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Follow the Leader or Follow Anyone – Evidence from a Natural Field Experiment

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Abstract

In a fundraising field experiment we show that individuals are not only conditionally cooperative, but that they are also more prone to donate to a homeless individual when the previous donor has a higher social status. We trailed a homeless person asking for donations within Cologne's metro trains for two weeks. Thereby we systematically varied the status of the first giver in the train. In the control treatment we did not intervene. In the low status treatment the first giver was always a (poor looking) low status person from our team and correspondingly in the high status treatment a (rich looking) high status person. In our experiment the average number of donations per train is 72% higher in the low status treatment than in the control treatment. Additionally, in comparison to the low status treatment, the number increases by 34% in the high status treatment. To our best knowledge this is the first study providing field evidence for the particular influence of high status individuals on others' donations.

JEL classification: C93, D64, H41

Keywords: Status, Fundraising, Field Experiment

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1. Introduction

Our research is concerned with the optimal solicitation order in fundraising campaigns when information on previous giving is available. Previous theoretical research on solicitation order suggests soliciting the most generous donors first (see e.g. Andreoni 1998, Versterlund 2003). Field-studies of List & Lucking-Reiley (2002) and Shang & Croson (2009) support these theoretical findings.[1] Our paper reveals the importance of first giver's status. Thus, fundraisers should not only be concerned with the amount of the first donation but also with the status of its donor. A higher status entails more subsequent donations.

In our study we designed a natural field experiment (Harrison & List 2004) to test the influence of the first donor's status in fundraising. Our experiment is concerned with donations to a homeless "street newspaper" seller. As in many larger western cities "street newspapers" are also sold in Cologne (Germany).[2] Sellers are mainly homeless people offering the newspaper at street corners or promoting it on the streets or on the metro. Despite the fact that they offer newspapers, sellers mostly receive donations while newspapers are sold rarely.[3] Frankly spoken, selling street newspapers is a polite way to ask for donations. For our experiment, we trailed a homeless newspaper seller for two weeks. Our focus was on metro wagon sales since every wagon provides an isolated environment that can be regarded as one independent observation. An observation started when the seller entered the metro wagon at a station. After the

[1] Andreoni (1998) and List & Lucking-Riley (2002) focus on the amount of seed money in fundraising campaigns for threshold public goods, Vesterlund (2003) is concerned with the optimal announcement strategy of previous contributions while Shang & Croson (2009) are interested in the optimal provision of social information. However, when it comes to the optimal solicitation order, all papers suggest soliciting large donations first.

[2] For general information on street newspapers see http://en.wikipedia.org/wiki/Street_newspaper. For information on the street newspaper in Cologne, see: http://www.querkopf-koeln.de/. A picture of the newspaper can be found in the appendix.

[3] This impression from everyday life is corroborated in our experiment. Our seller received roughly 25 times more through donations than by selling newspapers.

wagon doors closed he began to promote the newspaper. Basically the seller said: „Dear ladies and gentlemen, is anyone interested in a street newspaper or has a small donation for a homeless person?“. Afterwards, he walked through the train showing his collecting box and the newspaper to passengers. An observation ended, when the seller left the wagon at the next station. Our experiment involved three treatment variations. In the control treatment we did not intervene. We solely observed the seller making his tour through the train as described above. In the second and third treatment we manipulated the status of the first donor in the train. In the low-status treatment, the first donor was a poor looking person from our team. In the high-status treatment the first donor was a rich looking person from our team. The procedure in the low and high status treatment was identical to the control treatment with the exception that the donor from our team started giving directly after the seller's promotion.[4]

In our experiment about 10,500 individuals participated in 567 independent observations. In total we received 424 donations and raised 316.27€. The experiment provides four main results. First, donors in metro trains are conditionally cooperative. Compared to the control treatment, the number of donations per train-ride increases by 72 percent in the low-status treatment, and by 129 percent in the high-status treatment. These differences are highly significant. Second, donors are more prone to donate when the first donor has a higher status. Compared to the low-status treatment, the number of donations per train ride increases by 34 percent in the high-status treatment. This difference is (at least) significant. Third, there is some evidence for a crowding in of lower donations. Compared with the control treatment, values of single donations are lower in both other treatments. Compared with the low-status treatment, values of single donations are almost similar /slightly lower in the high-status treatment. Fourth,

[4] By clarifying in advance at which door the seller enters the train, we could easily ensure to be the first donor in the train.

we present data on donor characteristics. The characteristics show that our results are only partly in line with the standard status theory claiming that individuals in general like to associate with those of higher status.

The remainder of the paper is organized as follows. In the next section we review the related literature. Section three describes the experiment. Section four contains the results, and section five concludes.

2. Relevant Literature

This paper contributes to three fields of economic literature. It adds insight on fundraising research and on research on individuals' quest for status. Furthermore, it is partly related to research on leadership.

First, our research is concerned with fundraising. Within charitable giving/fundraising literature (apart from research relating status and fundraising) research on conditional cooperation is most important for us. Fischbacher & Gächter (2010) p. 541 describe conditional cooperation as "many people's propensity to cooperate provided others cooperate as well". Conditional cooperation is found robustly in laboratory studies (Fischbacher et al. 2001, Kocher et al. 2008, Fischbacher & Gächter 2010) as well as in charitable giving field studies (Frey & Meyer 2004, Shang & Croson 2009). In the field experiment of Frey & Meier (2004) students are more prone to contribute to charitable funds when knowing that many other students contribute. Shang & Croson (2009) provide additional evidence for conditional cooperation in a public radio fundraising experiment. In their experiment, participants receive information on previous donations whereby the amount of these donations vary; the higher the mentioned donation, the higher subsequent ones. Regarding our experiment, both, the high status and the low status treatment confirm the conditional cooperation hypothesis. Metro passengers' propensity to contribute is significantly higher in case of other contributors.

Second, our research is concerned with individual's quest for status. Different areas of economic research emphasize the role of status, e.g. research on consumer choice (Frank 1985, Hopkins & Kornienko 2004, Charles et al. 2009, Heffrtz 2011), organizations (Frank 1984, Moldovanu et al. 2007, Besley & Ghatak 2008) and fundraising (Harbaugh 1998a, Harbaugh 1998b, Kumru & Vesterlund 2010). Weiss & Fershtman (1998) p. 802 define social status as "a ranking of individuals […] in a given society, based on their traits, assets, and actions". Exact definitions in other research areas may deviate, but as Heffetz & Frank (2011) point out that it is hard to find a definition not related to "rank" or "position".[5] Most important for our research are the economic approaches towards status by Ball et al. (2001) and Kumru & Vesterlund (2010). Ball et al. (2001) examine prices in a competitive laboratory market. Participants of their experiment act as buyers or sellers and are attributed with a low or a high status. Independent of the market side assigned to high-status participants, they always capture a greater share of the surplus. Apparently, low status agents are willing to sacrifice consumption to trade with high-status agents or, more generally, they sacrifice consumption to associate with them. Kumru & Vesterlund (2010) transfer the idea of Ball et al. (2001) to a fundraising setup. In their sequential laboratory public good game individuals are also assigned with a high or a low status. When first movers are high status agents, public good contributions are significantly higher. Again, low status agents are willing to sacrifice consumption to associate with high status agents. The results from our field experiment corroborate Kumru & Vesterlunds' laboratory findings. Metro passengers contribute significantly more often to the homeless when the first mover has a higher status.

Third, our research is partly concerned with leadership. In economic literature, leaders are often defined as individuals with superior information (cf. Hermalin 1998, p. 1198).

[5] For research from other areas such as evolutionary sociology see for example Henrich & Gil-White (2001) and Boyd & Richerson (2002).

As Henrich & Gil-White (2001) argue, high status individuals often have superior information.[6] In so far, one might perceive the high status individual from our experiment to be a leader. Vesterlund (2003) and Andreoni (2006) investigate the influence of such superior informed leaders in fundraising campaigns. Following their theories, a donation of a high status individual or leader is a signal for the high quality of the charity and thus leads to higher subsequent contributions. Lately, Karlan & List (2012) find that mentioning the Bill and Melinda Gates Foundation as a matching donor (and quality indicator) significantly increase donations. However, considering our experimental set up, it is less likely that our leader (high status donor) is perceived as someone with superior information. The donation receiver is "well known" to all passengers and it is clear that he will use the money for his own consumption.

3. Experimental design

3.1 Environment

We conducted our experiment in summer 2011 in the metro trains of Cologne's municipal transport services "KölnerVerkehrs-Betriebe"(KVB). Cologne's metro train system consists of eleven lines and has a path length of 193.8 km. In 2010 Cologne's metro system had more than 200 million passengers. More than 300,000 customers are frequenters.[7] This represents more than one quarter of Cologne's inhabitants. Hence, passengers most likely represent a cross section of urban West-German society. To assure a subject pool representing these socio-demographic characteristics, observations in our experiment stem from different daytimes. We took trains from 9.15am to 12.15pm and from 5pm to 8pm. In the morning "shift" commuter traffic is

[6] Anthropologist literature as Henrich & Gil-White (2001), Chudek et al. (2012) and Panchanathan (2010) is about prestige biased learning. Accordingly, individuals have a tendency to adopt behavior from high status individuals, because their ex-post behavior seemed to be more successful (worthy to adopt).
[7] Source of figures: Website of "KölnerVerklehrs-Betriebe AG" (Cologne's Public Transport Enterprise) http://www.kvb-koeln.de/german/unternehmen/leistungsdaten/index.html

basically over and passengers are mainly non-working society (e.g. young mothers, students, pensioners). By contrast, at least in the early hours of the evening shift, commuters are a major fraction of passengers. Furthermore, to prevent effects arising from particular populations in different neighborhoods, we took nine of the eleven metro lines in different areas of Cologne.[8]

3.2 Homeless Newspaper Seller

In our experiment the receiver of the donations was a unique authentic homeless person. The most important facts about him are, first, that he had no permanent residence in the time period we conducted our experiment and, second, that selling street newspapers and receiving donations represented his main sources of income at that time.

Additionally to his earnings from newspaper sales and donations, we paid the homeless person 50€ each day. This is equivalent to approximately 1.5 to 2 times his daily income generated by newspaper sales and donations in the time span of our experiment.

Inevitably, the homeless person knew that we conduct an experiment to test for giving behavior. However, we never disclosed our main hypotheses to him.

3.3 Procedure

We trailed the homeless newspaper seller for two weeks in summer 2011. Both weeks were the first of their respective month.[9] Within a week we tried not to take trains with the same passengers more than once. For example, if we had taken a certain metro line every weekday at the same time, the probability to meet commuters more than once

[8] However, we want to emphasize that neighborhoods in German metropolitan cities aren't as heterogeneous in terms of social composition as e.g. cities in the United States.

[9] In interviews conducted previously to our experiment, homeless persons mentioned a decreasing tendency of donations over a month. To keep circumstances similar, we conducted our experiment in the first full week of July (4th - 8th) and the first full week of September (5th - 9th).

would have increased. Thus, in both weeks, we allocated only one morning and one evening shift to a particular metro line.[10] Since passenger compositions in metro trains in the morning and evening shifts substantially differ in terms of socio-demographic characteristics, this particular measure decreases the probability to encounter the same passengers more than once. Furthermore, these shifts on the same metro line were never consecutive. If we had used a particular line in the morning shift, we did not use the same line in the evening. And accordingly, if we had used a metro line in the evening, we did not use the same line the next morning. Thus, even if we encounter the same passenger twice our giving was inconspicuous, because giving in regular intervals (e.g. every second day) from a certain donor is rather the rule than the exception.[11]

Within a shift we shuttle on a certain track section of Cologne's metro network. The track section of a shift comprises three consecutive stations (e.g. the stations A, B, C). Treatments alternate between stations in a strict order. The following example clarifies the procedure: Recall that Cologne's metro consists of two wagons per train. At station A, the homeless newspaper seller and the high status person enter the train in the second wagon. In the meantime the low status person enters the first wagon. On the ride from station A to station B we conducted the high status treatment in the second wagon. At station B, the homeless newspaper seller leaves the second wagon and enters the first one. The high status person stays in the second wagon. On the ride from station B to C we conducted the low status treatment in the first wagon. At station C we left the train, changed the platform and went back to station A following the same procedure. Similarly, at station A, we left the train again and changed the platform. In the

[10] Actually, we used some metro lines twice in the evening and in the morning. However, the same line was only used a second time on a different track section rather remote from the first section. So we regard these "long lines" as different lines because passengers most probably change between different parts of the city.

[11] We interviewed several homeless newspaper sellers previous to our experiment about their income structure. All of them reported the importance of regular donors.

subsequent two rides from A to C we conducted two control treatments. The described six rides are one procedure cycle. At C we restart the procedure cycle, but with the low status treatment in the second wagon and correspondingly the high status person in the first wagon. Figure 1 shows the rides after two procedure cycles.

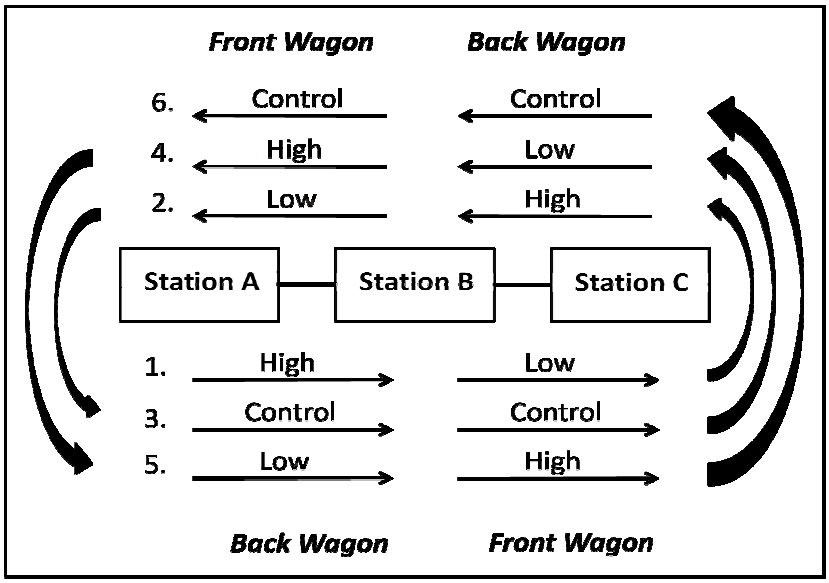

FIGURE 1. RUNNING ORDER, SHOWING TWO PROCEDURE CYCLES

After two procedure cycles we continue at station A with the high status treatment and so on. As can be seen in Figure 1, the described treatment alternation leads to an ongoing treatment change on every of the four station-connections (AB, BC, CB, BA). Most importantly, the procedure assures a minimal time difference between treatment observations from a certain station-connection.[12] Thus, the environment of observations is identical.

With one exception, we only shuttle between stations with parallel running lines because the frequency of trains is higher when two metro lines operate. Waiting time between taken trains shortens. It allows us to collect more data within a shift. The

[12] At a certain station, approximately 18 minutes pass from one observation to the next. In the first week we had some exceptions from the explained procedure. Basically, we extended our procedure to four instead of two stations (everything else, e.g. treatment order, remained similar). We tested whether results differ in these observations. We found no differences.

duration of a shift was approximately three hours. Any extension of a shift would have increased the probability to encounter the same passengers again (on their way back home), but the shorter the shift the lower the number of collected observations would have been. Three hours is the compromise we chose. We cannot rule out same passengers in some observations. However, the presented means reduce their number and thereby possible distortions of the results.

Within a train we implemented a standardized donation request of the homeless person. When conducting a treatment in the second wagon of a train, the homeless person always entered the train by the same door of the wagon. His request started after the doors closed and the train started. He announced his newspaper sale by: “Dear Ladies and Gentleman, is anyone interested in a street newspaper or has a small donation for a homeless person?” Afterwards, he walked through the train, showing his collecting box and the newspaper to passengers. His path through the train was predefined. He walked to the next door, turned around and left the train by the same door he entered. The distance to the next door was about 5 meters. When conducting a treatment in the first wagon, everything else remained equal, but the homeless newspaper seller started at the last door of the wagon. Due to the symmetrical structure of wagons, no further differences arose. In case of a low or high status treatment, the corresponding status person always entered the train by the same door as the seller or already waited at that door. Directly after the start of the donation request, the status person takes out some money from his pocket and puts it into the collecting box of the homeless person. Thereby, we could easily establish our status person as the first donor.

3.4 Treatments

We conducted three treatments in our experiment: A control treatment, a low status treatment and a high status treatment. We did not intervene in the donation request of the homeless person in the control treatment. In the low and high status treatment however, the first donor in the wagon was the respective status person.

In our experiment we had to attribute status visibly to a person. A successful assignment of status implies a substantial agreement among different members of a society on the hierarchical status of the person (Weiss & Fershtman 1998). We orientated our implementation to the prominent concept of socioeconomic status (SES). Kraus & Keltner (2009) p. 99 define SES "by material wealth, occupation, and participation in educational and social institutions".[13] We tried to choose persons and outfits clearly representing at a first glance different characteristics of these dimensions. In both weeks of our experiment the high status person was a 31 year old male. He was dressed in a suit, tie, shirt and leather shoes. He carried a laptop bag and a high profile national newspaper (Frankfurter Allgemeine Zeitung). Altogether, the price of his outfit was above 800€. The low status person changed between experiment weeks. In the first week, the low status person was an unemployed person in his mid-forties. He was dressed with raddled jeans, sneakers, an old hoodie and a cap. However, because of the higher age of the low status person we changed the low status person in the second week.[14] The second low status person was a 27 year old male, dressed in old tracksuit pants, camouflage sweater, tatty chucks and a cap. He carried a plastic bag from a discount supermarket and a tabloid paper. Photos of the persons can be found in the appendix.

[13] See Dutton & Levin (1989), Adler et al. (1994) and Oakes & Rossi (2003) among others for similar definitions.
[14] Individuals might associate a higher status to an older person. Thanks to Matthias Sutter for this helpful suggestion.

In both status treatments we donated exactly 50 Cent in five 10 Cent coins. Due to the short distance the seller walked through the train, all passengers should have been able to notice that the first givers donated some small coins. This is important from the economic perspective. Several theories about leadership in fundraising (e.g. Vesterlund 2003, Andreoni 2006, Hermalin 1998) are particularly concerned with the donation-amount of the first giver. Our study did not focus on this aspect. Since people in our experimental environment can roughly see and hear what others donate, beliefs about the donation-amount hardly differ between the treatments. Differences can be ascribed to status-modification.[15]

To control whether our visual implementation of high and low status individuals is in line with the general perception of these persons, we conducted a classroom survey. 319 bachelor students of the Faculty of Management, Economics and Social Science of the University of Cologne received pictures of the different characters. Each student received a picture of one person and had to estimate the level of education, occupational qualification, employment status and income level. In line with our expectations, the high status person exceeds by far both low type persons in all categories. Obviously, a change in appearance effectively change perceived socioeconomic status of a person. There are also significant differences between the two low type persons in some categories, but in comparison to the high type, these differences are small. A detailed description of the survey results can also be found in the appendix.

[15] This assumption receives support by the results reported in chapter 4.4, where we show that values of single donations are slightly lower in the high-status treatment than in the low status treatment. Almost similar single donation values in the low and the high status treatment are an indicator for similar perceived reference donation-values of the first donors. Especially, the values contradict the hypothesis that passenger give more in the high status treatment because they believe the high status person gave more.

4. Results

4.1 Overview

Table 1 presents the main descriptive results of the experiment. The first row shows the number of observations conducted per treatment. The second row reports the absolute number of donations received, the third row the average number of donations per train ride and the last row contains the average amount of money received per observation. While the absolute number of donations is 82 in the control treatment, it is 146 in the low-status treatment and 196 in the high-status treatment. This difference is also reflected in the average number of donations per observation across the treatments. These numbers are 0.45 in the control treatment, 0.76 the low-status and 1.02 in the high-status treatment. In comparison to the control treatment the average number of donations is 72% higher in the low-status treatment. Furthermore, in comparison to the low-status treatment, the average number of donations increases by 34% in the high-status treatment. The corresponding average amounts of money collected by the newspaper seller are 0.40€, 0.57€, and 0.69€, respectively.

Before analyzing the data in detail, we discuss some peculiarities of our rather unusual setup. In total, about 10,500 metro passengers participated in our experiment. These are all passengers in the trams we used in the course of our investigation. The average number of passengers per observation (per tram wagon) was 16.4 in July and 20.5 in September. The increase in passenger volume is most likely due to the rainy and cold weather in September.[16] In total, we conducted 567 observations for the experiment.[17]

[16] In July there was sunny weather with an average temperature of 20 degrees during our experiment week. In the September session there was rainy weather with an average temperature of 17 degrees. We assume that people prefer to take the metro in September.

[17] We excluded one observation from our analysis. The homeless seller received 16.22€ in this observation. This amount exceeded all other observation-amounts by far. The reasons for the exclusion are similarly to the reasons for exclusion of observations mentioned by Falk (2007). First, this observation

In 265 rides the homeless person received at least one donation. Altogether, he received 408 donations and sold 16 newspapers. The small fraction of newspaper sales corroborates our assumption regarding the sources of income of street-newspaper sellers. The lion's share of their earnings stems from donations.[18]

TABLE 1. DONATION PATTERNS IN DIFFERENT TREATMENTS

	Control	Low	High
Observations	184	191	192
Number of Donations	82	146	196
Average Number of Donation per Ride	0.45	0.76	1.02
Average Donation-amount per Ride	0.40€	0.57€	0.69€

4.2 Conditional Cooperation and Status Effects

To test whether passengers in Cologne's trams are conditionally cooperative and whether the probability of giving differs depending on the status of an initial giver, we analyze several dependent variables such as the number of donations per observation, the share of observations with at least one donation and the amount of money given to the seller per ride. Summing up, our results suggest (i) an effect of conditional cooperation as found in previous studies and (ii) a status effect suggesting that the characteristics of the initial giver are also of importance. People in the tram are more likely to donate to a homeless guy when there is an initial donor and even more so when he apparently has a high social status.

skews the analysis of the absolute donation level. Second, it is unlikely that such donations are due to our treatment variation.

[18] In the two weeks of the experiment our homeless person earned an accumulated amount of 316.27€. The recommended price for the newspaper is 1.50€ whereby 0.75€ are intended for the seller. Buyers often do not stick to the price and sometimes give a higher amount, e.g. 2€. The 316.27€ are earnings. We already deducted the 0.75€ wholesale price of the newspaper paid by the seller. One might subtract another 0.75€*16=12€ to receive a proper donation amount. Ultimately it does not matter. By far the biggest part comes from donations.

First, we analyze the number of donations per ride. Figure 2 shows the share of train rides with 0,1,2,… or 7 donations per treatment.[19] Observations with no donation occur more often in the control treatment than in the low-status and high-status treatment. Consequently, rides with 1,2,…,7 donations are more frequent in the low-status treatment and the high-status treatment. Results of Mann-Whitney U tests (MWU) confirm this impression. There are highly significant differences between the control treatment and the other two treatments (MWU, $p<0.01$).[20] Furthermore, there are fewer observations with no donation in the high-status treatment than in the low-status treatment, but more positive amounts when the initial giver has a higher status. This descriptive finding is supported by non-parametric statistics comparing the distribution between the two treatments (MWU, $p<0.05$).[21] These findings suggest both, an effect of conditional cooperation as well as an effect of the status of the initial giver.

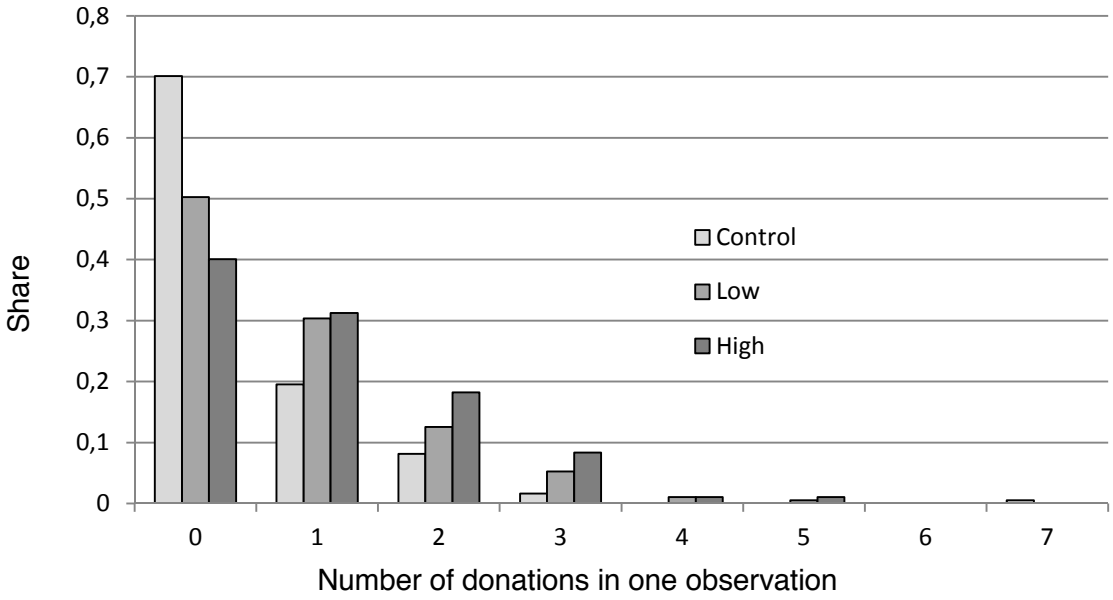

FIGURE 2. SHARE OF A CERTAIN NUMBER OF DONATIONS PER TREATMENT

[19] We never had more than seven donations in a train.

[20] The Mann-Whitney U test compares the distributions of number of donations per observation. In the distribution an observation / data-point takes the value "0" if no one in a train ride donated, "1" if one person in a ride donated, "2" if two persons donated and so on.

[21] We also compare the probability that any person donates per observation using a two-sample test of proportions. The results are identical. The probability is about 60% in the high-status, 50% in the low-status and 30% in the control treatment. All these proportions are different (two sample test of proportions, at least $p<0.05$).

To substantiate our main results and to control for possible confounding effects, we additionally conduct ordered probit analyses which can be found in Table 2. In our analyses the dependent variable is the number of donations per observation. The main independent variables are the treatment dummies. Thereby, the variable "low" is a dummy for the low-status treatment and the variable "high" is a dummy for the high-status treatment. Both are compared to the reference category "control". In Model (1) we regresses our dependent variable only on our treatment variations. In Model (2) and Model (3) we add variables that cannot be randomized in our field setting. Namely, Model (2) adds the variable "session" which is a dummy for the period (July or September) and Model (3) adds the urban district (area in the following). Finally, Model (4) adds some controls.

The results of our analysis in Table 2 show that in all models both treatment dummies are positive and highly significant (in both cases $p<0.01$). Furthermore, we use a wald-test to check for difference between the "low" treatment dummy and the "high" treatment dummy. For all models, the wald-test shows that the "high" dummy surpasses the "low" dummy significantly in size ($p<0.05$). Besides, while the models show no differences between our July and September session, [22] they reveal some significant area effects. However, this does not systematically change the effect of the treatments with respect to the dependent variable.[23] Summarized, the ordered probit analyses confirm the previous results from Mann-Whitney U tests. Passengers are conditional cooperative and a first giver with a higher status entails more donations.

In Table A.11 in the Appendix we present additional probit analyses where we constrain our focus on the first giver from the passenger crowd. Such constrain might make sense

[22] The interactions of treatments and sessions are also not significant. See Table A.10 in the Appendix.
[23] We also find this difference when controlling for interactions between the treatment and the area of the city and between the treatment and the session. See appendix Table A.10.

as giving in the train is a sequential process. We increasingly lose control over the giving process after the first donor out of the passenger crowd. For example, when there is more than one donor, subsequent donors may donate due to several reasons (e.g. status of first donor from the passenger crowd), but not due to our treatment intervention. However, the results in Table A.11 are similar to those presented here.

TABLE 2: EFFECTS ON THE NUMBER OF DONATIONS

	(1)	(2)	(3)	(4)
Low	0.470***	0.470***	0.468***	0.461***
	(0.123)	(0.123)	(0.123)	(0.124)
High	0.746***	0.745***	0.751***	0.799***
	(0.122)	(0.122)	(0.122)	(0.124)
Session	No	0.015	0.012	-0.011
		(0.097)	(0.099)	(0.103)
Area 2	No	No	0.110	0.255
			(0.160)	(0.165)
Area 3	No	No	0.283*	0.340**
			(0.160)	(0.161)
Area 4	No	No	0.255	0.269*
			(0.158)	(0.159)
Area 5	No	No	0.114	0.142
			(0.165)	(0.166)
Area 6	No	No	0.074	0.113
			(0.306)	(0.311)
Controls				
Daytime	No	No	No	Yes
Position	No	No	No	Yes
Passengers	No	No	No	Yes
Observations	567	567	567	567
Pseudo R-squared	0.029	0.029	0.032	0.048

Notes: Ordered probit regressions with donations per observation as dependent variable. Standard errors in parentheses. Level of significance: *p<0.10, **p<0.05, ***p<0.01, 6 cut-points were estimated (output excluded).

In the next step, we analyze the amount of money received per observation in order to investigate whether more donations do actually translate into more money. On a first glance, our figures support this view, as the average amount of money received per observation is 0.40€ in the control treatment, 0.57€ in the low status treatment and 0.69€ in the high status treatment. We use MWU tests to compare distributions of different treatments. In the following, our analysis is limited to the results of the second

week as we did not gather these data in the first week. The MWU tests indicate a highly significant difference (MWU, $p<0.01$) between the control treatment and both status treatments. Furthermore, we find a weakly significant difference between the two status treatments (MWU, $p<0.10$). Even though we did not collect data on the amount received per observation in the first session, our data allow calculating the average amount received per observation across the whole week. In July, during the first session of the experiment, the average amount was 0.37€ in the control treatment, 0.50€ in the low-status treatment and 0.59€ in the high-status treatment. The corresponding values for the second session, in September, were 0.43€, 0.64€ and 0.78€, respectively. Although the amount received on average is generally lower in the first week, the pattern across treatments is similar:[24] Average amounts donated to the seller are higher in the low-status and in the high-status treatment in comparison to the control treatment. This indicates that more donations actually translate into more revenues. Furthermore, more money is raised when the initial giver has a high social status. We conclude that it is not only of importance that there is a first giver but also how he is perceived by other potential givers in terms of his social status.

4.3 Crowding In of relatively low Donations

As reported in the previous sections, starting with donations of low status or high status individuals crowds in additional donations. It is of interest to know whether motives of additional donors differ. Different values of single donations are an indication for different motives. On a first glance, the average values of single donations indicate differences. The average single donation is 0.90€ in the control treatment, 0.74€ in the low status treatment and 0.68€ in the high status treatment. Unfortunately, our study is

[24] Furthermore, the analyses of Table 2 and Table 3 show no difference in donation probabilities between weeks. There is no reason to assume systematically different distributions of donation amounts in July observations.

limited in the analysis of single donations. First, only in the second week of our experiment we gathered data on the donation amounts per observation. Second, due to technical reasons, we cannot properly disentangle the single values of donations when more than one passenger in a wagon donated.[25] The few remaining observations with only one donation do not indicate differences between single donation values when analyzed with non-parametric tests.[26] The second-best possibility to test for differences between single donation values is to calculate the average value of single donations for donations from observations with more than one donation and include them into the analysis. Now, a Mann-Whitney U test reveal highly significant differences between the single donation values of the control and the low-status treatment and between the control and the high-status treatment (in both cases $p<.01$), but no differences between the low-status and the high-status treatment ($p=.47$).

The results suggest some support for the hypothesis of a crowding in of low donations in the low-status and high-status treatment. However, we are aware of the fact, that our analysis has certain limits. First, including average values infringes statistical independence of observations, which is necessary for the application of the Mann-Whitney U test. Second, there are several economic explanations for reported differences in single donation amounts. For example, DellaVigna et al. (2012) reveal in their study social pressure as a motive for donations. Similarly, in our experiment a donation of a metro passenger might induce social pressure on other metro passengers. To circumvent social pressure, passengers reluctantly donate smaller amounts. However, pure altruism also explains smaller amounts of following donations, as the homeless person already received some money. Last but not least, follows might

[25] We were only able to count the accumulated donation amount in the beggar's collection box *after* a train ride and not within a train ride after each donation.
[26] There are only 18 observation in the control treatment, 30 in the low-status treatment and 32 in the high-status treatment left.

perceive the donation amount given by our team members as a reference value for appropriate giving. Since the low-status and high-status person give similar amounts, this would explain the almost similar donation amounts of other givers in this treatment.

4.4 Characteristics of Donors

We noted gender, age and perceived status of each donor. Even if age and status is often hard to estimate, it is worth to analyze the data, as it might provide insights on the psychological processes that drive our results.[27] Concerning status, we categorize donors into low, middle and high status. We used the outfits of our first donors as guideline for categorization. Neat persons in expensive clothes were categorized as high status person, unkempt persons in shabby clothes as low status person. All other persons were categorizes as middle status. In our analysis we transferred donor-status into a numeric variable. Thereby, the value 2 represents a high status donor, 1 represents a middle-status donor and 0 represents a low-status donor. Table 3 gives an overview about the collected data on donor characteristics.

TABLE 3. DONOR-CHARACTERISTICS

	All Donors			First Donors		
	Av. Status	Av. Gender	Av. Age	Av. Status	Av. Gender	Av. Age
Control	1.05	0.44	42.8	1.04	0.42	42.5
Low	1.01	0.45	42.7	1.02	0.45	42.8
High	1.11	0.34	44.2	1.15	0.35	44.6

Notes: Values in Table 3 represent means. Gender takes value 1 for men and 0 for women.

When we consider the status variable in Table 3, we see that it is highest in the high status treatment and lowest in the low status treatment. We used an ordered-probit analysis to check whether the donor status significantly differs between treatments. Our analysis shows that there is a weakly-significant difference ($p<.1$) when comparing the low status treatment with the high status treatment. This result holds when we

[27] Thanks to Dean Karlan for this helpful advice.

considers first donors only.[28] Other treatment-comparisons do not show any significant status-differences.

When we consider the gender variable in Table 3, we see that the mean is lower in the high status treatment. Hence, the fraction of women is higher in the high status treatment. A probit-analysis shows that there is a significant gender difference between the low status treatment and the high status treatment when considering all donors ($p<.05$). For first donors only, this difference becomes insignificant ($p=.159$). Furthermore, a consideration of the absolute numbers of female and male donors reveals a crowding in of female donors in the high status treatment and not a crowding out of male donors.[29] Other probit-analyses do not reveal any significant gender-differences between treatments.

When we consider the age of donors, we see that there are only small differences between treatments. Only in the high status treatment the mean age is somewhat higher. However, a Mann-Whitney U test reveals no significant difference between treatments.

Furthermore, we analyzed interaction between different characteristics (e.g. whether the increase of female donors in the high status treatment is only driven by *old* ladies). We find that the increase in the donor status in the high status treatment is entirely driven by male donors. While the status for female donors is similar in all treatments, an ordered-probit analysis reveals a highly significant difference ($p<.01$) between the low status and the high status treatment for male donors. This result holds when we considers first donors only.[30] Furthermore, a consideration of the absolute numbers of

[28] Similarly, Mann Whitney U tests reveal weakly significant differences between the low status and the high status treatment for all donors as well as for first donors only.
[29] The number of male donors increases by 1 from the low status treatment to the high status treatment, but the number of female donors increases by 48.
[30] Similarly, Mann Whitney U tests reveal highly significant differences between the low status and the high status treatment for all donors as well as for first donors only.

male donors reveals that the status treatments not only crowd in donors of similar status, but also crowd out donors of the opposite status.[31]

What do these figures tell us about passengers' motives to donate? While the crowd in of female donors in the high status treatment is in line with the standard status theory from Ball et al. (2001) and Kumru & Vesterlund (2010), the characteristics of male donors cannot be explained by these theories. More precisely, the standard status theories assume that individuals in general like to associate with those of higher status and therefore cannot explain why our high status first donor crowd out low status male givers. A possible explanation for the male donor pattern might be psychological theories of social comparison (Festinger 1954, Mussweiler 2003). These theories suggest that people are more willing to compare with similar people and when similarities between people exist they are more willing to assimilate. In our environment, assimilation equates imitating the donation decision.

5. Conclusion

In our fundraising field experiment, we analyzed giving behavior of metro passengers towards a beggar. Thereby, we systematically varied the first donor's status to test for the particular influence of high status individuals on train passengers' propensity to donate. We find that the first giver's status matter. When we installed a high status person instead of a low status person as the first giver, the number of donations rises by 34%. Furthermore, in line with results of previous literature, we find that individuals are conditional cooperative: As soon as we installed a (low status) person as first giver, the propensity of another donation in the train increases by 72% compared to the treatment where we did not install any giver.

[31] Number of low status male donors is 14 in the low status treatment, but only 2 in the high status treatment. The number of high status male donors is 17 in the high status treatment, but only 9 in the low status treatment.

Beside this core result, our data provide two additional insights. First, there is some evidence for a crowding in of low donations when giving is fostered by donations of our team members. But as explained in the respective section, our study does not allow pinning down this observation to a unique reason. Second, and more fruitful in terms of clear interpretations, there is significant evidence that male train passengers are more prone to donate when the previous donor has a similar status. This is of particular interest, as it contradicts the (standard) hypothesis which claims that individuals in general like to associate with those of higher status. Rather, it supports theories of social comparisons which suggest that individuals only imitate behavior of their peer group. However, for female donors this is not true. Instead, we observe an increase of female donors of all status groups in the high status treatment, which is in line with the standard status hypothesis.

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Appendix A: Pictures of Characters and Newspaper

Low status individuals first week

Low status individual second week

High status individual in both weeks

Homeless street-newspaper seller

The street newspaper

Appendix B: Classroom Status Survey

We asked participants of a classroom-experiment (N = 319) which took place in November2011 in a bachelor course at the Faculty of Management, Economics and Social Science of the University of Cologne on their impression of the socio-economic status of the low – and high - status individuals of our experiment. Each participant received one photo and had to estimate the level of education, occupational qualification, employment status and net income of the characters. N=102 received the photo of the low status individual of the first week, N=122 the photo of the low status individual of the second week and N=95 the photo of the high status individual.

Specification of categories:

a) Level ofeducation
    a. Certificate of Secondary Education (Hauptschulabschluss)
    b. General Certificate of Secondary Education (Realschulabschluss)
    c. General qualification for university entrance (Abitur)
b) Occupationalqualification
    1. None
    2. Apprenticeship (Berufsausbildung)
    3. University degree (Hochschulabschluss)
c) Employmentstatus
    1. Unemployed
    2. Part time job
    3. Tenure
d) Net income
    1. To 1000
    2. 1000 – 1500
    3. 1500 – 2000
    4. 2000 – 2500
    5. 2500 – 3000
    6. 3000 – 3500
    7. 3500 – 4000
    8. 4000+

Results:

As can be seen in figure A.1 and A.2 the high status person exceeds by far both low type persons in all categories. This picture is corroborated by a T-test. It shows significant differences between the high status person and both low status persons in all categories. Apart from the category of education the T-test show significant differences between low type persons, too. The low status individual of the first week is on average perceived to have a higher occupational status, a higher employment status and more income. However, even though this difference is significant it does not seem to be substantial (with regards to the figures below). This is especially true in comparison to the huge difference of the low status persons to the high status person.

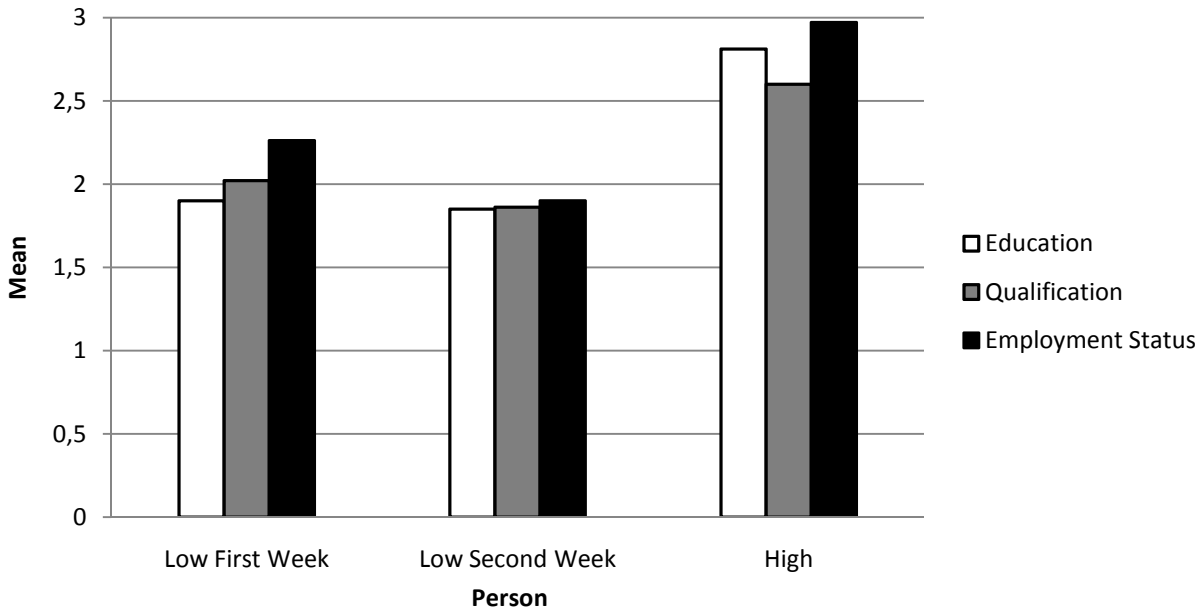


FIGURE A.1. MEAN OF ESTIMATED EDUCATION, OCCUPATIONAL QUALIFICATION AND EMPLOYMENT STATUS

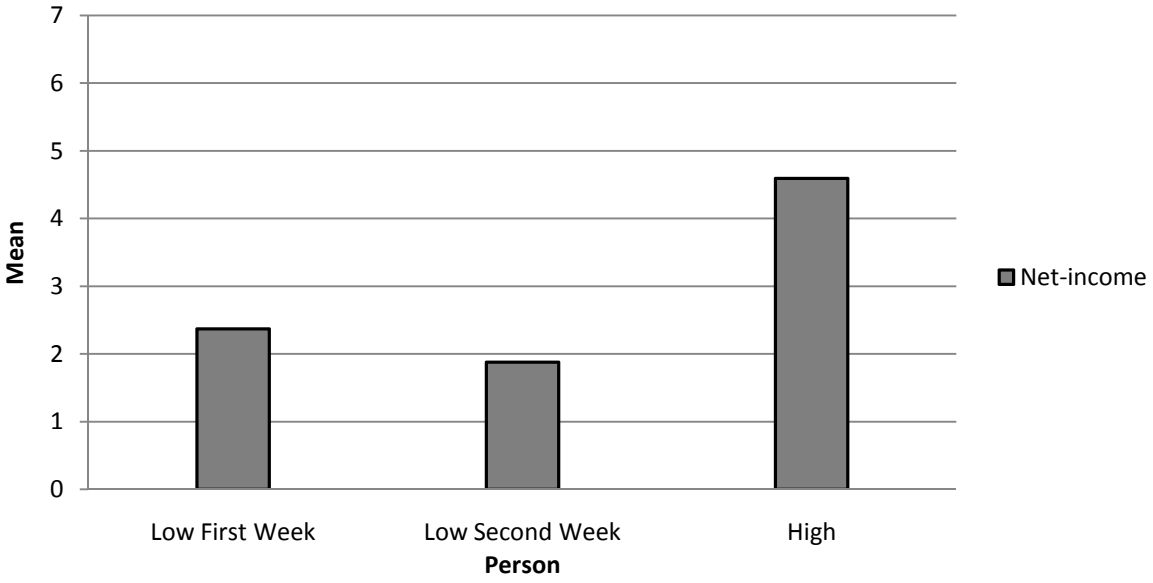


FIGURE A.2. MEAN OF ESTIMATED NET INCOME

Appendix C: Descriptive statistics

TABLE A.1. RIDES

	July	September	All
Control	87	97	184
Low Status	88	103	191
High Status	88	104	192
Total	263	304	567

TABLE A.2. RIDES WITH AT LEAST ONE DONATION

	July	September	All
Control	27	28	55
Low Status	44	49	93
High Status	52	63	115
Total	123	141	264

TABLE A.3. TOTAL NUMBER OF DONATIONS

	July	September	All
Control	43	39	82
Low Status	67	79	146
High Status	83	113	196
Total	193	231	424

TABLE A.4. TOTAL PROFITS

	July	September	All
Control	32.29€	41.33€	73.62€
Low Status	44.00€	65.78€	109.78€
High Status	51.65€	81.22€	132.87€
Total	127.94€	188.33€	316.27€

TABLE A.5. AVERAGE AMOUNT OF DONATION PER OBSERVATION

	July	September	All
Control	0.37€	0.43€	0.40€
Low Status	0.50€	0.64€	0.57€
High Status	0.59€	0.78€	0.69€
Total	0.49€	0.62€	0.56€

TABLE A.6. AVERAGE VALUE OF SINGLE DONATION

	July	September	All
Control	0.75€	1.06€	0.90€
Low Status	0.66€	0.82€	0.74€
High Status	0.62€	0.72€	0.68€
Total	0.66€	0.81€	0.74€

TABLE A.7. PASSENGERS

	July	September	All
Control	1539	1932	3471
Low Status	1436	2288	3724
High Status	1336	2021	3357
Total	4311	6241	10552

TABLE A.9. DAYTIME

	Rides		**Donations**		**Probability of Donation**	
	Morning	Evening	Morning	Evening	Morning	Evening
Control	96	88	36	19	37.50%	21.59%
Low Status	97	95	42	53	43.30%	55.79%
High Status	96	96	54	61	56.25%	63.54%
Total	289	279	132	133	45.67%	47.67%

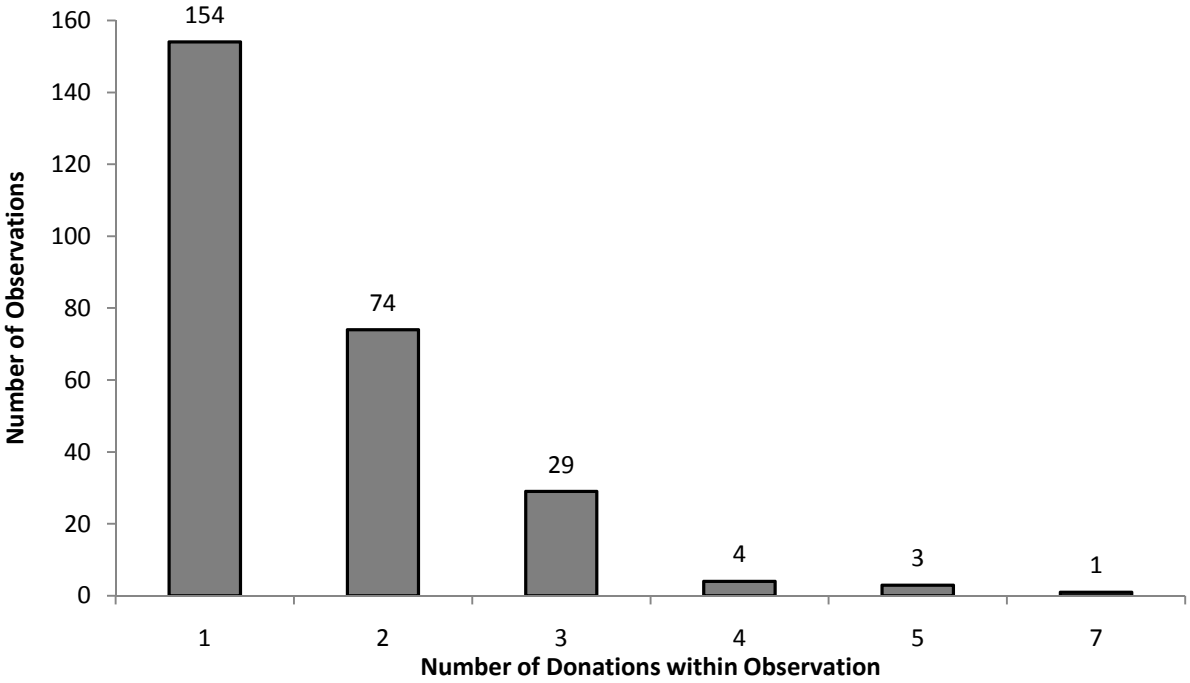


FIGURE A.3. NUMBER OF DONATIONS PER OBSERVATION WITH AT LEAST ONE DONATION

Appendix D: Additional Regression Analyses

TABLE A.10: EFFECTS ON THE NUMBER OF DONATIONS (interaction terms included)

	(1)	(2)	(3)
Low	0.461***	0.730**	0.440**
	(0.124)	(0.315)	(0.181)
High	0.799***	1.013*** (0.310)	0.744*** (0.181)
	(0.124)		
Area*Treatment	No	Yes	No
Session*Treatment	No	No	Yes
Controls			
Session	Yes	Yes	Yes
Area	Yes	Yes	Yes
Daytime	Yes	Yes	Yes
Position	Yes	Yes	Yes
Passengers	Yes	Yes	Yes
Observations	567	567	567
Pseudo R-squared	0.048	0.048	0.055

Notes: Ordered probit regressions with donations per observation as dependent variable including treatment interactions with area dummies and session dummies. Standard errors in parentheses. Level of significance: *p<0.10, **p<0.05, ***p<0.01, 6 cut-points were estimated (output excluded).

TABLE A.11: EFFECTS ON THE PROBABILITY OF GIVING.

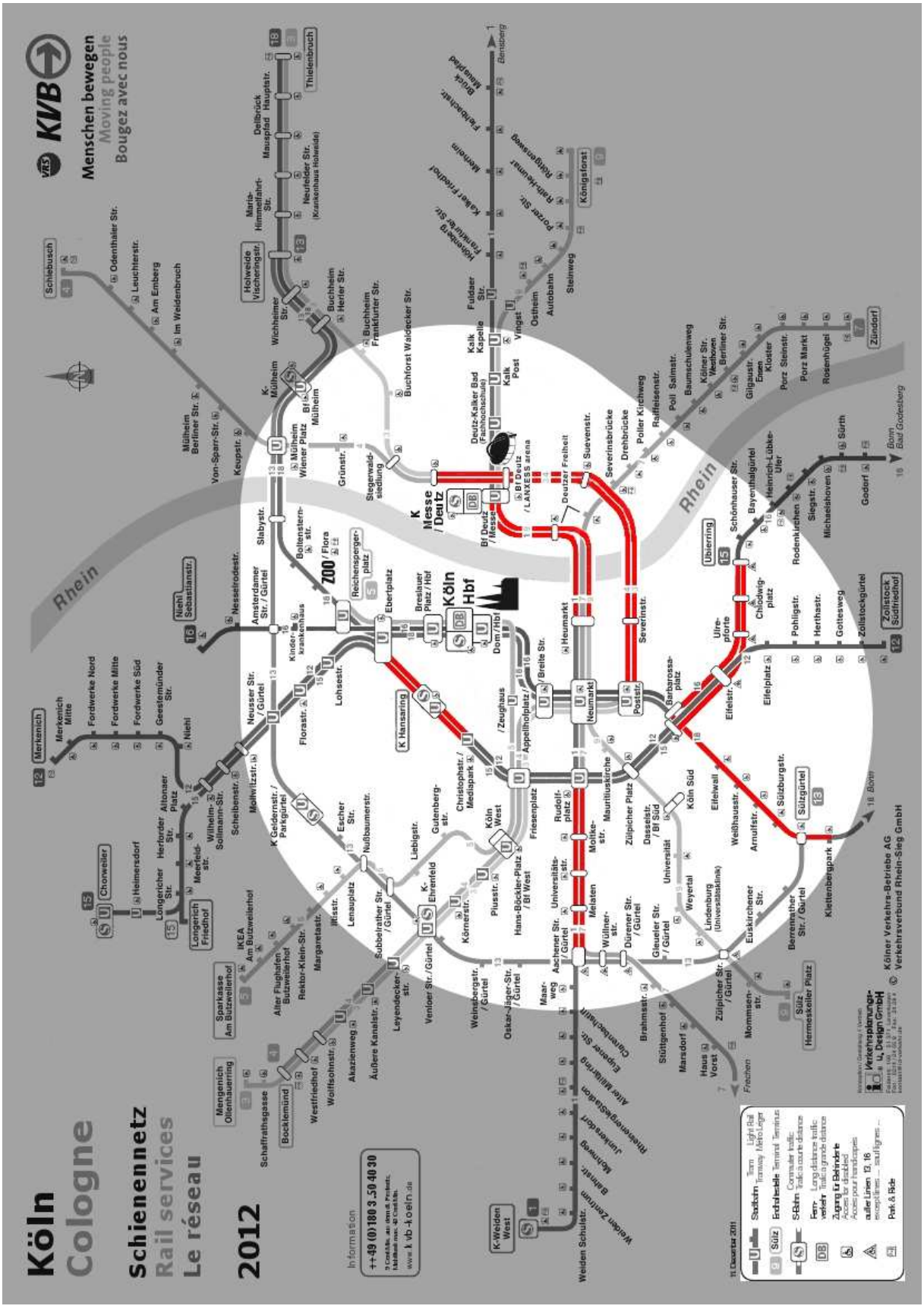
	(1)	(2)	(3)	(4)
Low	0.508***	0.508***	0.507***	0.501***
	(0.133)	(0.133)	(0.134)	(0.134)
High	0.778***	0.778***	0.786***	0.841***
	(0.134)	(0.134)	(0.134)	(0.137)
Session	No	-0.019	-0.020	-0.035
		(0.108)	(0.111)	(0.116)
Area 2	No	No	0.112	0.248
			(0.176)	(0.182)
Area 3	No	No	0.376**	0.420**
			(0.178)	(0.181)
Area 4	No	No	0.320*	0.333*
			(0.177)	(0.178)
Area 5	No	No	0.144	0.160
			(0.181)	(0.184)
Area 6	No	No	0.129	0.177
			(0.339)	(0.346)
Controls				
Daytime	No	No	No	Yes
Position	No	No	No	Yes
Passengers	No	No	No	Yes
Observations	567	567	567	567
Pseudo R-squared	0.045	0.045	0.054	0.075

Notes: Probit regressions with donations per observation as dependent variable. Standard errors in parentheses. Level of significance: *p<0.10, **p<0.05, ***p<0.01. Area 1: Aachener Str. /Gürtel – Rudolfplatz; Area 2: Poststr. – Koelnmesse; Area 3: Mediapark – Ebergplatz; Area 4: Barbarossaplatz – Chlodwigplatz; Area 5: Heumarkt – Bf Deutz; Area 6: Barbarossaplatz – Klettenbergpark

Appendix E: Variables used in the regression analysis

	Frequency	Percent
donation		
yes	264	46.56
no	303	53.44
treatment		
control	184	32.45
low	191	33.69
high	192	33.86
experiment		
July	263	46.38
September	304	53.62
daytime		
morning	289	50.97
evening	278	49.03
position		
back	293	51.68
front	274	48.32
passengers		
-10	98	17.28
11-20	266	46.91
21-30	152	26.81
31-	51	8.99
area		
1	99	17.46
2	120	21.16
3	110	19.40
4	117	20.63
5	108	18.17
6	18	3.17
Total	567	100.00

Appendix F: Map of Cologne Rail Services



Notes: We conducted the experiment on the red-marked lines.