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## **Honestly, why are you donating money to charity? An experimental study about self-awareness in status- seeking behavior**

by

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## **Honestly, why are you donating money to charity?**

### **An experimental study about self-awareness in status-seeking behavior**

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#### **Abstract**

This study investigates experimentally whether people in retrospective are self-aware that they engage in status-seeking behavior. Subjects participated in a real-effort task where effort translated into a donation to a charity. Within-subjects we varied the visibility of their performance (private/public feedback). On average subjects exerted more effort in the public treatment. After the real effort task subjects were asked to state their retrospective beliefs about their performance in public given feedback about their performance in private, and about the performance of other subjects in public given the average performance in private. Between-subjects we varied the compensation (low/high) for accurate estimates. Our results show a lack of self-awareness about status-seeking behavior that is robust to increased belief compensation. We also found that subjects expected others to be as status-seeking as they are themselves or even less.

**JEL Classification:** C91; D03; D84

**Keywords:** Social status; self-image; self-awareness; self-deception; experiment; beliefs

## 1. Introduction

Status-seeking is a prevalent behavior in real life.<sup>1</sup> Yet, it rarely happens that someone proudly claims having bought something in order to signal his or her status, or having donated to charity for this very reason. Presumably, striving for status or positional goods (houses, cars, mobile phones, but also education, fame) in order to impress friends is in fact less impressive.<sup>2</sup> Of course, it is fairly easy to hide one's true motives to others. The social reputation of explicitly seeking status can be manipulated, but what about concerns for the self-image? Do people have a tendency to believe that every action taken for status is actually pursued for other, nobler reasons? Take a musician, for instance, who might be more driven by the desire to earn a lot of money than by artistic ambitions. Nevertheless, he or she may be eager to convince others as well as the self that the nobler motivation dominates the chosen track of career. In similar fashion a donor might tend to give more when the donation is visible but unaware about this particular behavior. Consequently, while high-status individuals gain favorable treatment (see, e.g., Ball et al., 2001) status-seeking behavior could be perceived as a negative character trait and people may have a tendency to downplay its role in their decision making.

This is what Johansson-Stenman and Martinsson (2006) find in a transportation-related survey. People who are asked which attributes in a car are most important to them stated environmental performance near the top and social status near the bottom. However, when asked about their expectations about the preferences of their neighbors or average compatriots, they give reversed rankings. There are at least two explanations to these observations. One is that people underestimate their own status-seeking behavior, while correctly assessing others' propensity to engage in status-seeking behavior. The other is that people overestimate others' status-seeking behavior, while correctly assessing own behavior. Our study picks up this open question and aims to test the relative merit of both of these

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<sup>1</sup> There is ample empirical evidence from field and experimental studies that people engage in status-seeking behavior (see, for instance, Glazer and Konrad 1996; Ball and Eckel, 1996, 1998; Ariely et al. 2009; Lacetera and Macis, 2010). See Frank (1985a,b), (1999), Hollander (2001), and Brekke and Howarth (2002) for theoretical studies of the relationship between consumption and status. See Weiss and Fershtman (1998) or Heffetz and Frank (2008) for overviews of the literature.

<sup>2</sup> Han, Nunes and Dreze (2010) showed that wealthy consumers with low need for status prefer "quiet" goods recognized only by their own kind, while less wealthy that cannot afford these goods opt for the "louder" products. This could reflect people's desire to signal good taste without signaling the desire to gain higher status.

explanations. We experimentally investigate i) whether people engage in social-status seeking behavior, ii) whether or not people are aware of their status-seeking behavior, and iii) to what extent they expect others to behave in a status-seeking way. For this purpose we conduct a real-effort experiment where subjects' performance translates into donations to a charity. Notably, while we in this study focus on how visibility changes donation behavior and how it relates to self-awareness issues, we do not address the question of why people engage in social status-seeking behavior.<sup>3</sup>

Our experimental setup is designed to analyze subjects' behavior in two subsequent rounds that differ in the visibility of subjects' performance (private/public feedback within subjects). We also vary the incentivization of the belief elicitation scheme (low/high monetary reward for accurate guesses of performance in the public setting between subjects). Insights from social psychology and economics on cognitive dissonance and self-image concerns (see Festinger, 1957; Konow, 2000; Bénabou and Tirole, 2011) guide our predictions for behavior in this situation. While performing well in comparison to others may be attractive as it provides high status, such status-seeking behavior may not necessarily coincide with one's behavioral standard or self-image. Cognitive dissonance would result as a consequence of actual behavior deviating from one's standard of behavior. One way such cognitive dissonance can be resolved/reduced is by forming beliefs about relevant aspects in a self-serving manner. In the context of a dictator game experiment, for instance, the dictator can nurture self-serving beliefs about what is fair. Based on the literature on self-image and self-deception (see Konow, 2005, for an overview) we expect people to systematically underestimate their own propensity to

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<sup>3</sup> Note that social status concerns are not the only possible explanation for increased pro-social activities in a public setting. Such behavior is also predicted by social-image models (see, for instance, Akerlof, 1980; Glazer and Konrad, 1996; Bénabou and Tirole, 2006; Ellingsen and Johannesson, 2008; and Andreoni and Bernheim, 2009). Such models consider as well the desirability and visibility, but they do not take positional concerns into account. An alternative, biology-based explanation for increased pro-social activity in a public environment is the competitive altruism hypothesis (Zahavi, 1975; Roberts, 1998). It proposes that the social status gains from pro-social activity may serve as a positive signal in the context of mate selection (in order to signal an individual's quality, e.g., ability to share resources and/or good character, e.g., willingness to share resources, Smith and Bliege Bird, 2000). Another potential candidate is indirect reciprocity (Nowak and Sigmund, 1998; Milinsky et al., 2006) which is however limited to helping behavior as the return. Generally, the focus of our study is on the self-awareness with respect to the status-seeking behavior, while we treat the underlying motivation for status-seeking as a black box.

engage in status-seeking behavior. While they benefit from higher status (in expectations, that is, they expect to gain status) by increasing effort, they do not suffer from a conflict between action and self-image. Note that while holding such a self-deceiving belief is a motivated act the individual is actually not aware of it (Gur and Sackeim, 1979). Following Johansson-Stenman and Martinsson (2006) we also expect subjects to believe that their own concern for status is minor in comparison to the believed status concerns of others. As a secondary element of our experimental design we vary subjects' monetary reward for accurate estimates of performance in the public setting. While a negligibly low compensation for accuracy of beliefs can be seen as the relevant level of real life status-seeking behavior, our high belief compensation condition introduces a higher cost for deceiving one self. This allows us to test, whether self-deception prevails (in order to maintain a positive self-image) even at a higher cost, or whether subjects are less prone to deceive themselves due to the monetary incentives. Hence, we expect subjects to have a higher self-awareness of their status-seeking behavior when acknowledging it pays off.

Our results confirm status-seeking behavior – previously established in various between-subjects comparisons – in a within-subjects design. When asked about their performance in the public round (given feedback about private round performance) subjects tend to underestimate performance in the public performance treatment. This belief-behavior gap indicates a lack of self-awareness about status-seeking behavior which could point to self-image concerns (specifically self-deception) as a motivation for subjects' behavior. High compensation for accurate beliefs decreases the belief-behavior gap, but not at a statistically significant level. The effect of self-deception appears to be rather robust. Finally, in contrast to Johansson-Stenman and Martinsson (2006), we found that subjects expected others to be as status-seeking as they are themselves (when compensation for accurate estimations was high they even expected others to be less status-seeking than themselves).

The structure of the paper is as follows. In the next session we discuss the relevant theoretical literature and present our hypotheses. In section 3 we describe the experimental design. Results are presented and discussed in section 4. Section 5 concludes.

## 2. Related literature and hypotheses

Heffetz and Frank (2008) define social status as being characterized by three features: positionality, desirability, and non-tradability. Status is achieved via favorable comparison to others in a socially recognized category, hence it is positional. Social status is also desirable, because high social status brings along some reward. Finally, social status is non-tradable in the sense that it cannot be directly purchased. Instead, it must be gained personally and, therefore, it must be obtained through actions that are socially visible (or the outcome of those actions). Hence, for a pro-social activity social status concerns imply that people will strive to appear more generous, that is, try to perform better, if the activity is visible to relevant others, if it is perceived as good for one's status (yielding a positive social image, respectively), and if a ranking of the activity exists.

People's desire for status has been well-documented. For instance, Glazer and Konrad (1996) report that only very few (less than 1%) donations to U.S. universities are anonymous. Lampel and Bhalla (2007) suggest that status seeking is a substantial motivation for participation in virtual communities. Alpizar et al. (2008) study donations to a national park in Costa Rica and find that donations are 25% higher when made in front of a solicitor than contributions made in private. Ariely et al. (2009) found that effort in a donation-generating task is higher when performance is publicly visible. Lacetera and Macis (2010) found that blood donors significantly increase the frequency of their donations when they approach the thresholds for which public awards (announcement in the local newspaper and public award ceremony) are given. In contrast, they do not find such effects for private awards.

In a series of experiments Ball and Eckel (1996, 1998) and Ball et al. (2001) show that in experimental markets the higher-status individuals capture a greater share of the surplus than the lower-status side even when the status assignment is obviously random and meaningless. On average prices are higher when higher-status sellers face lower-status buyers and lower if the roles are reversed. Their results explain status-seeking behavior as higher-status individuals are shown to have greater access to resources and suggest that it might even be reasonable to invest to acquire higher status.

**Hypothesis 1:** On average increased visibility, *ceteris paribus*, increases the level of activity that is considered as pro-social.

A good public performance in relation to others will be beneficial due to the high status it provides. However, the perception of status-seeking behavior may not be entirely positive. Doing something just for the status gain may well be regarded as a negative character trait. Hence, while status-seeking may be good for one's social-image, such behavior may stand at odds with one's self-image. Such divergence of actual behavior (status-seeking) and the self-image ("I am not someone doing something to gain status") would lead to the unpleasant feeling of cognitive dissonance (see Festinger, 1957).<sup>4</sup> If this cost of having two inconsistent psychological cognitions is smaller than the potential benefit of gaining a higher status, people may deliberately decide to deviate from the self-image (coined *self-centered bias* by Konow, 2005). Alternatively, their beliefs about their behavior could become biased (*self-serving bias*), thus resolving/reducing the cognitive dissonance. Hence, people may downplay their engagement in status-seeking, thus deceiving themselves in a motivated act yet not actually aware of it.<sup>5</sup> Their behavior leads to a gain in status (at least in expectations), and they do not experience a conflict between action and self-image due to self-deception. While some people may openly admit their status-seeking to themselves, we also expect self-deception in status-seeking behavior in order to maintain an untarnished self-image.

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<sup>4</sup> The modern theory of cognitive dissonance (Aronson, 1994; Beauvois and Joule, 1996) relates best to our study. It argues that dissonance primarily revolves around the self and a piece of behavior that violates that self-concept. See Harmon-Jones and Mills (1999) for a review of the current state of dissonance theory. The basic concept of cognitive dissonance is picked up in economics by models of self-image concerns, see Konow (2000), Johansson-Stenman and Martinsson (2006), Bénabou and Tirole (2011), and Matthey and Regner (2011). Other applications of cognitive dissonance to decision making in economics include Akerlof and Dickens (1982), Rabin (1994), and Oxoby (2003, 2004).

<sup>5</sup> Sartre (1958) formulated the paradox of self-deception: "The one to whom the lie is told and the one who lies are one and the same person, which means that I must know in my capacity as deceiver the truth which is hidden from me in my capacity as the one deceived." Gur and Sackeim (1979) proposed the following criteria as necessary and sufficient for ascribing self-deception: 1) The individual simultaneously holds two contradictory beliefs. 2) The individual is only aware of holding one of the beliefs. 3) The act that determines which belief is subject to awareness is a motivated act. Recent studies in neuroscience provide a physiological basis for self-deception. Since most brain areas are only linked unidirectionally to others, the flow of information in the brain is constrained. This can result in reduced awareness of motivation for decisions (Brocas and Carrillo, 2008). Notably, a lack of self-awareness about cognition is central to the understanding of self-deception. However, self-deception is stronger since in the context of status-seeking behavior it might be other attributes such as lack of introspection that also lead to unawareness of status-seeking behavior.

**Hypothesis 2:** *People systematically underestimate their own propensity to engage in status-seeking behavior. Hence, their expectations about the change in the level of pro-social activity when visibility is increased are less than the real change (i.e., a belief-behavior gap will prevail).*

However, there may be a trade-off between self-deception (in order to maintain a positive self-image) and monetary incentives. If there is a substantial reward for having correct beliefs, status-seekers may be willing to admit to themselves that they increased their level of pro-social activity in a more public context.

**Hypothesis 3:** *Self-awareness in the propensity to engage in status-seeking behavior increases, when monetary incentives to acknowledge status-seeking behavior are increased.*

Empirical evidence from surveys (see, for instance, Johansson-Stenman and Martinsson, 2006, and Grolleau et al., 2012) suggests that self-deception in status-seeking behavior may extend to the perception of others. Hence, people may tend to believe others to be more concerned about status than they are themselves.

**Hypothesis 4:** *People believe their own concern for status to be minor in comparison to the status concerns of others.*

### **3. Experiment**

#### **3.1. Design**

Subjects participated in a computerized real-effort task (a modified version of the counting zeros in a table task used in Abeler et al., 2011, see the instructions for a screenshot and further explanation). Their performance in the task was transferred into a monetary donation to a charity. The study used a combined within-subjects and between-subjects 2x2 design. All subjects performed the task in two different settings (within-subjects variation of the visibility of subjects' performance). In the private setting feedback about their performance and ranking was given only to themselves at the end of the experiment, while in the public setting

everyone learned the performance of all subjects during a public ceremony at the end of the experiment. The paper instructions handed out in the beginning described the first setting, while instructions for the second setting were given on screen after the first setting finished. After the two settings subjects were asked to estimate their own performance in the public setting (after they were told their respective performance in the private setting). They were also asked to estimate the group's average performance in the public setting (after they were told average performance in the private setting). Subjects were randomly assigned to two conditions (between-subjects variation of the extent the belief elicitation is incentivized) that varied the reward for good guesses. The experimental design is summarized in table 1. Note that the order of play (private-public, public-private) was varied between subjects and that subjects were informed of the treatment change only after finishing the first setting. The fact that they can earn money with beliefs was announced after the second setting. In addition we conducted a private-private and a public-public control session.

**Table 1.** Experimental Design (n = Number of Observations per Treatment)

<b>Order of Play</b> <i>(between subject variation)</i>	<b>Belief compensation Scheme</b> <i>(between subject variation)</i>	
	<i>Low</i>	<i>High</i>
<i>Private – Public</i>	n = 28	n = 32
<i>Public – Private</i>	n = 32	n = 31
<i>Private – Private</i>	n = 30	--
<i>Public – Public</i>	n = 32	--
$N = \sum n$	N = 185	

Before receiving instructions for the experiment subjects were asked to indicate how much they liked each of a set of five charities (Amnesty International, Greenpeace, Caritas, Doctors without Borders, and Unicef), and how well they believe these charities are perceived by the general public. Then subjects were instructed about the real-effort task (counting the amount of zeros in a 5x15 table containing only 1s and 0s; 10x15 tables were used in Abeler et al., 2011). They were informed that every correctly solved table generates a donation of .1 Euro to the charity Unicef. If they entered the wrong number of zeros in a table, they could try again

twice. If they entered a wrong value three times, one table was deducted from their performance. At the beginning of the experiment subjects played an eight minute practice period to familiarize themselves with the task. Then subjects played for 15 minutes in the private setting which was described to them in the instructions. After a break<sup>6</sup> of 5 minutes subjects were given instructions for the public setting and played for another 15 minutes. For half of the subjects the order of the private and public setting was reversed.

After the real-effort task, subjects were informed about their own performance in the private setting and asked to estimate their performance in the public setting. The compensation scheme of the task was varied by randomly assigning subjects to either make guesses with low or high incentives. Subjects earned .3/3 Euros if their estimate was exactly right. They also earned something if the estimate was a bit off target, but they were punished the more they deviated from the actual amount. They earned .2/2 Euros if the absolute distance between their estimate and the true number of correct tables was 1, and .1/1 Euro if it was 2. Then, subjects were informed about the average performance of all subjects in the private setting and subsequently they were asked to estimate the average performance of all subjects in the public setting. The accuracy of their guesses rounded to nearest integers was again rewarded in line with the compensation scheme described above.

As announced in the instructions at the end of the experiment subjects were given feedback about their performance in the private as well as in the public setting. For the private setting they got feedback about their total performance and their relative ranking, that is, how well each subject's performance did compare to the others'. However, it was stressed that the information will be disclosed privately to each subject. For the public setting subjects knew that they will all stand up at the end of the experiment, and that each subject will read his/her total performance and his/her ranking while standing, and then sit down. This ceremony started with the top ranked (the one achieving most donations) and finished with the last ranked.<sup>7</sup> All details

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<sup>6</sup> No filler task was administered in the break. We simply wanted to provide subjects with an opportunity to relax from the possibly fatiguing screen activity. We decided to leave it up to them how to relax, instead of making them look at the screen again.

<sup>7</sup> Zizzo (2010) notes that a public ceremony meant to award social status can also produce social pressure. In our ceremony the top ranked was seen by everybody. Since subjects were told to sit down in their cubicle after their

of the procedure were common knowledge. In the private-private session no ceremony was conducted. In the public-public session the order in the ceremony was based on overall performance (rank and performance in the single rounds were also announced). In figure 1 a timeline of the experiment is shown.

**Figure 1. Timeline of the experiment**

1. Practice period
2. Round 1 of the real effort task
3. Break
4. Round 2 of the real effort task
5. Subjects get feedback about their performance in the private setting
6. Subjects estimate their performance in the public setting
7. Subjects get feedback about average performance of all other subjects in the private setting
8. Subjects estimate the average performance of all other subjects in the public setting
9. Announcement of subjects' performance

### **3.2. Participants and Procedures**

The experiment took place at the laboratory of the Max Planck Institute of Economics in Jena, Germany. 185 participants were recruited among students from various disciplines at the University of Jena using the ORSEE software (Greiner, 2003). In each of the 6 sessions gender composition was approximately balanced and subjects took part only in one session of this experiment. The experiment was programmed and conducted with the software z-Tree (Fischbacher, 2007) and took, on average, 90 minutes. In the experiment participants earned on average 6.68 Euros (including a show-up fee of 2.50 Euros) for themselves and generated on average 7.20 Euros for the charity.

At their arrival at the laboratory subjects were randomly assigned to one of the computer terminals. Each computer terminal is in a cubicle that does not allow communication

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turn, the lower a subject was ranked the fewer other subjects could see him/her due to the sight limitations when sitting in a cubicle. We chose this procedure in order to reduce social pressure (from being one of the worst) effects.

or visual interaction between the participants. Participants were asked to read the instructions carefully and there was enough time to privately ask for clarifications about the instructions. Subjects had to answer several control questions before the experiment started in order to make sure that they understood the instructions properly. They were informed that there will be a second experiment during this session, and that it is unrelated to the first experiment. At the end of the session subjects received their payoff in cash from both experiments. Privacy was guaranteed during the payment phase.

Donations were made online directly after the payment to subjects. In order to make donations credible, we asked in each session 2 participants to monitor the transaction after the experiment. This was announced in the instructions.

#### 4. Results

The results are organized in subsections. First, we present a general overview of behavior in the real-effort task for the sample of 185 participants. This is followed by descriptive and econometric analysis of self-awareness. Finally, in the last subsection we investigate how expectations of own status-seeking behavior is related to expectations about others' behavior.

##### 4.1 Descriptive analysis

Table 2 displays summary statistics of exerted effort in the four treatments and the two rounds.

**Table 2.** Average effort in each round (standard error in parentheses)

Round	Treatments			
	Private-Public	Private-Private	Public-Private	Public-Public
1	34.10 (1.24)	33.90 (1.52)	35.98 (1.11)	38.97
2	37.53 (1.31)	36.57 (1.37)	37.00 (1.07)	42.22
Nr. Obs.	n = 60	n = 30	n = 63	n = 32

In the private-public treatment we observe that the subjects performed better in the second round which is public. On the other hand, if we look at the remaining treatments we observe that the performance is always higher in the second round. The difference between the rounds is statistically significant at the ten percent significance level using either the t-test or the Wilcoxon rank-sum test. Notably, the increase in the private-public treatment between the rounds is not statistically different compared to the increase in the private-private treatment for any conventional significance level. Therefore, it is not appropriate to conclude that on average we observe a status-seeking behavior by observing these two treatments only since the increase in the second round in the private-public treatment could for example be due to learning effects.

Hence, we turn to a regression analysis in order to test for the status-seeking effect and to control for the apparent learning effects from round 1 to round 2. We use a panel that also takes individual heterogeneity into account using the random effects estimator. In table 3 *model I* presents results from a baseline specification, *model II* adds the belief about the public perception of the charity used<sup>8</sup> and gender as control variables.

**Table 3.** Panel Regression on Effort

Independent variables	Dependent variable: Effort in a period			
	Model I		Model II	
	Coefficient	Standard Error	Coefficient	Standard Error
Public (= 1 if period is public)	1.55 **	0.735	1.56 **	.736
Period (= 1 if period is 2)	2.27 ***	0.85	2.28 ***	.856
Public * Period	-.395	1.28	-.386	1.28
Belief about the public perception of Unicef			.292	.49
Gender (= 1 if subject is female)			1.34	1.35
Constant	32.68 ***	1.48	31.13 ***	2.542
No. of obs.		370		
R2		0.26		

\*, \*\*, and \*\*\* denote that the coefficient is statistically significant at the 10%, 5%, and 1% level, respectively.

We also interacted the variable Public with gender, but it resulted in insignificant main as well as interaction effects.

<sup>8</sup> Based on a pre-test students believe that Unicef is well-perceived by the general public. Replies of actual subjects in our experiment confirmed this result.

Regression results confirm an increase of effort from period 1 to 2, and in addition a significant effect on effort when the period is public. The belief about the public perception of the charity does not seem to affect effort. The coefficient for gender is positive but not significantly different from zero. Overall, the results in this section give some evidence of status-seeking behavior but note that the status-seeking behavior is far from prominent in our experiment.

#### 4.2 Self-awareness

We will now continue to analyze self-awareness of the subjects considering their performance in the public round. The main variable of interest is called *belief 1* and is defined as the difference between the subjects' belief about their performance in the public round and retrieved feedback about their performance in the private round. A positive sign implies that the subjects on average believe that they performed better in the public round while a negative sign has the opposite interpretation. To avoid potential confounds in the beliefs about learning (i.e. belief that second round performance is highest) or fatigue effects (i.e. belief that first round performance is highest) we will base the analysis on the aggregate level where data from the private-public and the public-private treatments are pooled.

**Result 1:** *Subjects are on average not self-aware about that they exerted more effort in the public round.*

Support for this result comes from Table 2. The positive sign of the belief 1 variable in Table 4 indicates that the subjects on average expect to exerted more effort in the public round. However, the t-test and the Wilcoxon signed-rank test shows that belief 1 variable is not significantly different from zero unless the subjects were assigned to the treatment that paid high incentives to form correct beliefs.<sup>9</sup>

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<sup>9</sup> On the other hand the subjects did on average increase their effort by only 1.18 tables in the public round which is not statistically different from the average belief in the low or high incentives treatment.

**Table 4.** Belief about performance in public round compared to performance in the private round (standard error in parentheses)

Treatment	Average belief 1	t-test p-value	Wilcoxon test p-value	Nr. Obs. <sup>10</sup>
Low Inc.	0.68 (0.69)	0.331	0.252	n = 59
High Inc.	1.05 (0.57)	0.071	0.099	n = 62

Further evidence is presented by the regression model in table 5 which contains data from private-public and public-private treatments. The main independent variable in table 5 is *Public effort – Private effort* and the size of the coefficient (0.262) in model I shows that if the subjects will extract 4 more units of effort in the public round they will underestimate and believe that they only extracted 1 more unit in the public. Any deviations from a coefficient value of one can actually be identified as a belief-behavior gap where a value less than one indicates that the subjects underestimate their effort in the public round while a value greater than one indicates the opposite. Our results imply that the more effort the subjects would extract in the public round compared to the private round, a behavior consistent with status-seeking, the more biased would they be in absolute terms of underestimating how much they actually increased their effort in public. The regression also shows that the subjects assigned to the public-private treatment expect more effort in public compared to subjects assigned to the private-public treatment. The coefficient for the high incentives condition for the belief compensation is positive, but not statistically different from zero. Furthermore, women expect themselves to behave more status-seeking than males although the marginal impact of increased effort on the belief-behavior gap is the same for males as well as females. That women are more self-aware has been found before in previous research. For example, London and Wohlers (1991) found women’s self- perception to be more in line with how others see them compared to men’s self-perception, and related their findings to self-awareness. Woodzicka (2008) found that women were more self-aware of having used false smiles during a job interview to mask negative emotions and appear enthusiastic.

In a strict empirical sense *model I* identifies a belief-behavior gap but since the regression is also defined on the negative domain of the x-axis the lack of awareness could partly be driven by individuals that increased their effort in the private period. *Model II*

<sup>10</sup> Two subjects apparently misunderstood the beliefs estimations as they entered values for both rounds together. We excluded them from the analysis of the beliefs data.

excludes this by utilizing data from the subsample of subjects such that the regression is only defined on the positive domain. The main difference between the two models is that in size of the coefficient of the main independent variable which is lower and that the coefficient is no longer significant. The insignificant coefficient could reflect a further lack of awareness about the subjects' status-seeking behavior.<sup>11</sup>

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<sup>11</sup> We should on the other hand not conclude too much from the difference between model I and model II. Hence, we also estimated a model (with all observations) where individuals that increase their effort in the private round were distinguished from those that increase effort in the public round using a set of dummy variables and we found that the difference is not statistically significant.

**Table 5.** Regression Models on Belief 1

Independent variables	Model I <sup>12</sup>		Model II	
	Dependent variable: Belief 1	Standard Error	Dependent variable: Belief 1	Standard Error
<i>Dummy variables</i>				
High Incentives (= 1 if assigned to the high incentives treatment)	0.875	0.831	1.740	1.267
Public first (= 1 if assigned to the public-private treatment)	4.456***	0.940	5.608***	1.393
Women (= 1 if woman)	1.820***	0.102	2.829**	1.299
Constant	- 3.239***	0.102	-3.531**	0.208
<i>Continuous variable</i>				
Public effort – Private effort	0.262**	0.157	0.093	1.774
R2:	0.18		0.25	
Number of observations:	121		64	

\*, \*\*, and \*\*\* denote that the coefficient is statistically significant at the 10%, 5%, and 1% level, respectively.

Belief 1 = expected increase/decrease in effort in public

<sup>12</sup> The continuous variable Public effort – Private effort was also interacted with the three dummy variables in a separate model but it resulted in insignificant main as well as interaction effects.

### 4.3 Robustness Check

The evidence from the previous section showed the existence of a belief-behavior gap where subjects underestimate how much effort they extract in the public round when given feedback about their effort in the private round. However, the belief-behavior gap might be general in the sense that they are not aware of increased productivity driven by learning effects opposed to status-seeking effect which is the interest of this paper.

In table 6 we show results from a regression where we compare the belief-behavior gap in private-public and public-private treatments with the private-private and public-public treatments. Since there is no variation in visibility from round 1 to 2 in the latter two treatments, status-seeking as an explanation for a performance difference can be ruled out. This allows us to assess the level of self-awareness in a situation where status-seeking cannot play a role. Focusing on the significant effects, in line with table 5 we see that subjects assigned to the public-private treatment on average expect that they extract more efforts in public (regression coefficient value of 4.357) than subjects in the private-public treatment.<sup>13</sup> This is also the only significant effect among the dummy variables. In line with table 3 we also see the belief-behavior gap where the subjects underestimate their own effort in the public round with a magnitude of three fourths. Also note that the belief-behavior gap does not differ between the private-public and public-private treatments. Interestingly, the awareness is significantly higher in the private-private treatment (regression coefficient value of 0.333) compared to private-public treatment and lower (but not statistical significant lower) in the public-public treatment (regression coefficient value of -0.214). The higher awareness in the private-private treatment compared to the private-public treatment is compelling as it shows that self-awareness is reduced by allowing for status-seeking behavior. A lower self-awareness in the public-public treatment might be explained by subjects being more stressed to perform well in the public-public treatment. This may cause them to narrow down their attention to task-relevant attributes. Such behavior would be in line with the finding in Chajut and Algom (2003)

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<sup>13</sup> The intercept is negative and the dummies for the public-public and the private-private treatment are not significantly different from the intercept. This shows that in all treatments subjects expect that they contributed more in the first round.

who showed that selective attention improves under stress. But again, note that self-awareness in the public-public treatment is not significantly different from the private-public treatment. In summary, the robustness analysis shows that subjects become less self-aware about their donation behavior when status-seeking is possible which indicates that subjects are not self-aware about their status-seeking behavior.

**Table 6.** Regression model to test robustness

Independent variables	Dependent variable: Expected increase in effort in round 2	Standard Error
<i>Dummy variables</i>		
Public first (= 1 if assigned to the public-private treatment)	4.357***	0.944
Private (= 1 if assigned to the private-private treatment)	-1.391	1.207
Public (= 1 if assigned to the public-public treatment)	0.254	1.457
High Incentives (= 1 if assigned to the high incentives treatment)	0.730	0.802
Women (= 1 if woman)	0.876	0.667
Constant	-2.570***	0.978
<i>Continuous variable</i>		
Effort Period 2 – Effort Period 1	0.267*	0.144
<i>Interactions</i>		
( Effort Period 1 – Effort Period 2 ) *Public first	-0.006	0.198
( Effort Period 2 – Effort Period 1 ) *Private	0.333*	0.182
( Effort Period 2 – Effort Period 1 ) *Public	-0.214	0.305
No. of obs.	183	
R2	0.287	

\*, \*\*, and \*\*\* denote that the coefficient is statistically significant at the 10%, 5%, and 1% level, respectively.

#### 4.4 Expectations about others' behavior

The aim of this section is to test to what extent subjects' expect others to behave in a status-seeking way. The main variable of interest is called *belief 2* and is defined as the difference between beliefs about other subjects' performance in the public round and feedback about other subjects' performance in the private round. A positive sign implies that the subject believe that other subjects exert more effort in the public round than in the private round while a negative sign has the opposite interpretation.

**Result 2:** On average *subjects believe others to be as status-seeking as they are themselves.*

Support for this result comes from Table 7. On average the variable *belief 1* is not significantly different from *belief 2*.

**Table 7.** Subjects’ belief about other subjects performance in the public round compared to own behavior (standard error in parentheses)

Treatment	Average belief 1	Average belief 2	t-test p-value	Wilcoxon test p-value	Nr. Obs.
Low Inc.	0.68 (0.69)	1.14 (0.70)	0.404	0.170	n = 59
High Inc.	1.05 (0.57)	0.53 (0.50)	0.364	0.559	n = 62

We present a regression model (see table 8) in order to illustrate more clearly how beliefs about others’ behavior are correlated with subjects’ beliefs about own behavior. In table 8 we see that the coefficient of the variable *belief 1* is 0.917 and not statistically different from the coefficient value of one. This confirms the results in table 7 that subjects believe others to be as status-seeking as they are themselves which together with the previous result (see result 1) implies that subjects with increased effort in the public round will under-estimate their own as well as others’ status-seeking behavior. The regression also shows that female subjects expect more of a status-seeking behavior than males (note the marginal impact of increased own expected effort on the belief of others effort, however, is the same for males as well as females). If we then look at the interactions with the variable *belief 1* we see that subjects that are assigned to the treatment public first expect other subjects in their treatment to be less status-seeking than themselves. We have no clear hypothesis of why the beliefs about others’ behavior relative to own behavior differs between the private first and public first treatments. Interestingly, the results also show that subjects in the high incentives treatment believe others to be less status-seeking compared to themselves than subjects in the low incentives treatment where subjects believe others to be as status-seeking as they are themselves. Hence, increased rewards for having correct beliefs of own behavior seems to raise the subjects’ willingness to admit (to themselves) that they could to a greater extent than other subjects’ increased their level of pro-social activity in the public round.

**Table 8.** Regression Model on Belief 2

Independent variables	Dependent variable: Belief 2	Standard Error
<b>Main effects</b>		
<i>Dummy variables</i>		
Public first (= 1 if assigned to the public-private treatment)	0.129	0.859
High Incentives (= 1 if assigned to the high incentives treatment)	- 0.021	0.763
Women (= 1 if woman)	1.939***	0.007
Constant	- 0.453**	0.802
<i>Continuous variable</i>		
Expected increase in own effort in public (i.e. belief 1)	0.917***	0.157
<i>Interactions</i>		
Public first * belief 1	- 0.277**	0.145
High incentives * belief 1	- 0.316**	0.139
Women * belief 1	-0.130	0.145
No. of obs.		
	121	
R2		
	0.439	

\*, \*\*, and \*\*\* denote that the coefficient is statistically significant at the 10%, 5%, and 1% level, respectively.

Belief 2 = expected increase/decrease in effort of others in public

## 5. Discussion

This study investigates whether people are self-aware of their status-seeking behavior in charitable giving. To the best of our knowledge status-seeking has previously only been investigated using survey data and not using a laboratory experiment. The methodological approach in surveys is to ask people about own as well as other people's preferences of different goods and test if people seem to believe that others have a stronger demand for positional goods than they have themselves (see Johansson-Stenman and Martinsson, 2006; Grolleau et al., 2012). If it is found that people believe that others have a stronger demand for positional goods than they have themselves there are at least two explanations to such observations. One possibility is that people underestimate their own status-seeking behavior,

while correctly assessing others' propensity to engage in status-seeking behavior. The other is that people overestimate others' status-seeking behavior, while correctly assessing own behavior. The experimental approach used in this study enabled us to test the relative merit of these two explanations, complementing the existing survey studies. Notably, the two explanations are conceptually very different as the former involves self-image concerns and self-awareness, while the latter could reflect a belief about others' status-seeking behavior independently from self-image.

Three key findings emerged. We found that: i) subjects engaged in social-status seeking behavior, ii) subjects underestimated their status-seeking behavior, and iii) subjects expected others to behave at least as status-seeking as they did. High compensation for accurate beliefs about own behavior decreases the belief-behavior gap, but not at a statistically significant level. In line with the findings of Chance et al. (2011) the effect of self-deception appears to be rather robust. Our results corroborate survey evidence in Johansson-Stenman and Martinsson (2006) that people have status concerns beyond their own awareness (or expressed in the words of the authors beyond "we would admit even to ourselves"). However, we find that subjects expect others to behave as status-seeking as they do if not even less which is not compatible with survey evidence that people believe others to be more status-seeking than they are themselves (see Johansson-Stenman and Martinsson, 2006; Grolleau et al., 2012). Interestingly, comparing treatments with low and high reward for having correct beliefs, we found that increased rewards for having correct beliefs of own behavior seem to change the subjects' beliefs such that they believe that they to a greater extent than other subjects behave in a status-seeking manner. Since respondents in surveys are not rewarded for accurate beliefs it could actually at least partly explain the findings in surveys that people believe others to be more status-seeking than they are themselves.

Another relevant difference is that the experimental setting induces introspection and therefore could lead to increased self-awareness. While in real life one is rarely asked to reflect about own behavior or rewarded for accurate beliefs about behavior, our laboratory context provides good conditions for being self-aware. Nevertheless, we found a belief-behavior gap and that subjects underestimated own status-seeking behavior.

We conclude with a real-world implication of our study. While fund-raisers should keep the status-signaling of charitable giving salient in order to maximize the amount of donations, they must keep an important balance. Status-seeking must not be too obvious as it could interfere with the donors' self-image of being motivated by noble reasons and not a desire to signal and gain higher status.

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## Appendix

# Experimental Instructions

**Welcome and thank you very much for participating in this experiment.** In this experiment you can earn money. **Hence, it is important that you read the following instructions carefully.**

Please note that these instructions are only meant for you and that you are not allowed to exchange any information with the other participants. Similarly, you are not allowed to talk to any other participant during the entire experiment. If you have any questions or concerns, please raise your hand. We will answer your questions individually. Please do not ask your question(s) aloud. It is very important that you follow these rules; otherwise we will have to stop the entire experiment. Please also turn off your mobile phone now.

## General Procedure

The experiment takes about 60 minutes and consists of two parts. You will now be given detailed information about your task in the first part of the experiment. The second part will be independent from the first part and you will be given the instructions for the second part only after the first part is finished.

During the experiment you can generate a donation for the charitable organisation Unicef. In addition to that you will be paid a fixed amount for your participation. How much you donate to Unicef depends on your performance in this experiment. The final amount will be calculated in ECU (Experimental Currency Units) with  $1 \text{ ECU} = 0,1 \text{ EURO}$ . At the end of today's session, your earnings for Unicef will be converted into EURO and then be transferred to the organisation's account via online deposit. Furthermore you will be paid your personal earnings in cash. This is comprised of a show-up fee of 2,5 EURO, a fixed payment of 4 EUROS for the first part of the experiment and an individual payment for the experiment's second part, which depends on your (and possibly the other participants') decisions.

After completing a short questionnaire the experiment will be finished and you receive your payoff.

Here is the procedure as an overview:

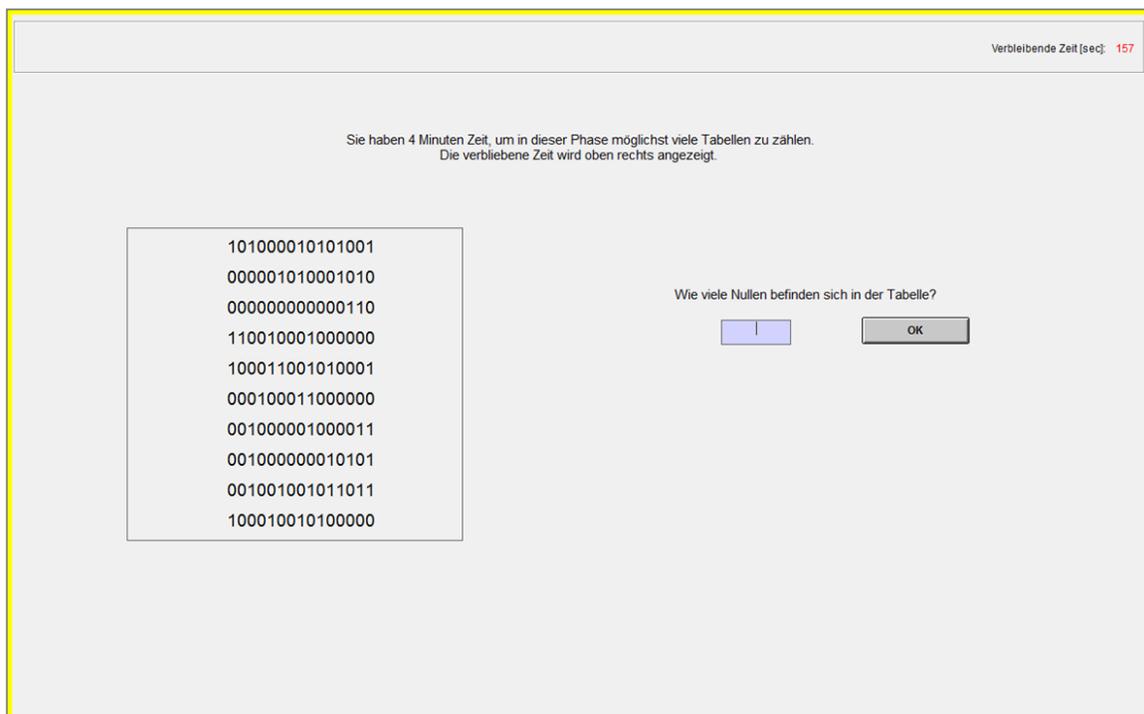
- Read the instructions of the first part of the experiment
- Test section T
- Donation section S
- Feedback
- The instructions for the second part of the experiment will be distributed
- Second part of the experiment
- Questionnaire
- Payoff and end of the experiment

## Details of the experiment

During the experiment you can generate a donation to the charity organisation Unicef.

### How to donate?

You donate by correctly counting the number of zeros in a table. Every table processed correctly guarantees you 1 ECU. **The more tables you process correctly, the higher is your donation.** The following screenshot is the same you will be presented with during the experiment.



Verbleibende Zeit [sec]: 157

Sie haben 4 Minuten Zeit, um in dieser Phase möglichst viele Tabellen zu zählen.  
Die verbliebene Zeit wird oben rechts angezeigt.

101000010101001
000001010001010
000000000000110
110010001000000
100011001010001
000100011000000
001000001000011
001000000010101
001001001011011
100010010100000

Wie viele Nullen befinden sich in der Tabelle?

Please enter the number of zeros you count in the table on the left hand side in the box on the right hand side of the screen. After you have done so, please press 'OK'. If you have counted the number of zeros correctly, the computer will automatically generate a new table for you to count. If your count was not correct, you have two more tries to enter a correct number. If you have entered an incorrect number of zeros three times for the same table, you will be deducted 1 ECU and the computer generates a new table for you to count.

### **Example:**

You enter the correct amount of zeros for three tables, count incorrectly once for a fourth table and enter an incorrect number three times for another table. Your donation will then look as follows:

- 3 ECU for three correct tables
- -1 ECU for the one table, where you have entered an incorrect number three times.

Hence, your final donation would be 2 ECU.

### **Procedure**

Before the actual experiment starts, you will play a **test section T** so you can familiarize yourself with the counting process. You will have four minutes to practice. You will not be generating any donations in this section.

Afterwards we will start with section S, where you will actually be generating donations. At the end of the experiment you will be given feedback regarding your donation, i.e. you ...

- will be shown on screen how many tables you processed correctly,
- will be shown on screen your rank in comparison to the other participants.

ONLY TREATMENT PUBLIC:

[In addition to that, **the other participants will be informed about your personal performance**. For this, all participants will be called one by one. You stand, you say the amount of points you reached and your rank, and then you sit down. The order will be determined by the rank. The one who has generated most donations will be called first, and the one who generated fewest donations will be called last.]

## **Your earnings from this experiment**

Your earnings from this experiment will be comprised by your show-up fee (2,5€) and the fixed amount. You will be paid your total earnings in cash directly after everybody completed the second part of the experiment, i.e., after having completed the final questionnaire.

Furthermore, you will be donating an amount to Unicef according to your performance in this experiment. The ECU you generated for your donation will be converted into EURO. **After the experiment, the total amount of all donations will be transferred to the organisation via their web site. This process will be supervised by two participants of the experiment.**