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**TIME PREFERENCES IN DECISIONS FOR  
OTHERS**

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# Time Preferences in Decisions for Others\*

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## Abstract

This paper analyzes in a within-subjects experiment time preferences when people decide for themselves and on behalf of others. The data show that subjects become more impatient when making decisions, which affect the payoff of others. The change can be explained by altruistic subjects who increase their focus on early consumption when responsible for others' payoffs.

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# 1 Introduction

Time preferences are an important part of economic daily life, as many situations are characterized by intertemporal decisions (Frederick et al., 2002; Dittrich and Leipold, 2014; Falk et al., 2018). Although, time preferences are theoretically and empirically well-documented, less is known about decisions, which affect the payoffs of others.

Examples may be joint decisions of spouses in saving choices, retirement plans, or financial investments. On the private level, people may recommend their friends to reduce smoking or drinking, or to buy a house. Parents may decide to gift a fixed deposit account to their children, or they make investments in educational choices. Tanaka et al. (2010) argue that impatience may prevent parents to educate children in development countries.

In decisions for others time preferences may be influenced by several factors. First, behavioral economics emphasized that other-regarding preferences matter. Altruistic people sacrifice money in dictator games (Engel, 2011), as they experience the feeling of “warm glow” (Andreoni, 1990). This suggests that they maximize the amount which is received by another person. However, the behavioral-finance literature on decisions for others suggests, that good intentions may lead to converse effects. Pelster and Hofmann (2018) find that traders are prone to higher disposition effects when responsible for the payoffs of others. Hermann et al. (2019) show in an experiment that disposition effects of prosocial people are more pronounced when deciding for others. Thus it is unclear, how time preferences may change when deciding on behalf of others.

This paper experimentally analyzes time preferences of subjects who make decisions for themselves and for others. Subjects have to trade off Amazon gift cards of different monetary values in price lists where the value of the gift cards is varied. Specifically, they trade off the immediate consumption versus the late consumption where the gift cards have a relatively higher monetary value. Furthermore, I elicit subjects’ altruistic behavior to control for its impact on their patience when deciding for others.

The results show that subjects become more impatient when deciding for others. Regression analyses reveal that this increase in impatience is caused by altruistic subjects.

## 2 Experimental Design

The experiment was conducted in a classroom setting. Subjects were shown a QR-code and could login to the experiment, which was processed online with the Google-forms software. They knew that at the end, a random draw would select 20 out of the 182 subjects to be paid out. Time preferences were elicited in two stages, where they decided about

Amazon gift cards of different values in double multiple price lists (DMPL) (Andreoni and Sprenger, 2012). Subjects first made decisions concerning their own payoffs. They were shown a list with six gift cards of decreasing monetary value (€19, €18, €17, €16, €14, €11), which presented immediate consumption opportunities. Each consumption opportunity was opposed to a choice of a gift card with a €20 value, which is received four weeks later. Subjects had to decide for each immediate consumption opportunity, whether they prefer receiving the immediate gift card, or whether they wait four weeks to receive the €20 gift card.<sup>1</sup> Next, they were presented to the same multiple price list. The difference was that the early consumption opportunities referred to the receipt of gift cards in four weeks. Whereas, the late choice of the €20 gift card referred to a receipt in eight weeks. Next, subjects had to complete the same two DMPLs, knowing that decisions affect the payoffs of another participant of the classroom.<sup>2</sup> Before subjects decided, they had to enter the name of the recipient, a greeting message, and their own name in an input form, which was presented to them in the online experiment. Subjects knew that if they are selected to be paid, a random draw chooses whether they are paid based on the decisions they made for themselves, or for the other person. Then, the computer randomly determines the relevant price list (immediate vs. consumption in four weeks or consumption in four weeks vs. eight weeks). The computer determines the relevant row in the list. Subjects were paid based on the selection they made in this row.

At the beginning of the experiment, social preferences were measured as control variables. Therefore, subjects participated in a dictator game, followed by a one-shot public good game. In the dictator game they received ten cookies, which could be sent to an anonymous recipient of the classroom. In the public-good game they were matched with three anonymous other participants in the classroom. Subjects had an endowment of five cookies, which could be kept or invested in the public good. The public-good had a marginal per capita return of 0.4, i.e., subjects earned a return of the public good, which equaled the sum of total investments to the public good times 0.4.<sup>3</sup> The experiment lasted 30 minutes and mainly economic subjects participated. The average value of the paid gift cards was €17.20.

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<sup>1</sup>In this case, they knew that they would receive an e-mail with the gift card,

<sup>2</sup>To control for order effects, 49% of the subjects decided first on behalf of another person, before they made decisions affecting their own payoffs.

<sup>3</sup>If subjects belonged to the 20 persons who are paid, they also received the earnings in cookies of the dictator game and of the public good game.

### 3 Results

Table 1 presents the main results on subjects' patience. After removing subjects who showed inconsistent choices, the data consist of  $n = 158$ . Table 1 displays the mean number of early choices. The table focuses on the two decision times and conditions on situations when subjects decided for themselves (own payoffs) and for others (other payoffs). I always report two-sided Wilcoxon matched-pairs tests.

Table 1: Number of early choices. Standard deviations in parentheses

	own payoffs	others' payoffs
Timing 1: immediate vs in 4 weeks	1.75 (1.77)	2.00 (1.91)
Timing 2: in 4 weeks vs. in 8 weeks	1.53 (1.78)	1.77 (1.95)
Mean (n=158)	1.64 (1.68)	1.88 (1.90)

The data show that subjects make significantly more early choices when deciding on behalf of others (1.88) as compare to deciding for themselves (1.64) ( $p=0.011$ ). This pattern can be observed for both timings (timing 1:  $p=0.021$ , timing 2:  $p=0.058$ ). Patience increases when both payoffs lie in the future. This holds for own (1.75 vs. 1.53;  $p=0.011$ ) and for others' payoffs (2.00 vs. 1.77;  $p=0.005$ ). The share of present-biased subjects<sup>4</sup> is similar when deciding for own (20%) and others' payoffs (22%) ( $p>0.55$ ).

Figure 1 presents a closer look at subjects' change in patience when deciding for others. The diagram shows the change conditional on subjects' degree of altruism, which was measured by the level of their dictator giving. The diagram classifies them on below median dictator giving (low altruism) and on above/equal dictator giving (high altruism).<sup>5</sup>

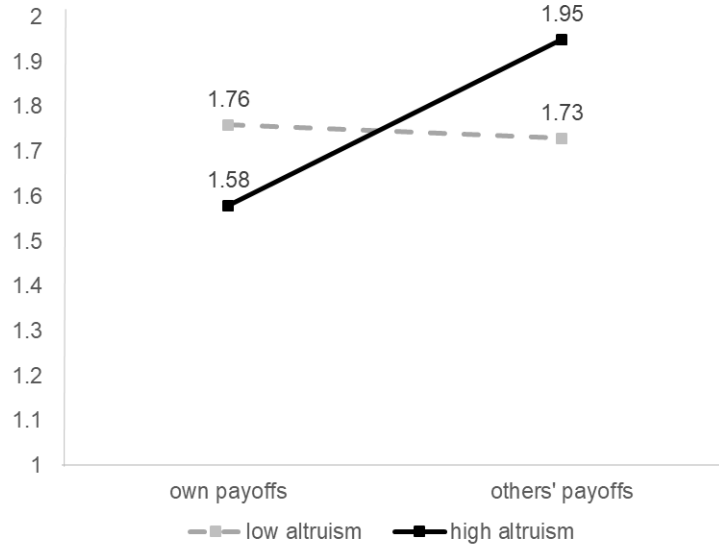
Subjects with a high level of altruism significantly become more impatient for others (1.95) as compared to deciding for themselves (1.58) ( $p=0.008$ ). No difference can be observed for subjects with a low level of altruism (1.76 vs. 1.73;  $p>0.94$ ).

Table 2 presents random-effects OLS regressions supporting the findings. The regressions analyze the number of early choices and are clustered at the subject level, i.e., each subject made four decisions. Model (1) applies two dummy variables, which are positive when the decision was made in *timing 2* and when subjects' decided about *others' payoffs*. The models also include *dictator giving*, which corresponds to the number of cookies sent in the dictator game. I also control whether the reversed order affects the results, i.e., *reversed order* is positive when the order of presentation was reversed. Model (2) controls for an interaction effect between altruism and *timing 2* and *others' payoffs*. Model (3)

<sup>4</sup>That is, they make fewer early choices in timing 2 than in timing 1.

<sup>5</sup>The median is five.

Figure 1: Number of early choices conditional on altruism: own vs. others' payoffs.



includes controls on subjects' age, their gender, their risk preferences,<sup>6</sup> and their decision in the public-good game.

Model (1) confirms the previous findings, i.e., the highly significant negative coefficient of *timing 2* shows that subjects make less early choices when trading off payoffs, which both materialize in the future. Moreover, *others' payoffs* is positive and highly significant. Thus, subjects become more impatient when deciding about others' payoffs. The significant positive coefficients of the interaction between *dictator giving* and *others' payoffs* show that this is induced by altruistic subjects. Model (3) confirms that this effect is robust to the inclusion of controls. None of the control variables is significant.

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<sup>6</sup>After the end of the experiment, I followed Falk et al. (2018) and verbally asked subjects whether they are willing to take risks (0 = not at all; 10 = completely).

Table 2: Random effects OLS regressions on number of early choices.

	<i>number of early choices</i>		
	(1)	(2)	(3)
<i>Timing 2</i>	-0.228*** (0.081)	-0.219 (0.160)	-0.204 (0.154)
<i>Others' payoffs</i>	0.247*** (0.081)	-0.079 (0.160)	-0.117 (0.154)
<i>Dictator giving</i>	-0.033 (0.046)	-0.065 (0.050)	-0.036 (0.055)
<i>Dictator giving</i> × <i>Timing 2</i>		-0.002 (0.028)	-0.002 (0.027)
<i>Dictator giving</i> × <i>Others' payoffs</i>		0.067** (0.028)	0.066** (0.027)
<i>Reversed order</i>	0.193 (0.262)	0.193 (0.262)	0.328 (0.278)
<i>Constant</i>	1.807*** (0.304)	1.965*** (0.319)	3.333*** (1.218)
controls	no	no	yes
obs.	632	632	624
groups	158	158	156
Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1			

Note: The regressions are clustered on the subject level.

<sup>a</sup> Controls: Public-Good giving, risk preferences, gender dummy, and age.

## 4 Conclusion

This paper studied time preferences in decisions for others. Altruistic subjects show a pronounced preference for early consumption when deciding for others. Ironically, this impatient behavior lowers the payoffs of others. An explanation may be that these subjects' are motivated by warm glow and cannot wait to see the other person receiving their gift.

Related findings in behavioral finance show that traders exhibit higher disposition effects (Pelster and Hofmann, 2018) and prosocials realize a pronounced number of capital gains (Hermann et al., 2019) when responsible for others. The findings of this paper suggest that the early consumption of capital gains may be induced by increased impatience.



The studied topic is relevant, as many intertemporal decisions are made for others. If deciding on behalf of others increases impatience, this may explain why parents in development countries may rather invest in short-term goals instead of child education. Policymakers should anticipate these effects and offer transparent programs, promoting the investment in child education. The current study focuses on a special context, i.e., gift-giving in an experiment between students. It is possible that the results are pronounced in such a context. Therefore, more evidence is needed in other decision contexts.

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