind damit 3 Euro zuzüglich Ihrer Abgabe bzw. abzüglich der von Ihnen geforderten Summe. Entsprechend beträgt Ihre eigene Auszahlung 7 Euro abzüglich der von Ihnen festgelegten Abgabe bzw. zuzüglich der geforderten Summe aus dem Guthaben Ihres Partners.

Hierzu zwei Beispiele:

Angenommen Sie entscheiden sich, 6 Euro an Ihren Partner abzugeben. Damit erhielt Ihr Partner 9 Euro und Sie selbst erhielten 1 Euro.

Angenommen Sie entscheiden sich, 2 Euro von Ihrem Partner zu fordern. Damit erhielt Ihr Partner 1 Euro und Sie 9 Euro.

IHRE ENTSCHEIDUNG

Abgabe an Partner (0-7 Euro):

Euro

Forderungen von Partner (0-3 Euro):

Euro

Eigenes Ergebnis (7 Euro – Abgabe + Forderung):

Euro

Nächste Entscheidungssituation

An der folgenden Entscheidung sind insgesamt **3 Personen** beteiligt: Ihnen selbst wird zunächst ein Guthaben von *5 Euro* zugeteilt. Ihr erster Partner (A) bekommt zunächst ein Guthaben von *10 Euro*. Ihr zweiter Partner (B) bekommt *zunächst kein eigenes Guthaben*.

A kann nun entscheiden, von seinem Guthaben entweder *0 Euro*, *2 Euro* oder *5 Euro* an B abzugeben. Sie selbst können diese Abgabe an B *nicht beeinflussen*, d.h. B bekommt immer NUR den Betrag den A abgibt. Sie können jedoch einen beliebigen Teil Ihres eigenen Guthabens (0-5 Euro) einsetzen, um das Verhalten von A zu bestrafen. Dabei werden für jeden Euro den sie einsetzen 3 Euro von dem Guthaben von A abgezogen.

Hierzu ein Beispiel:

Angenommen A entscheidet sich, keine Punkte aus seinem Guthaben an B weiterzugeben. Damit betrüge das Guthaben von A zunächst weiterhin 10 Euro, das Guthaben von B weiterhin 0 Euro und Ihr eigenes Guthaben weiterhin 5 Euro.

Setzen sie nun beispielsweise 1 Euro zur Sanktionierung von A ein, wird diese Summe verdreifacht von dem Guthaben von A abgezogen. Das Guthaben von A würde sich also um 3 Euro verringern. Damit betrüge abschließend das Guthaben von A 7 Euro, das Guthaben von B immer noch 0 Euro und ihr eigenes Guthaben 4 Euro.

IHRE ENTSCHEIDUNG

Für den Fall, dass A 0 Euro an B abgibt

**Summe, die Sie zur Sanktionierung von A einsetzen
(0-5 Euro)**

Euro

In diesem Fall erhalten Sie selbst:

Euro

In diesem Fall erhält Ihr Partner A:

Euro

In diesem Fall erhält Ihr Partner B:

Euro

- weitere Entscheidungen auf der folgenden Seite -

Für den Fall, dass A 2 Euro an B abgibt

Summe, die Sie zur Sanktionierung von A einsetzen
(0-5 Euro)

Euro

In diesem Fall erhalten Sie selbst:

Euro

In diesem Fall erhält Ihr Partner A:

Euro

In diesem Fall erhält Ihr Partner B:

Euro

Für den Fall, dass A 5 Euro an B abgibt

Summe, die Sie zur Sanktionierung von A einsetzen
(0-5 Euro)

Euro

In diesem Fall erhalten Sie selbst:

Euro

In diesem Fall erhält Ihr Partner A:

Euro

In diesem Fall erhält Ihr Partner B:

Euro

Nächste Entscheidungssituation

An der folgenden Entscheidung sind insgesamt **3 Personen** beteiligt: Ihr erster Partner (A) bekommt zunächst ein Guthaben von *15 Euro*. Ihr zweiter Partner (B) und Sie selbst erhalten *kein Guthaben*. A kann nun wahlweise einen Teilbetrag seines Guthabens (0,5,8,10 oder 12 Euro) direkt an Sie abgeben. Sie selbst können dann von dem erhaltenen Betrag (0,5,8,10 oder 12 Euro) einen beliebigen ganzzahligen Teilbetrag (je nach erhaltenem Betrag 0-12 Euro) an B weitergeben.

A erhält also am Ende 15 Euro abzüglich der Abgabe Sie. Sie selbst erhalten die von A weitergegebene Summe abzüglich Ihrer Abgabe an B. B erhält die von Ihnen abgegebene Summe.

Hierzu ein Beispiel:

Angenommen A entscheidet sich, 12 Euro an Sie abzugeben. Sie geben von diesen 12 Euro 11 an B weiter. Damit erhielte A 3 Euro B 11 Euro und Sie selbst 1 Euro.

Für den Fall, dass A 5 Euro an Sie abgibt

Summe, die Sie an B weitergeben: (0-5 Euro)

Euro

In diesem Fall erhalten Sie selbst:

Euro

In diesem Fall erhält Ihr Partner A:

Euro

In diesem Fall erhält Ihr Partner B:

Euro

Für den Fall, dass A 8 Euro an Sie abgibt

Summe, die Sie an B weitergeben: (0-8 Euro)

Euro

In diesem Fall erhalten Sie selbst:

Euro

In diesem Fall erhält Ihr Partner A:

Euro

In diesem Fall erhält Ihr Partner B:

Euro

- weitere Entscheidungen auf der folgenden Seite -

Für den Fall, dass A 10 Euro an Sie abgibt

Summe, die Sie an B weitergeben: (0-10 Euro)

Euro

In diesem Fall erhalten Sie selbst:

Euro

In diesem Fall erhält Ihr Partner A:

Euro

In diesem Fall erhält Ihr Partner B:

Euro

Für den Fall, dass A 12 Euro an Sie abgibt

Summe, die Sie an B weitergeben: (0-12 Euro)

Euro

In diesem Fall erhalten Sie selbst:

Euro

In diesem Fall erhält Ihr Partner A:

Euro

In diesem Fall erhält Ihr Partner B:

Euro

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