ECONOMICS & Sociology

Otto, P. E., & Bolle, F. (2020). Power attitudes and stealing: Senses of responsibility. *Economics and Sociology*, *13*(4), 11-30. doi:10.14254/2071-789X.2020/13-4/1

POWER ATTITUDES AND STEALING BEHAVIOR: STUDENTS' SENSES OF SOCIAL NORMS AND RESPONSIBILITY

Philipp E. Otto
European University Viadrina, Frankfurt (Oder), Germany
E-mail: otto@europa-uni.de
ORCID 0000-0001-8630-108X

Friedel Bolle
European University Viadrina, Frankfurt (Oder), Germany
E-mail: bolle@europa-uni.de
ORCID 0000-0002-7586-4693

Received: April, 2020
1st Revision: September, 2020
Accepted: December, 2020

DOI: 10.14254/2071-789X.2020/13-4/1

ABSTRACT. Acts of taking money away from others and acts of reverting this behavior are investigated in an experimental survey that includes attitudinal questions concerning power and responsibility. Decisions to "steal or not" and "revert stealing or not" were made either before, or after the attitudinal questions. All possible individual combinations between stealing and reverting the stealing from others are frequently observed. Answering questions concerning power and responsibility beforehand leads to less stealing. People who believe that power is important in private relations, have a higher tendency to steal money from unknown others, and people who believe that power is important in public relations more often revert the stealing from others. Perceived powerlessness seems to increase stealing as well as reverting of others' stealing. Attitudes towards responsibility do not relate to these investigated behaviors. Individual values for social actions best describe the observed students' behavioral variation in social norm compliance.

JEL Classification: A13, C93, D63

Keywords: ethical decision-making, helplessness preferences, responsible choices, social norms.

"Geschäftige Torheit ist der Charakter unserer Gattung."
(Busy folly is the character of our kind.)
Immanuel Kant (1800, p. 312)

Introduction

Moral behaviors are manifold, and at first glance, moral rules like "do not kill," "do not lie," or "do not steal" appear simple to adhere to. However, in a specific context, evaluation of these rules can strongly vary and diverse behaviors are mostly observed. These behaviors do not necessarily reflect social preferences, and in these cases, a utilitarian approach, which describes decisions in terms of resulting incomes, have little predictive power. When experimentally combining the seemingly contrasting behaviors of stealing (taking money away) and reverting the stealing from others (giving stolen money back), all

possible behavioral combinations do occur. An interesting combination would be stealing and at the same time reverting the stealing. This kind of double moral standards stresses the variability of individual behaviors. This paper investigated the degree in which the relation between moral behavior and individual interests is influenced by personal attitudes towards power and responsibility, and what role situational components play in it.

For evaluating the relation between the moral behavior of stealing and the attitudes towards power or responsibility, an attitudinal questionnaire has been combined with two binary choices that have distributional consequences for the resulting incomes. The experimental survey allowed subjects to take money from others (steal), as well as prevent the stealing by others (revert) in a random social setting. Behavioral influences were investigated in the form of the order of the moral questions and the framing of the decision task. To the best of our knowledge, a reaction to others' stealing has not been investigated experimentally. Also connecting stealing / reverting the stealing with different attitudes to power is a new approach.

Our experimental survey was conducted as an online study with 352 valid replies resulting from 1451 invitations sent out to the students of the European University Viadrina who had declared their interest to participate in experimental studies. It was important that the (reverting the) stealing had monetary consequences for both thieves and victims. In order to characterize the relations between the behaviors of stealing and reverting the stealing, as well as the influence of power attitudes on behavior, our research questions were as follows: How frequent are different combinations of stealing or not / reverting the stealing or not? Can factors concerning differences in power attitudes be isolated to explain the variations in these choices? Will answering the survey questions before influence them? Can the decision behaviors here be better described by a social utility model or by a model with values for social actions?

Most surprising was that all the behavioral combinations between stealing or not and reverting the stealing or not occurred frequently. The attitudinal questionnaire provides us with strong regularities here: people who believe that power is important in private relations have a higher tendency to steal money from unknown others, and people who believe that power is important in public relations more often revert the stealing from others. Perceived powerlessness seems to increase stealing as well as the reverting of others' stealing. Attitudes towards responsibility do not relate to these investigated behaviors. Furthermore, moral action values appear not only to be influenced by individual differences, but also by the decision frame and the order of the questions. Only specific values for social actions can explain these variations, and social utility models fail to capture the observed behavioral heterogeneity.

1. Literature review

The stealing of "lost letters" (stamped and addressed but unsealed) containing money has first been investigated by Milgram et al. (1965), with countless replications and experimental variations (see for example Farrington and Knight 1979). Here, stealing depends on the amount of money and, when an organization is the victim, on their reputation. There is only a weak stealing dependency on individual and situational factors. Koopmans and Veit (2014), however, find a strong in-group bias which fosters stealing in societies with strong ethnic diversity (also see the methodological critique concerning some of these results by Bolle et al. 1999).

Other experimental investigations of explicit stealing behavior are rare. Gravert (2013) finds that stealing is more frequent when income depends on underlying performance compared with random allocations. Hermann and Mußhoff (2019) observe higher aversion against explicit stealing compared to dishonestly increasing one's income. Belot and Schröder

(2013) confirm both effects in their experimental results. Schildberg-Hörisch and Strassmair (2012) find that, paradoxically, the frequency of risky stealing increases for increasing penalties, as long as the penalties remain small. Such a "crowding out" phenomenon has been observed also in many other domains (Gneezy & Rustichini 2000, Bolle & Otto 2010). The aversion to stealing can be explained by confirming a social norm (Pecenca & Kundhlande 2013) and detoriates with the information about others' stealing behavior (Engel and Nagin 2015). In a study of costly stealing and counter-stealing, where the thief receives less than the victim loses, Bolle et al. (2014) observe a complete detoriation of the social norm resulting in universal excessive stealing, although equilibrium behavior allows at most one act of stealing (in order to equalize different incomes) and no repetitions. A more detailed discussion of experimental evidence of unethical behavior is provided by Engel (2018) for the closely related research field of fraud and tax evasions.

These experimental investigations demand explanations for (none-) stealing behavior in the framework of traditional theories of decisions under risk or game theoretic modeling; but such attempts largely failed. For other "morally loaded" decisions, Zizzo (2004) emphasizes the role of procedural fairness, with attaching values to actions instead of outcomes seem to provide the best behavioral explanation. Others (Elster 1989, Krupka & Weber 2013, López-Pérez 2008, Kimbrough & Vostroknutov 2016) propagate rule based values for the empirical question of how people behave in a situation where there are apparent consequences as well as clear social norms. In particular, values for "lying aversion" (e.g, Gneezy, 2005) or for "providing promises" (e.g., Vanberg, 2008) are proposed here (also see critics in Charness & Dufwenberg 2010). We will show once more that conventional theory, like altruism and inequity aversion, cannot explain the behavior in our experimental survey, while a model with values for stealing and for preventing stealing is more promising.

2. Experimental survey

The experimental survey was implemented as an online study, and it included a questionnaire concerning power and responsibility as well an experimental choice task. In the choice task, participants had to first, decide between stealing or not stealing parts of another's endowment, and secondly, between reverting or not reverting the stealing decision of someone else. Then the power associated with these two choices were evaluated on a scale from one ("very low") to five ("very high"), and beliefs about expected percentages of stealing and reverting had to be stated. The experimental design of the survey included variation of the order and had two different frames for the choice task.

The power questionnaire was designed to quantify heterogeneity regarding power attitudes and included the I(nternality)-P(owerful Others)-C(hance) scale (Levenson 1973; 24 items), as well as the need for affiliation-achievement scale (Jackson 1967; 9 items). New items were generated to cover individual attitudes as well as experiences with power and responsibility. These included statements such as "power comes with responsibilities" or "power increases prestige." The 67 new items were grouped into blocks, covering different power domains, the assumed basis of power, the individual importance of power, motives for social demands coming with power, and the personal relation toward power. Altogether, there were 101 items measuring differences in personality that had to be rated on a scale from one to five.

The order was either to begin with the attitudinal questionnaire followed by the choice task (QC), or the other way round, with the choice task first and then the attitudinal questionnaire (CQ). This investigates the influence of updating the self-concept concerning honesty (Mazar 2008, Sachdeva 2009, Jordan 2011, Ayal 2015). Another possibility is that unethical behavior depends on the reference point it is compared to (Grolleau 2016). Thus, the

framing of the choice task involved a loss (L) or a gain (G) when remaining inactive (i.e., not stealing; not reverting), while keeping the overall consequences when restraining from using one's power stable over the treatments (by correspondingly adapting the endowments). The amounts in the choice task were as followed in the L treatment (and with those of the G treatment in brackets): Subjects were endowed 80 (60) euros. First, they had to choose either (1a) to steal 40 euros, or (1b) not to steal and losing (gaining) 10 euros. Secondly, they had to choose between either (2a) to revert another person's stealing at a cost of 20 euros, or (2b) not to revert another person's stealing and losing (gaining) 10 euros.[1] The consequences of actions are comprehended as in *Table 1*. Note that to be inactive (no steal or no revert) will result in the same payoff in L and G. The original formulation of the choice task was not loaded, and the exact wording (translated from the original German version) is provided in *Appendix A*, together with the complete questionnaire. The two choices determined the payment for the participants, where one out of ten participants was randomly selected. Altogether, there were 35 winners with a payment, determined by these participants' choices, and resulting in seven participants receiving 10 to 30 euros, 22 participants receiving 50 to 80 euros, and six participants receiving 100 to 110 euros. The average payment for the winning 10% of participants was 64 euros.

Table 1. Payoff consequences in euros for the choices to steal and to revert

	L (80 endowment)				G (60 endowment)			
	1a: steal	1b: no steal	2a: revert	2b: no revert	1a: steal	1b: no steal	2a: revert	2b: no revert
myself	+40	−10	−20	−10	+40	+10	−20	+10
my victim	−40	−	−	−	−40	−	−	−
thief	−	−	−40	−	−	−	−	−40
thief's victim	−	−	+40	−	−	−	−	+40

Note: Choices and their consequences for incomes in treatments G and L. The actions of stealing and reverting need not always be effective. Your choice to steal can be reverted by someone else, with the consequence that your stolen amount is taken from you and given back to your victim. If no others' stealing can be reverted, then your choice of 2a is automatically changed to 2b.

The study followed a 2x2 experimental design with two treatment variables (two levels for each varied over individuals): (i) order as QC (first questionnaire then choice) or as CQ (first choice then questionnaire); (ii) decision frame as L (loss) or as G (gain) when not stealing and also when not reverting the stealing of others (though in both frames, stealing incurred a relative win and reverting stealing incurred a relative cost). Altogether, all 1451 students from Viadrina University interested in participating in experiments were invited via email to take part in the survey, with 370 replying and 352 answering the questionnaire fully, and were thus included in the following analysis. Sample averages were 63.6% female, 23.04 (SD 3.4) years old, and in the 4.21 (SD 2.2) semester, without implementing any sampling adjustments. Participants were randomly assigned to the different treatments by the implemented software (Social Science Survey from www.soscisurvey.de taking place from 3/14/2014 until 4/9/2014): with 84 valid cases for G and QC; 95 for L and QC; 79 for G and CQ; 94 for L and CQ.

[1] Participants were informed that these stealing and reverting stealing choices were randomly assigned. To revert the stealing of others means that the stolen amount would have been taken back from the person stealing and given to the person whom it was stolen from. If there were more reverting (2a) than stealing (1a) choices, the other option was automatically carried out. This meant that the cost for revert stealing was given back, thereby resulting as not reverting (2b).

3. Research results

Attitudinal differences are captured by a factor analysis of all the items concerning own experiences and expectations connected with power and responsibility. Then, the outcome of the choice tasks concerning the actions "steal," "revert," and possible combinations of these two are reported. Measured variations in attitudes toward power and responsibility are investigated in tandem with the treatments variables, reported beliefs, and demographic variables to interpret the observed differences in the moral behaviors captured by the choice tasks.

3.1. Attitudinal factors

The new attitudinal items were analyzed together with items from the existing scales in a principal component analysis, resulting in four factors with Eigenvalues above three (see *Figure 1*). After a varimax rotation, four main factors described distinct areas of individual variation concerning attitudes toward power, responsibility, and control.

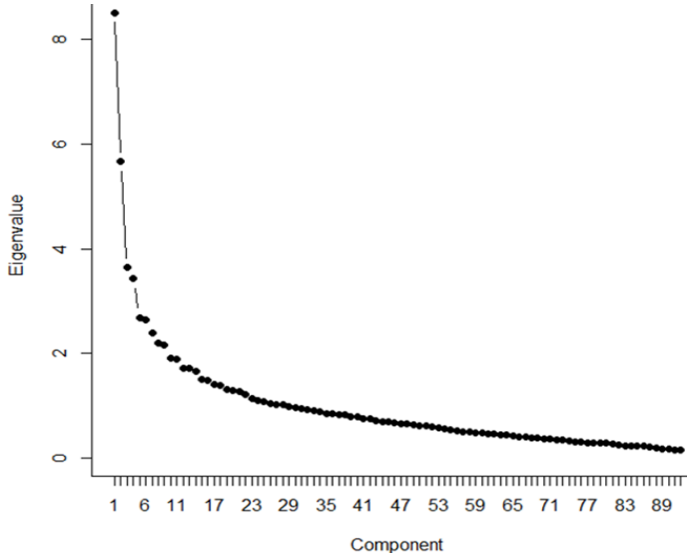

Figure 1. Scree plot of initial Eigenvalues

The first factor (F_1) labeled "private power," describes how important power is evaluated in personal relations (with the highest loading item "having power is important in life"). The second factor (F_2) is called "responsibility" and differentiates people according to how they evaluate being responsible (with the highest loading item "taking over responsibility is fun for me"). The third factor (F_3), "public power" stresses the importance of official power ("power is important in international relations"). The fourth isolated factor (F_4), labeled "powerlessness," distinguishes people by how strongly they see their life being determined by others, and is mainly described by Levenson's ICP-scale items ("my life is mainly controlled by influential others"). Jackson's affiliation/achievement scale items are less uniform, as they mostly describe the negative side of F_1 (private power), as well as partly account for F_2 (responsibility). All four derived factors describe the heterogeneity in attitudes toward power and each stands for one distinct area of variations captured in this behavioral domain. The rotated solution, with Eigenvalues and the highest loading items for these four derived power attitude factors, is provided in *Appendix B*.

3.2. Choice tasks

A purely egoistic player would always steal when stealing has a higher expected income than not stealing. This is strictly the case under L and also for G when assuming true expectations (i.e., given the observed frequency to revert in the experiment, the expected payoff for stealing is 11.28 euros, which is higher than the 10 euros for not stealing), although the individual beliefs to revert could differ. Due to its higher costs, revert stealing is never optimal. Therefore, egoistic players should (under the G frame: mostly) steal and should never revert stealing. This conclusion also holds for social utility models. Aggregate results in *Table 2* show, however, that only a quarter of the subjects showed the choice combination of "steal" and "no revert." Both moral acts, to steal but also to revert stealing of others, are frequent, and with one quarter of the participants picking this choice pattern.

Table 2. Combined absolute frequencies of stealing and revert stealing differentiated by the experimental treatments

	n	no steal & no revert	steal & no revert	no steal & revert	steal & revert
G with QC	84	45	17	14	8
L with QC	95	27	21	17	30
G with CQ	79	38	17	10	14
L with CQ	94	16	32	11	35
G	163	83	34	24	22
L	189	43	53	28	65
QC	179	72	38	31	38
CQ	173	54	49	21	49
all	352	126	87	52	87

Most of the players remained inactive and neither stole nor reverted the stealing of others. If inaction is costly (L) versus beneficial (G), then there are, according to a two-sided Fisher test, significantly more choices to steal (62.4% versus 34.4%, $p<0.001$) and to revert (49.2% versus 28.2%, $p<0.001$). If decisions are elicited after the answering of the questionnaire (QC), then stealing is significantly reduced (−14 percentage points compared with CQ, $p=0.008$), but the choice to revert stealing remains mostly unaffected (−2 percentage points). Concerning the beliefs about the choices of other participants', the actual percentage of stealing (48.4%) is lower than average beliefs in stealing (63.9%). The actual percentage of the choice to revert stealing is only slightly lower (39.8%) than its average belief (44.8%). Attitudes towards power might further explain the observed heterogeneity in choice behavior, besides these effects regarding the choice frame, the order of the items, and the reported beliefs.

3.3. Behavioral relations

The four derived factors (capturing individual differences in attitudes toward power, responsibility, and control) are tested in separate regressions for their differentiating value with regards to the investigated moral behaviors. The logit regression results for stealing and revert stealing are provided in *Table 3*.

Table 3. Logit regression for the choices of stealing and revert stealing

	steal	revert
(intercept)	−0.024	−0.447***
F_1 (private power)	0.564***	0.067
F_2 (responsibility)	0.013	−0.032
F_3 (public power)	0.238	0.393**
F_4 (powerlessness)	0.253*	0.264*

* *<0.05,* ** *<0.01,* *** *<0.001*

F_1 is most influential for the resulting behavior and here especially for the choice to steal. Furthermore, F_4 has a weak influence on stealing. F_3 shows an influence on the choice to revert stealing, where, again, also F_4 has a weak influence. Surprisingly, F_2 does not show any significant relation to the investigated moral behaviors. Summing-up, attitudinal differences captured by F_1 best predict stealing behavior and F_3 best relates to the moral behavior of reverting the stealing of others, while F_4 has a weak influence on both own stealing and reverting the stealing of others. The latter does not crystallize when solely considering the combined choices of stealing and revert stealing, which is given with *Table 4* together with additional expansions.

Table 4. Logit regression for the choices of stealing and revert stealing

	steal	revert	steal & revert
(intercept)	−5.478***	−2.274	−6.038***
frame	0.881**	0.625*	0.824**
order	0.686*	−0.046	0.357
F_1 (private power)	0.651***	0.070	0.324
F_2 (responsibility)	−0.054	0.001	−0.206
F_3 (public power)	0.207	0.351*	0.362*
F_4 (powerlessness)	0.330*	0.205	0.256
sex (male)	0.266	−0.223	−0.092
age	-0.020	−0.009	0.005
semester	-0.016	−0.050	−0.012
economist	0.695*	−0.395	0.249
law student	0.497	−0.078	0.531
local	0.094	−0.051	0.123
german	0.571	−0.268	−0.403
income	0.001	0.001	0.001
power of stealing	−0.096	−0.098	−0.043
power of reverting	−0.061	0.024	−0.065
percentage stealing	0.042***	0.015*	0.030***
percentage reverting	0.002	0.021***	0.018**

Note: Isolated influences on the choice to steal, revert stealing, and both occurring together. The frame with L=1 (G=0), the order with CQ=1 (QC=0), and demographics includes binary variables for subject of study ("economics," "law") and for living close to campus ("local"). The associated power with the choices ("power of stealing," "power of reverting") are their answers on a scale from one to five. The individual belief of others' choices are described by the "percentage of stealing," and "percentage of reverting" as expectations from 1 to 100. Significance as indicated: * <0.05, ** <0.01, *** <0.001

The stability between the derived factors and the moral choices is confirmed in the expanded regression analysis, under the inclusion of the demographic questions, the treatment variables choice frame and order, and the reported power associated with stealing/reverting as well as their expected frequencies in the regression analysis. The reported power associated with the two choices (stealing and reverting) does not have an influence on the resulting behavior, but it strongly matters what you believe others will do. People who steal themselves

expect others to steal more and people who revert stealing expect others to revert more often (while also expecting more acts of stealing. The order CQ (compared to QC) still has a (only weakly in this case) significant influence on the choice to steal, as less stealing is observed when the choices are made after the attitudinal questionnaire, but the order treatment has no significant effect on the choice to revert stealing or not. The choice frame L (compared to G) still has a strongly significant positive effect on stealing, weakly significant influence on revert stealing, and strongly significant in influencing the combined choice of these two. These and the results reported in Table 3 do not change if a probit regression is applied, rather than a logit regression.

The only additional strong effect to the treatment and the factor effects in the expanded regression is that the beliefs about the average behavior of the others have a strong effect on one's own behavior. People who steal expect others to do so and people who revert stealing expect others to revert as well. Weakly significant is one demographic variable in our student sample, that of economics students being more prone to stealing when compared to students of cultural studies.

3.4. Social action values

The observed behavior violates models of social preferences and can better be explained by differing values with regards to moral activities. An egoistic and fully rational player would always steal and never revert. The experimental results, however, show only a quarter of the participants with such a decision pattern. As a first approach, let us assume a utility function $U_i(x_i, x_j, x_h, x_k)$ with incomes x_i, x_j, x_h, x_k. Subject $\boldsymbol{i}$ considers whether to steal from an anonymous victim $\boldsymbol{j}$ and considers reverting the stealing of the anonymous thief h from an anonymous victim k.

Altruistic utility functions usually follow the restriction "do not love thy neighbor more than yourself," (otherwise two individuals might want to transfer their income to each other infinitely) formally as

$$\partial U_i/\partial x_i \geq \partial U_i/\partial x_m \; for \; m = j, h, k \tag{1}$$

With this restriction, altruism can neither explain a dictator's giving with a transfer rate above one, nor can it explain the 37.6% "no steal" decisions in our experimental treatment L.

Inequity aversion, as proposed by (Fehr & Schmidt 1999), circumvents "the problem of mutual altruism" by assuming that the rich are altruistic while the poor are envious.

$$\begin{aligned} U_i(x_i, x_j, x_h, x_k) = \; & x_i - \frac{\alpha_i}{3}(max[0, x_j - x_i] + max[0, x_h - x_i] + max[0, x_k - \\ & x_i]) \; - \frac{\beta_i}{3}(max[0, x_i - x_j] + max[0, x_i - x_h] + max[0, x_i - x_k]) \end{aligned} \tag{2}$$

with parameter restrictions $0 \leq \beta_i \leq \alpha_i$ and $\beta_i \leq 1$. As an illustration for the experimental case, assume that i is in L, has decided to "revert," and the reversion is effective. When i reverts stealing and does not steal himself, he has a lower expected income than h; therefore when compared with h, and under the assumption that stealing is effective, i reduces inequality by stealing. Therefore, by switching from "no steal" to "steal," i's expected income increases by $10 + 40$ under a smaller maximal utility loss of $\beta_i/3 \times (2 \times 10 + 3 \times 40)$. We arrive at the same consequences, when assuming probabilities for the effectiveness of stealing and revert stealing as observed in the study. This can explain the seemingly surprising choice combination of stealing and reverting the stealing of others. However, it cannot explain why subjects combine not stealing with reverting in L, and in QC 18% and in CQ 12% of the

participants chose this combination. Therefore, many participants cannot have applied social utility functions (1) or (2).

The rules "do not steal" (no steal) and "prevent others from stealing" (revert) can be described in the form of moral action values as

$$U_i(x_i) = x_i + s_i y_i + r_i z_i \tag{3}$$

with x_i income of i, y_i the quantity stolen, and z_i the quantity of stealing prevented. We assume that these quantities designate attempted (and not effective) stealing and reverting. s_i and r_i determining the direction and the strength of the rule. We assume that s_i and r_i vary according to a two-dimensional normal distribution, and show that "moral action values" are consistent with the data. The parameter estimates imply that almost all s_i are negative and almost all r_i are positive, but surprisingly with s_i and r_i being positively correlated. In G, the utility for not stealing is $v_i + 10$ and is $v_i + 40 + s_i \times 40$ for stealing. v_i is the same on both sides of the equation as determined by i's initial endowment, by i's decision to revert or not, and by i being a victim of stealing or not. Thus, i will steal if $s_i > -0.75$. With the same rationale, i decides to revert in G if r_i is larger than 0.75 (derived from $v_i - 20 + r_i \times 40 > v_i + 10$). The consequence of treatment L with $v_1 - 10$ for not stealing as well as not reverting results in boundaries for the moral action values $s_i > -1.25$ and $r_i > 0.25$. A chi-square test evaluates whether the frequency structure of decision combinations in *Table 2* can be explained if s_i and r_i are taken from a two dimensional normal distribution with five parameters: (μ_s, μ_r) denote the means, (σ_s, σ_r) the standard deviations, and ρ the correlation coefficient of (s_i, r_i). The resulting parameter estimates minimize the chi-square test statistics, which is estimated jointly for the treatments L and G, but separately for the orders CQ and QC (see *Table 5*). The model with different means for the two orders fits the data well and implies that presenting the questionnaire prior to the decisions added about 0.25 to moral action value s_i.

Table 5. Estimated moral action value parameters

data	μ_s^{QC}	μ_s^{CQ}	μ_r	σ_s	σ_r	ρ	χ^2
QC	−1.175		0.239	0.806	0.807	0.246	0.449 (df=1)
	(0.064)		(0.075)	(0.177)	(0.180)	(0.084)	*p=0.503*
CQ		−0.915	0.223	0.604	1.027	0.282	1.000 (df=1)
		(0.045)	(0.099)	(0.102)	(0.293)	(0.083)	*p=0.317*
all (5 parameters)	−1.200		−0.140	0.742	1.106	0.559	59.316 (df=7)
	(0.048)		(0.160)	(0.116)	(0.267)	(0.053)	$p < 0.0001$
all (6 parameters)	−1.151	−0.899	0.230	0.698	0.901	0.262	2.536 (df=6)
	(0.050)	(0.051)	(0.060)	(0.095)	(0.159)	(0.059)	$p = 0.864$

Note: Model parameter estimates (with standard errors in brackets) for a two-dimensional normal distribution of s and r. The model for the complete data set (all) are in two variants, one with $\mu_s^{QC} = \mu_s^{CQ}$ and one without this restriction.

Summing-up, the experimental results are compatible with a social utility function, with moral values for the actions "stealing" and "preventing stealing." This adds evidence to the empirical version of rule utilitarianism. However, that does not mean that consequences do not matter. A more general model would need to combine the moral action values with individual expectations, and in particular, how the environment forms behavioral rules and shapes their application.

Discussion and conclusion

Often, a clear distinction between behaving morally and otherwise is not given. Legal or religious authorities allow exemptions because of undesired consequences when strictly sticking to specific rules. In extraordinary situations, like for example stealing to avoid starvation, societies or individual authorities can tolerate the breaking of the rule. Therefore, when the interest of the entity (i.e., society) is not in line with the personal interests of the people in power, the behavioral result is hard to predict, because it is most likely a compromise between these two opposing interests.

This study investigates opposing behaviors in a choice task, and combines this with an attitudinal survey. The observed choices of anti-social and social behavior are difficult to explain by social preferences over income distributions, but can be better understood as inter-individual variations in attitudes toward power. People who value power in private relations (highly scoring on F_1) tend to have a tendency to exploit their power for their own advantage (by stealing), but not in order to counteract stealing. This is not self-explanatory, because valuing private power does not necessarily relate to stealing. Reported powerlessness (F_4) weakly links to the acts of stealing as well as reverting the stealing of others ─ possibly in order to bolster against anticipated helplessness. Responsibility (F_2) has a stronger moral connotation (against stealing and for reverting stealing), but seems to only marginally affect behavior. The most strongly connected factor to the tendency to revert stealing is the individual rating of power in public relations (F_3). People who see the value of power in the public domain are more likely to take over responsibility by reverting the stealing of others, but sometimes combine this choice with the choice to steal for themselves. Both experimental treatment variables (decision frame and order) influence the choices in the expected directions. The only expected relation that is not significant is between the order and the choice to revert. A weak relation could exist between economic education and stealing, but the strongest influence on the observed moral behaviors do have the individual beliefs about what the others will do ─ together with a need for conformity. The valuation of (anti-)social actions could strongly depend on (the belief about) observing others, which might provide further clues for the formation of a choice in a social domain with high uncertainty. If specific behaviors (without sanctioning) are observed, the positive valuation of these actions could increase and might quickly spread within the population. Varying moral standards appear to be common, which also differently link to actual social behaviors (compare for example Otto & Bolle, 2011), but often, as also the results here show, the "social" conduct of inactive bystanders was found to be the most common behavior. More generally, this concerns the ongoing broader ethical debate on social consistency versus moral licensing (see Jones, 1973, Merritt, 2010, Gneezy, 2014, Mullen, 2016). Here the individual need for moral cognition appears prevalent and therefore not only situational components influence the observed social behaviors (Vanaman 2019).

In our experimental investigation of stealing and revert stealing of others, attitudes toward power and beliefs about other people's behavior help to explain the observed variety in moral choices. With research on lying/keeping promises, it is accepted that values are attached to actions instead of consequences. The result that a preceding questionnaire about power and responsibility increases the negative value of stealing supports such a kind of moral action value approach. Stealing becomes less frequent after having answered questions concerning power and responsibility, while reverting stealing does not change. The attitudinal questions could serve as a coercive reminder of the social requirement of using one's power responsibly. People do not only differ in their degree of morality, but there seems to be a tendency to simply follow the crowd in novel choice situations, although the actual choices in the population can be obscure. An opposite rationale would be that false beliefs about

population averages result from the avoidance of cognitive dissonances, similar to the influences discussed under false consensus effects (i.e., Gilovich, 1990). That people can be more morally demanding with respect to others' actions and less so with respect to their own, have been documented as self-serving or other-regarding biases (i.e., Babcock & Loewenstein, 1997, Barkan, 2012, Otto & Bolle, 2015, Shalvi, 2015). Here another source of heterogeneity is provided, and this is based not only on beliefs, but on a systematic investigation of attitudinal differences toward the influences of power. People appear to strongly differ in regard with power being either *executed individually or socially*. These attitudinal differences can strongly influence our moral behaviors independent of the social preferences that we have. This alternative explanation for social behavior seems to be mainly prevalent in strongly moral domains and its importance needs to be settled in a broader realm of social behaviors.

Acknowledgement

The financial support by the German Science Foundation (DFG#BO747/12) is highly acknowledged.

References

Andreoni, J. (1990). Impure altruism and donations to public goods: a theory of warm-glow giving. *Economic Journal, 100*(401), 464–477.

Ayal, S., Gino, F., Barkan, R., & Ariely, D. (2015). Three principles to revise people's unethical behavior. *Perspectives on Psychological Science, 10*(6), 738–741.

Babcock, L. & Loewenstein, G. (1997). Explaining bargaining impasse: The role of self-serving biases. *The Journal of Economic Perspectives, 11*(1), 109–126.

Barkan, R., Ayal, S., Gino, F., & Ariely, D. (2012). The pot calling the kettle black: distancing response to ethical dissonance. *Journal of Experimental Psychology: General, 141*(4), 757–773.

Belot, M. & Schröder, M. (2013). Sloppy work, lies and theft: A novel experimental design to study counterproductive behaviour. *Journal of Economic Behavior & Organization, 93*, 233–238.

Bolle, F., Braham, M., & Steland, A. (1999). Differences in honesty in Europe? Remarks on 'measurment without theory.' *Homo Oeconomicus 16*(2), 205–218.

Bolle, F. & Otto P. E. (2010). A price is a signal: on intrinsic motivation, crowding-out and crowding-in. *Kyklos 63*(1), 9–22.

Bolle, F., Tan, J. H., & Zizzo, D. J. (2014). Vendettas. *American Economic Journal: Microeconomics, 6*(2), 93–130.

Charness, G. & Dufwenberg, M. (2010). Bare promises: An experiment. *Economics Letters, 107*(2), 281–283.

Elster, J. (1989). *The cement of society: A survey of social order.* Cambridge University Press.

Engel, C. (2018). Experimental criminal law: a survey of contributions from law, economics, and criminology. In: *Empirical Legal Research in Action*. (Eds: W. v. Boom, PT Desmet and P. Mascini). Edward Elgar Publishing.

Engel, C. & Nagin, D. (2015). Who is afraid of the stick? Experimentally testing the deterrent effect of sanction certainty. *Review of Behavioral Economics, 2*(4), 405–434.

Farrington, D. P. & Knight, B. J. (1979). Two non-reactive field experiments on stealing from a 'lost'letter. *British Journal of Social and Clinical Psychology, 18*(3), 277–284.

Fehr, E. & Schmidt, K. M. (1999). A theory of fairness, competition, and cooperation. *Quarterly Journal of Economics, 114*(3), 817–868.

Gilovich, T. (1990). Differential construal and the false consensus effect. *Journal of Personality and Social Psychology, 59*(4), 623–634.

Gneezy, U. (2005). Deception: The role of consequences. *American Economic Review, 95*(1), 384–394.

Gneezy, U., Imas, A., & Madarász, K. (2014). Conscience accounting: Emotion dynamics and social behavior. *Management Science, 60*(11), 2645–2658.

Gneezy, U. & Rustichini, A., 2000. Pay enough or don't pay at all. *Quarterly Journal of Economics, 115*(3), 791–810.

Gravert, C. (2013). How luck and performance affect stealing. *Journal of Economic Behavior & Organization, 93*, 301–304.

Grolleau, G., Kocher, M. G., & Sutan, A. (2016). Cheating and loss aversion: Do people cheat more to avoid a loss? *Management Science, 62*(12), 3428–3438.

Hermann, D. & Mußhoff, O. (2019). I might be a liar, but I am not a thief: An experimental distinction between the moral costs of lying and stealing. *Journal of Economic Behavior & Organization, 163*, 135–139.

Jackson, D. (1967). *PRF scoring manual.* Research Psychologists Press.

Jones, S. C. (1973). Self- and interpersonal evaluations: esteem theories versus consistency theories. *Psychological Bulletin, 79*(3), 185–199.

Jordan, J., Mullen, E., & Murnighan, J. K. (2011). Striving for the moral self: The effects of recalling past moral actions on future moral behavior. *Personality and Social Psychology Bulletin, 37*(5), 701–713.

Kimbrough, E. O. & Vostroknutov, A. (2016). Norms make preferences social. *Journal of the European Economic Association, 14*(3), 608–638.

Koopmans, R. & Veit, S. (2014). Cooperation in ethnically diverse neighborhoods: A lost-letter experiment. *Political Psychology, 35*(3), 379–400.

Krupka, E. L. & Weber, R. A. (2013). Identifying social norms using coordination games: Why does dictator game sharing vary?. *Journal of the European Economic Association, 11*(3), 495–524.

Levenson, H. (1973). Multidimensional locus of control in psychiatric patients. *Journal of Consulting and Clinical Psychology, 41*(3), 397–404.

López-Pérez, R. (2008). Aversion to norm-breaking: A model. *Games and Economic Behavior, 64*(1), 237–267.

Mazar, N., Amir, O., & Ariely, D. (2008). The dishonesty of honest people: A theory of self-concept maintenance. *Journal of Marketing Research, 45*(6), 633–644.

Merritt, A. C., Effron, D. A., & Monin, B. (2010). Moral self-licensing: When being good frees us to be bad. *Social and Personality Psychology Compass, 4*(5), 344–357.

Milgram, S., Mann, L., & Harter, S. (1965). The lost-letter technique: A tool of social research. *Public Opinion Quarterly, 29*(3), 437–438.

Mullen, E. & Monin, B. (2016). Consistency versus licensing effects of past moral behavior. *Annual Review of Psychology, 67*, 363–385.

Otto, P. E. & Bolle, F. (2011). Multiple facets of altruism and their influence on blood donation. *The Journal of Socio-Economics, 40*(5), 558–563.

Otto, P. E. & Bolle, F. (2015). Exploiting one's power with a guilty conscience: An experimental investigation of self-serving biases. *Journal of Economic Psychology, 51*, 79–89.

Pecenka, C. J., & Kundhlande, G. (2013). Theft in South Africa: An experiment to examine the influence of racial identity and inequality. *The Journal of Development Studies, 49*(5), 737–753.

Sachdeva, S., Iliev, R., & Medin, D. L. (2009). Sinning saints and saintly sinners: The paradox of moral self-regulation. *Psychological Science, 20*(4), 523–528.

Schildberg-Hörisch, H. & Strassmair, C. (2012). An experimental test of the deterrence hypothesis. *Journal of Law, Economics, and Organization, 28*(3), 447–459.

Shalvi, S., Gino, F., Barkan, R., & Ayal, S. (2015). Self-serving justifications: Doing wrong and feeling moral. *Current Directions in Psychological Science, 24*(2), 125–130.

Vanaman, M., Leggett, M.-P., Crysel, L., & Askew, R. (2019). A novel measure of the need for moral cognition. *Basic and Applied Social Psychology, 41*(1), 20–33.

Vanberg, C. (2008). Why do people keep their promises? An experimental test of two explanations. *Econometrica, 76*(6), 1467–1480.

Zizzo, D. J. (2004). Inequality and procedural fairness in a money burning and stealing experiment. *Research on Economic Inequality, 11*, 215–247.

Appendices

Appendix A: Experimental Survey

The experimental survey is shown below as per the translated English version for order QC and decision frame L.

Power Questionnaire

Page 01

Thank you very much for your willingness to take part in this investigation concerning power and responsibility. The answering of the questions will take you about 15 minutes. Please only click the "continue" button when you are sure that you answered all questions correctly. Turning back to an earlier page is not possible. Your answers will only be transferred after everything is completed. Please also take into account that the questionnaire can only be answered once because if several versions exist they will all become invalid and you will not take part in the prize draw.
The prize will be determined randomly, whereby every tenth participant will be chosen. This person receives, depending on his/her own answers and the answers of the other participants up to €80. The winners will be anonymously informed by their chosen pseudonym in an e-mail to everyone.

Have fun!

Page 02

Please evaluate the following sentences on a scale from 1 to 5

(1 = "is not the case at all"; 5 = "is fully the case")

- Power is mainly used to do good to others
- I use my powers only reasonably
- Power is important in life
- Power is mainly used to treat others badly
- Power is mainly used to influence the decisions of others
- Powerful is someone who does not misuse his/her power
- Threatening to use one's power is important
- The usage of power is important to support one's own position
- Power is mainly used to give orders to others
- Powerful people are more satisfied
- The usage of power serves the feeling of confirmation
- Power is most important at the tipping point
- Power is used to defend one's reputation
- I have had a guilty consciousness when I have used my powers
- Power is mainly used to influence the thoughts of others
- Power increases your prestige

Page 03

Please evaluate the following sentences on a scale from 1 to 5

(1 = "is not true at all"; 5 = "is fully the case")

- The main foundation of power is insider-knowledge
- The main foundation of power is specific knowledge
- The main foundation of power is bodily strength
- The main foundation of power is a military position
- The main foundation of power is charisma
- The main foundation of power is intelligence
- The main foundation of power is prestige
- The main foundation of power is private information about others
- The main foundation of power is public position
- The main foundation of power is financial richness
- The main foundation of power is general knowledge
- The main foundation of power is a political position

Page 04

Please evaluate the following sentences on a scale from 1 to 5

(1 = "is not true at all"; 5 = "is fully the case")

- Power is important among friends
- Power is important in sports
- Power is important in leisure time
- Power is important in a legal case
- Power is important in negotiations
- Power is important among colleagues
- Power is important in the profession
- Power is important in politics
- Power is important in international relations
- Power is important in the family
- Power is important in company relations

Page 05

Please evaluate the following sentences on a scale from 1 to 5

(1 = "is not true at all"; 5 = "is fully the case")

- Power comes with responsibilities
- Power always means taking over responsibilities
- Powerful positions are always unjust
- I would rather transfer responsibilities to others
- I like taking over responsibilities in a partnership
- There are no objections towards the usage of power serving one's own advantages - as long it is legal
- Taking over responsibilities is fun
- I understand if someone uses power to serve his/her own advantage
- Power is corrupting
- I feel responsible for others
- Powerful positions are necessary in every society
- Only I am responsible for myself
- I like taking over responsibilities for the family
- I take care of my relatives

Page 06

Please evaluate the following sentences on a scale from 1 to 5

(1 = "is not true at all"; 5 = "is fully the case")

- Power increases your prestige
- I use my powers only reasonably
- My father has power
- My professor has power
- Threatening to use one's power is important
- I have power in my social relations
- Powerful people are more satisfied
- The usage of power is important to support one's own position
- I have had a guilty consciousness when I have used my powers
- My mother has power
- My best friend is more powerful than I am
- Powerful is someone who does not misuse his/her power
- Power is important in life
- I have power in the partnership

Page 07

Please do add motives, areas, statements that are important in relation to power, but which have not been named:

Page 08

Now you decide!

The answers to the next two questions determine your payment, although from all students taking part in this study only **every tenth person will be randomly selected for the actual payment**. In the beginning everyone receives €80.

Please decide between (**1a**) and (**1b**):

- A randomly selected participant will have taken away €40 which you credit (**1a**)
- You lose €10 from your account (**1b**)

Please decide between (**2a**) and (**2b**):

- You give €20 so that the (**1a**) decision of another participant will be reverted (**2a**)

(Randomly one of the (**1a**) decisions will be reverted so that these two participants again receive the €80 they have started with. If there are more (**2a**) than (**1a**) decisions than chance decides which one is taken and therefore has to be paid. For the not used (**2a**) decisions automatically (**2b**) applies.)

- You lose €10 from your account (**2b)**

Page 09

Please evaluate the following sentences on a scale from 1 to 5

(1 = "very low"; 5 = "very high")

- How strong do you evaluate the power which is provided with decision 1
- How strong do you evaluate the power which is provided with decision 2

Finally, please answer the following questions:

- How high is the proportion of 1a answers (in percent)?
- How high is the proportion of 2a answers (in percent)?
- Your age
- Your sex
- Your income
- Your semester
- Your area of studies (economics, law, cultural sciences, other…)
- Your nationality (German, Polish, other…)
- Your city of residence (Frankfurt/Oder, Berlin, other…)

Page 10

Please evaluate the following sentences on a scale from 1 to 5

(1 = "is not true at all"; 5 = "is fully the case")

- When I get what I want, it's usually because I am lucky
- Whether or not I get into a car accident is mostly a matter of luck
- My life is determined by my own actions
- My life is chiefly controlled by powerful others
- It's chiefly a matter of fate whether or not I have few friends or many friends
- People like myself have very little chance of protecting our personal interests when they conflict with those of strong pressure groups
- Whether or not I get to be a leader depends mostly on my ability
- Often there is no chance of protecting my personal interests from bad luck happening
- Whether or not I get in to a car accident depends mostly on how good of a driver I am
- When I get what I want, it is usually because I worked hard for it
- I am usually able to protect my personal interests
- I have often found that what is going to happen will happen
- I feel like what happens in my life is mostly determined by powerful people
- To a great extent my life is controlled by accidental happenings
- It's not always wise for me to plan too far ahead because many things turn out to be a matter of good or bad fortune
- Getting what I want requires pleasing those people above me
- In order to have my plans work, I make sure that they fit in with the desires of people who have power over me
- Although I might have good ability, I will not be given leadership responsibility without appealing to those positions of power
- How many friends I have depends on how nice a person I am
- When I make plans, I am almost certain to make them work
- If important people were to decide they didn't like me, I probably wouldn't make many friends
- Whether or not I get to be leader depends on whether I am lucky enough to be in the right place at the right time
- Whether or not I get in a car accident depends mostly on the other driver
- I can pretty much determine what will happen in my life

Page 11

Please evaluate the following sentences on a scale from 1 to 5

(1 = "is not true at all"; 5 = "is fully the case")

- I make detailed plans to be more productive
- I set reasonable goals and do my best to achieve them
- I enjoy meeting with others
- I have my own opinion and behave accordingly
- I am happy to spend time for others
- I need love and attention
- I try to predict situations as accurately as possible
- Personal success and recognition are important for me
- I like and frequently do give others advice

Page 12

Please do provide the following information that we can contact you in the case you have won the random drawing. It's important that you remember your pseudonym and password, otherwise it will not be possible to collect your prize.
The pseudonyms of the winners will be announced via e-mail and on the ViaLab homepage (www.wiwi.europa-uni.de/ViaLab) – with place and times for collecting.
Once you click the "continue" button your data will be transferred.
Pseudonym:
Password:

Last Page

Thank you very much for taking part!

We would like to thank you very much for your support. Your answers have been saved and you can close this window now

***Via*Lab**

.

Appendix B: Factor Solution

The four derived attitudinal factors after a varimax rotation, where the seventeen highest positively and the three highest negatively loading items, are shown for each factor. Items from the IPC-scale Levenson (1973) are in italics and items from the need for affiliation-achievement scale Jackson (1967) are in a bold font.

	F1: **"Private Power"** Eigenvalue=6.3
0.70	Power is important in life
0.62	Power is important among friends
0.62	The usage of power is important to support one's own position
0.54	Power is important among colleagues
0.53	Power is important in leisure time
0.52	Threatening to use one's power is important
0.50	Power is important in the profession
0.49	Power is important in the family
0.48	Powerful people are more satisfied
0.47	I have power in my social relations
0.42	Power increases your prestige
0.41	Power is important in negotiations
0.41	Power is important in company relations
0.41	Powerful positions are necessary in every society
0.40	I understand if someone uses power to serve his/her own advantage
0.39	There are no objections toward the usage of power serving one's own advantages - as long it is legal
0.36	I use my powers only reasonably
-0.21	**I need love and attention**
-0.26	Powerful is someone who does not misuse his/her power
-0.30	**I am happy to spend time for others**

	F2: **"Responsibility"** Eigenvalue=5.7
0.65	Taking over responsibilities is fun
0.52	I like taking over responsibilities for the family
0.50	I take care of my relatives
0.43	I like taking over responsibilities in a partnership
0.43	**I am happy to spend time for others**
0.43	**I set reasonable goals and do my best to achieve them**
0.41	**Personal success and recognition are important for me**
0.40	*When I make plans, I am almost certain to make them work*
0.40	**I like and frequently do give others advice**
0.40	**I make detailed plans to be more productive**
0.38	*When I get what I want, it is usually because I worked hard for it*
0.37	I feel responsible for others
0.37	Power always means taking over responsibilities
0.37	**I have my own opinion and behave accordingly**
0.36	*My life is determined by my own actions*
0.35	Power comes with responsibilities
0.35	**I enjoy meeting with others**
-0.16	Power is mainly used to treat others badly
-0.18	Power is important among friends
-0.38	I would rather transfer responsibilities to others

	F3: **"Public Power"** Eigenvalue=5.7
0.56	Power is important in international relations
0.51	Power is important in politics
0.49	The main foundation of power is financial richness
0.44	Power is important in negotiations
0.44	Power is important in company relations
0.43	The main foundation of power is a political position
0.41	The main foundation of power is a military position
0.41	Power is important in the profession
0.40	Power is mainly used to influence the decisions of others
0.40	The main foundation of power is private information about others
0.36	The main foundation of power is insider-knowledge
0.35	The main foundation of power is public position
0.35	The main foundation of power is prestige
0.34	Power increases your prestige
0.33	The usage of power is important to support one's own position
0.32	Power is mainly used to influence the thoughts of others
0.30	Power is mainly used to give orders to others
-0.13	Power is important in leisure time
-0.13	Power is important in the family
-0.17	Power is important among friends

	F4: **"Powerlessness"** Eigenvalue=3.1
0.49	*My life is chiefly controlled by powerful others*
0.46	*I feel like what happens in my life is mostly determined by powerful people*
0.45	*Often there is no chance of protecting my personal interests from bad luck happening*
0.42	*People like myself have very little chance of protecting our personal interests when they conflict with those of strong pressure groups*
0.41	*When I get what I want, it's usually because I am lucky*
0.39	*Although I might have good ability, I will not be given leadership responsibility without appealing to those positions of power*
0.38	*If important people were to decide they didn't like me, I probably wouldn't make many friends*
0.37	Powerful positions are always unjust
0.37	*It's not always wise for me to plan too far ahead because many things turn out to be a matter of good or bad fortune*
0.36	*To a great extent my life is controlled by accidental happenings*
0.32	*Whether or not I get to be leader depends on whether I am lucky enough to be in the right place at the right time*
0.31	*It's chiefly a matter of fate whether or not I have few friends or many friends*
0.31	*Whether or not I get into a car accident is mostly a matter of luck*
0.30	*Whether or not I get in a car accident depends mostly on the other driver*
0.29	*In order to have my plans work, I make sure that they fit in with the desires of people who have power over me*
0.25	Power is mainly used to treat others badly
0.25	The main foundation of power bodily strength
-0.24	*My life is determined by my own actions*
-0.24	*Whether or not I get to be a leader depends mostly on my ability*
-0.40	*I can pretty much determine what will happen in my life*