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Social class and (un)ethical behavior: Causal versus correlational evidence

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Abstract

Are upper class individuals less ethical? Highly popularized research findings support this notion. This paper provides a novel test to evaluate the relationship between social status and ethical behavior. We successfully prime a large heterogeneous sample of the German population as either high or low social status. We then elicit ethical behavior in an incentivized experimental task. Thus, our data allows us to study both correlation (using demographic data) and causality (using the priming). Our study does not support the claim that higher social status individuals are less ethical, as prominently suggested by the literature. This result holds both for a respondent's true social status and for her primed subjective social status. Our findings call for a re-interpretation of the existing evidence.

KEYWORDS: cheating, ethics, mind game, priming, social class.

JEL CLASSIFICATIONS: D63, D31.

1. Introduction

In March 2019, a college admission scandal in the U.S. revealed extremes of unethical behavior by wealthy Americans, including numerous prominent CEOs, entrepreneurs, investors and celebrities. Desperate about getting their children into a top-drawer college, they paid millions in bribes for admission.[1] At the same time, the U.S. is suffering from substantial wealth inequality and soaring fortunes of the rich and wealthy, amongst others, due to tax cuts disproportionally benefiting the most affluent Americans.[2] It should not come as a surprise that recent scandals and the growing gap between the rich and poor is fueling public opinion in America. For example, a study by the PEW Research Center found that many Americans believe the rich and upper-class individuals to be different from other people. They are viewed as more unethical, greedier and less honest.[3] Similar views are observed in other countries.[4]

In the context of such events uncovering questionable behavior by members of the elite, the relationship between social class and unethical behavior has received much public and scholarly attention by economists, sociologists and psychologists (e.g., Miller, 2012; Mane, 2014; Smeets et al., 2015; Andreoni et al., 2017; Piff and Robinson, 2017; Manstead, 2018).[5] Scientific support for unethical behavior of the elites has strong political ramifications. It implies, for example, that societies may want to more actively counteract and punish unethical behavior by the elites, as well as respond to the resulting misallocation of benefits and resources, for instance, in terms of wealth, access to education, or access to health services. But do the stereotypes about members of the upper class reflect actual behavior?

A surprising difference between causal studies on the one hand and correlational studies on the other hand has emerged in the context of the relationship between status and ethical behavior. While studies using a priming technique to establish causality have typically reported that individuals from higher social class are less ethical than individuals from lower social class (Piff et al., 2010; Piff et al., 2012; Guinote et al., 2014; Dubois et al., 2015; Côté et al., 2015), correlational studies using objective status indicators–such as income, wealth or education–have typically reported that individuals from higher

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[1] Richard Reeves, 2019. Financial Times, March 15. Retrieved September 19, 2019, from:
https://www.ft.com/content/c1c63430-4678-11e9-b83b-0c525dad548f
[2] Lydia DePillis, 2019. CNN, April 15. Retrieved September 19, 2019, from:
https://edition.cnn.com/2019/04/15/economy/trump-tax-cuts-impact-economy/index.html
[3] Pew Research Center, 2012. Retrieved September 19, 2019, from: https://www.pewsocialtrends.org/2012/08/27/yes-the-rich-are-different/
[4] FAZ, 2019. Retrieved September 20, 2019. https://www.faz.net/aktuell/wirtschaft/arm-und-reich/jeder-zweite-deutsche-haelt-reiche-fuer-ruecksichtslos-und-gierig-16043224.html
[5] The work by Pfiff et al. (2012) has been extremely influential, receiving over 700 citations and at the same time attracting attention from popular news outlets including The Washington Post, The World Economic Forum and BBC news.

social class are equally or more ethical than individuals from lower social class (Trautmann et al., 2013; Korndörfer et al., 2015; Smeets et al., 2015; Minah et al., 2018; Schmukle et al., 2019). Importantly, both results can simultaneously be valid. It is conceivable that societal mechanisms work in a way that more ethical individuals are selected into higher status positions, but, when moving up the social ladder, give up their ethical standards to some degree. Unfortunately, controlled priming experiments are difficult to implement on large representative panels with substantial variation in status indicators. As a result, no study has been so far able to simultaneously look at primed and real status effects. We provide such evidence by implementing an experimental priming on a large and heterogeneous survey panel sampling the German population.

The first part of this survey experiment requires the exogenous manipulation of perceived social identity. To do so, we use a priming technique in line with recent approaches in economics (Benjamin et al., 2010; Afridi et al., 2015; Cohn et al., 2015; Benjamin et al., 2016; Cohn et al., 2017).[6] Participants are randomly allocated to a high or a low status priming condition, using an established priming manipulation for social class (Piff et al., 2010). Additionally, rich background information on participants is available that allows for an assessment of their real social status (we focus on income as a status indicator). Another novelty of our experimental survey is that the large number of participants, especially compared to previous priming studies, ensures substantial statistical power and the opportunity to identify economically meaningful effects. Sufficient statistical power is especially important given the problematic interpretation of potentially failed priming attempts: it is then unclear whether the effect was not detected, whether the effect is absent, or whether the priming did not succeed in shifting individuals' self-perception of their social status.

Next, we take a novel approach to study unethical behavior using a variant of the mind game (Jiang, 2013). The experimental task confronts participants with an individual decision in which they can increase their experimental earnings through non-detectable misreporting of a privately selected letter in a computerized "Wheel of Fortune game". The game allows for a fine-grained degree of ethical violation.

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[6] Note that priming allows generating variation in the saliency of a certain social category, which in turn helps to identify the effect of a particular social category on preferences (e.g. Turner, 1985). Alternatively, besides priming natural identities, others have also induced artificial group identities using the minimal group paradigm (Tajfel and Turner, 1986). See Chen and Li (2009) for an overview of experimental methods in social identity research.

The individual nature of the game prevents confounding ethical behavior with social behavior, which depends on possible differences in equity norms among various social status groups.

Our study thus also links to a rapidly expanding experimental literature on the determinants of unethical behavior (e.g., Gneezy, 2005; Erat and Gneezy, 2012; Houser et al., 2012; Charness et al., 2014; Abeler et al., 2019) and particularly adds to a nascent literature studying unethical behavior outside tightly controlled laboratory experiments. The empirical field mostly studies honesty among particular groups including children (e.g., Bucciol and Piovesan, 2011), prisoners (Cohn et al, 2015; Cingl et al., 2020) and financial professionals (Cohn et al., 2014; Rahwan et al., 2019). Abeler et al. (2014) and Fosgaard et al. (2020) are the only studies to examine honesty among representative samples. They generally find relatively little cheating and no significant correlation with social status related indicators like income. To the best of our knowledge, our study is the first to focus on causality by employing a priming task on a heterogeneous population sample, which allows us to assess whether various socio-economic status groups are differently prone to the priming manipulation and so to identify its effect on preferences. We therefore address the shortcomings of the previous studies that have analyzed this question either in heterogeneous samples without priming or in homogenous student samples with priming.

Our results show that the priming treatment has large effects on the perceived social status of subjects, which puts us in a position to test causal claims about the effect of social status on ethical behavior.[7] However, we find no evidence of higher social status individuals being less ethical as prominently suggested by the literature. This result holds true both for a respondent's true social status and for her primed subjective social status, with the high social-status group that has also been primed as high status being least unethical in the cheating task. Our findings thus call for a re-interpretation of the existing evidence.

The rest of the paper is organized as follow. Section 2 describes the sample, the design of the experiment, and the key features of our priming intervention. Section 3 presents the results for the effects of priming and socio-economic background on ethical behavior. Section 4 concludes.

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[7] The difference in perceived social class between the poor and the rich primed groups corresponds roughly to an increase in monthly income of around 1500 to 2000 euros.

2. The Experiment

2.1 Sample

We make use of the German Internet Panel (GIP), which is an online survey based on a representative probability sample of the general German population, providing us with a natural variation of people with different socio-economics status. The GIP is hosted and operated by the University of Mannheim, Germany, and is a longitudinal survey in which data collection takes place on a bimonthly basis (Blom et al., 2015). A typical survey wave includes questions specific to single waves. In addition, one wave every year collects and updates socio-demographic information about the participants (the "Core"). Table 1 provides summary statistics of these variables in the GIP.

Table 1. Sample summary statistics.

Variable	Observations	Mean	Std. Dev.	Min	Max
Monthly Net Income (Euros)	3,014	2062.7	1393.6	75	8750
Male (in %)	4,507	51.23	49.99	0	1
Age	4,507	50.18	15.6	17	82
Education (0 to 4 scale)	4,538	1.98	1.4	0	4
Married (in %)	4,785	51.56	0.49	0	1
Student (in %)	4,785	4.56	0.2	0	1
Religiousness (0 to 10 scale)	4,506	4.40	3.0	1	10
East German (in %)	4,783	19.30	0.39	0	1
Political ideology (1 to 11 scale)	4,008	5.27	2.0	1	11

The survey experiment presented in this paper was embedded in Wave 39, which was fielded in January 2019 and included 4,932 participants. The data was released two months later. In addition, we make use of previous waves to complement our data with key socio-demographic information, collected in the Core by the GIP. To be precise, we make use of Wave 37 to obtain data on participants' income and update missing values of Wave 37 with data of Waves 31 and 25. Our experiment involved incentivized choices, and all participants were informed that 300 out of the roughly 5000 participants would receive an actual payment credited to their individual accounts at the end of the survey.

Personal net income was recorded in 15 different brackets. We use the mid-points (divided by 1,000) of these brackets to code income, except in the case of the highest bracket ("€7500 and above")

which we code as 8,750.[8] The first five income brackets (up to a net income of €2,000) contain 56% of the 3,014 participants who provided income information. Brackets 6 to 15 contain 44%, accordingly. In order to define *Real-Rich* and *Real-Poor* groups, we split the sample at a net monthly income of €2,000, which provides the split closest to 50:50. Thus, *Real-Rich* is defined as above median income and *Real-Poor* as median and below median income.

2.2 Procedures

In the experiment, panel participants were sequentially exposed to two tasks. The first, 'priming' task induces the subjective perception of a relatively low or a relatively high standing in society. This task had the form of a questionnaire regarding the lives of "the poor" or "the rich", and was concluded by the participants' self-assessment of their social position illustrated by 10 rungs of a "social ladder" representing society (from 1 indicating the lowest to 10 indicating the highest status). The second task is based on a modified version of a mind game used to measure ethical behavior.[9]

Priming social class

The first part of the survey experiment comprised the experimental manipulation of perceived social status (e.g., Hoff and Pandey, 2014; Afridi et al., 2015). To provide variation in the subjective perception of relatively high or low social class, we applied a priming technique implemented in the previous studies (Piff et al., 2010; Kraus et al., 2009; Piff et al., 2012). Within each income bracket (and within those who did not report income), participants were randomly allocated to one of two priming conditions. The priming manipulation presented participants with an image of a ladder with 10 rungs and participants in the *Primed-Poor* [*Primed-Rich*] conditions were instructed as follows:

 "Imagine the society as a ladder describing the social status of citizens. See also the graphic on the right side. The richest [poorest] and most [least] influential in our society are positioned at the top [bottom] of this ladder: they have the highest [lowest] wealth and income, and the most [least]

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[8] Only 30 participants (1% of our sample) report an income of 7,500 and above.

[9] Unethical or dishonest behavior in the experimental literature has mainly been studied using sender-receiver games (e.g. Gneezy, 2005), cheating games including the popular die-rolling paradigm (Fischbacher and Föllmi-Heusi, 2013), and the mind game (Jiang, 2013).

respected professions in our society. The less [more] wealthy and influential are positioned further below [above].

Most of us are further down [higher up] this ladder, and we have certain ideas about this perhaps rather unknown group of the rich [poor]. We want to get an overview of the ideas the less well-off [better-off] have about the rich [poor] and most [least] influential. Please, evaluate the following statements about the rich [poor] in our country."

Next, participants rated a total of 9 statements on a 4-point scale from 1 (strongly agree) to 4 (strongly disagree). Two example statements from the *Primed-Poor* condition are "The rich have nothing to worry about" and "The rich are successful." The priming intends to work by making participants feel less (more) fortunate when they think about, and implicitly compare themselves, with the most (least) successful people in our society. Full procedures and wording of all statements in both priming conditions are available in the Appendix. In order to test if the priming manipulation was successful, we ask participants to classify themselves on the aforementioned social class ladder from 1 to 10 "relative to the people at the very top and the very bottom" of the ladder. This question is the same for all participants and serves us as a manipulation check. In particular, we test whether the priming was successful by testing whether the average answer to this question differs by treatment group.

Measurement of (un)ethical behavior

In the second part of the survey experiment, we measure ethical behavior using a modified "mind game" (Jiang, 2013). In this game, participants are first asked to memorize one letter between A and K, and then the computer randomly draws one of those letters. Letters are arranged around a circle, which we refer to as a 'Wheel of Fortune' in the experimental instructions. Only after participants see the letter drawn by the computer, they have to reveal the letter they initially memorized (A to K) by typing it in. Payoffs are calculated as follows: if the revealed letter equals the computer letter, the participant's payoff equals €20. Otherwise, the computer counts clockwise the number of steps between the revealed and drawn letters. For each step, €2 are deducted from the initial €20. As there is no way to verify the letter participants initially memorized, this game offers an opportunity to increase one's expected monetary payoff by misreporting the memorized letter. Expected payoffs of this game amount to €10. Payoffs above this threshold are indicative of cheating or unethical behavior at the group level, but not verifiable at the individual level. Figure 1 provides an illustration of the Wheel of Fortune used in the mind game. The

advantage of this game is that it allows for fine-grained measure of cheating in 11 steps, and at the same time does not depend on risk attitudes. Moreover, the game introduces information asymmetry to the advantage of the participants: memorizing the letter allows them to make sure that the computer draw of the payoff is not rigged against them. At the same time, it introduces the temptation to make use of this asymmetry and misreport in order to increase payments.
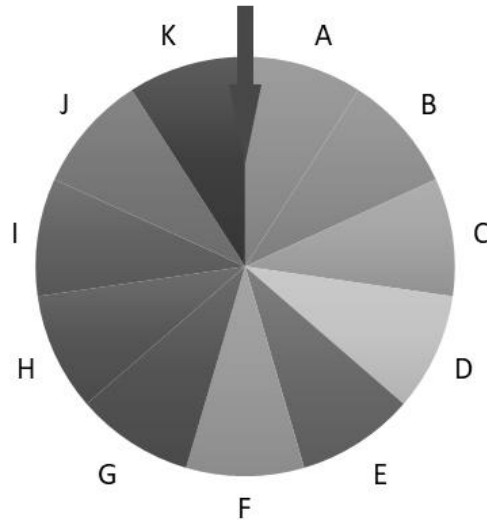

Figure 1. Illustration of the mind game as a "Wheel of Fortune".

3. Results

3.1 Manipulation Check

Table 2 shows that the priming manipulation was successful. Those who compared themselves to "the poor" and were thus primed to feel rich and advantaged (*Primed-Rich*), indeed, on average, reported significantly higher self-assessment of their standing in society than those primed poor and disadvantaged *(Primed-Poor)*: A Wilcoxon-Mann-Whitney test displays a p-value <0.001. This result also holds true if we split the sample by the participants' true social status proxied by their personal income (*Real-Rich* versus *Real-Poor*), dividing the sample at the median income to distinguish between the richer and the poorer strata of the population. We conclude that the priming manipulation succeeded in shifting participants' subjective assessment of their social status irrespective of their actual social status. We are thus in a position to test claims that exogenous status differences induce differences in ethical behavior (Piff et al., 2010; Piff et al., 2012; Dubois et al., 2015; Côté et al., 2015).

Table 2. Manipulation check

	Real-Poor	Real-Rich	All
Primed-Poor	4.83	5.69###	5.27
	(N=831)	(N=674)	(N=2,392)
Primed-Rich	5.54***	6.54***,###	6.04***
	(N=844)	(N=665)	(N=2,393)
All	5.19	6.11###	5.65
	(N=1,675)	(N=1,339)	(N=4,785)

Note: Average answer to manipulation check question on a one-to-ten scale by experimental priming condition. *** indicates significant difference at the 1% level of Primed-Rich from Primed-Poor; ### indicates significant difference at the 1% level of Real-Rich from Real-Poor; Wilcoxon rank sum test. Number of observations do not add up in rows because of missing values for income.

Table 2 is also informative about the relationship between subjective social status as measured by the ladder task and actual social status as proxied by income. For both priming conditions, we find that real high-status individuals also perceive a higher subjective social status. That is, both priming and real income differences influence perceived subjective status in the intended (in priming) and the expected (in actual status) directions. Multivariate analyses presented in Table A2.1 of the Appendix confirm these results.

3.2 Unethical behavior in the mind game

In the mind game, a high payment at the individual level can result from a lucky draw of the computer letter. On average, however, within large groups, payments should not deviate systematically from the expected payment of €10. Significantly larger payments suggest that, on average, participants in this group behaved unethically and did misreport their letters in order to increase their payments. Figure 2 provides a histogram of realized individual payments and illustrates substantial unethical behavior in our subject pool. While in the case of complete honesty, one would expect 9.09% of participants in each of the 11 payment bins (this benchmark is illustrated by the dashed line in Fig. 2), we find a substantially higher percentage of participants in payment bins above €12, which indicates mis-reporting and therefore, unethical behavior. Statistical tests confirm this conclusion. First, a Kolmogorov-Smirnov test clearly rejects the null hypothesis that the data comes from a uniform distribution (p<0.001). Second, a series of

binominal probability tests rejects the hypotheses that the frequency of payments equal to 9.09 for all (p<0.01) but the €14 bin (p=0.20). The distribution of payments also suggests that there is modest or incomplete misreporting. That is, conditional on cheating, not all participants cheat to the fullest extent.
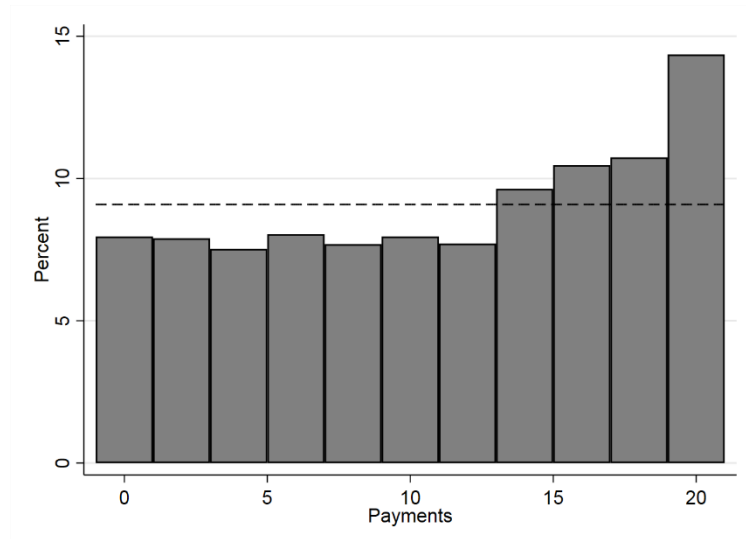

Figure 2. Histogram of individual payments (full sample).

Note: Dashed line indicates expected frequency (i.e., 9.09%) of participants per payment bin.

3.3. The effect of social class on unethical behavior

Having established both the success of the priming manipulation and the relevance of income for subjective status perceptions, as well as the existence of unethical behavior in our sample, we turn to our main result. Figure 3 presents average payments across the treatments and income subgroups. We observe that all participants, except those who were both primed rich and belonged to the richer group, report significantly larger payments than expected under truthful reporting, i.e., €10 (p<0.01 and p=0.28 for the *Primed-Rich & Real-Rich* group, t-test). Comparing the different groups, Table 3 suggests that the *Real-Rich* report significantly lower payments than the *Real-Poor* do, and the *Primed-Rich* report marginally lower payments than the *Primed-Poor* do. Separating along both real and primed status groups, we find that the *Primed-Rich & Real-Rich* report significantly lower payments than either the *Primed-Rich & Real-Poor* or the *Primed-Poor & Real-Rich* groups.
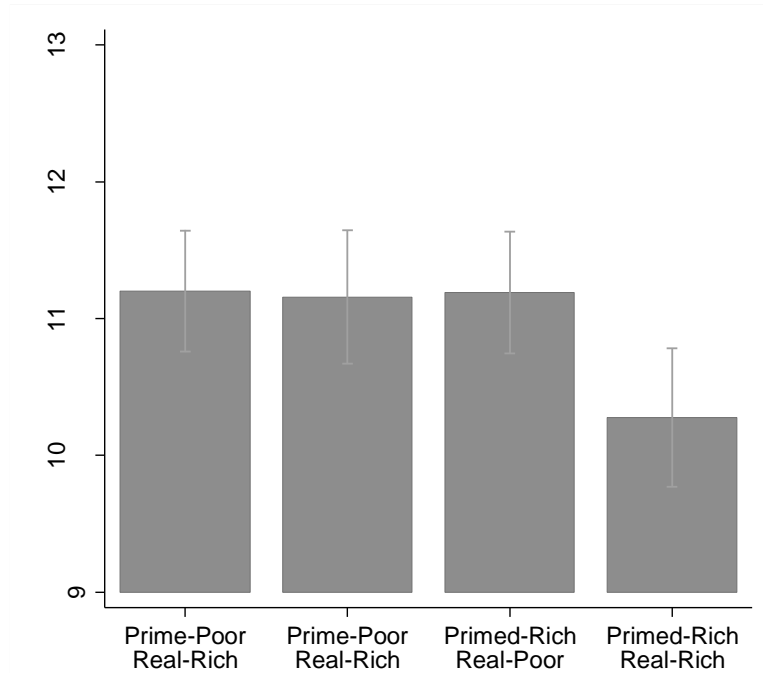
Figure 3. Average payments across treatments and income subgroups.

Note: *Real-Rich* is defined as above-median income and *Real-Poor* is defined as median income and below. Bars indicate 95% confidence intervals.

Table 3. Payments in Euro.

	Real-Poor	Real-Rich	All
Primed-Poor	11.20	11.16	11.28
	(N=831)	(N=674)	(N=2,392)
Primed-Rich	11.19	10.28**,###	10.93*
	(N=844)	(N=665)	(N=2,393)
All	11.20	10.72##	11.11
	(N=1,675)	(N=1,339)	(N=4,785)

Note: Average payment ranging from €0 to €20. ***,**,* indicates significant difference at the 1%, 5%, 10% level of Primed-Rich from Primed-Poor; ###,##,# indicates significant difference at the 1%, 5%, 10% level of Real-Rich from Real-Poor; Wilcoxon rank sum test. Number of observations do not add up in rows because of missing values for income.

Table 4 presents a multivariate analysis of the realized payments. In the baseline specification (1), the coefficients of being primed rich and of having above-median income (*Real-Rich* dummy) point statistically significantly in the direction of lower realized payments for higher status groups. That is, the higher status individuals are less likely to misreport their payoff. These effects become insignificant once

additional controls are included in specification (2). We observe that in contrast to the correlational demographic income variable, inclusion of further controls has little effect on the size of the treatment effect.

Table 4. OLS regressions with payment in euros as dependent variable.

Payment	(1)	(2)	(3)	(4)
Primed-Rich	-0.396*	-0.302		
	(0.24)	(0.24)		
Real-Rich (dummy)	-0.479**	-0.245		
	(0.24)	(0.27)		
Primed-Rich x Real-Poor			0.915***	0.749**
			(0.34)	(0.37)
Primed-Poor x Real-Poor			0.924***	0.616*
			(0.34)	(0.37)
Primed-Poor x Real-Rich			0.881**	0.844**
			(0.36)	(0.36)
Controls	No	Yes	No	Yes
Constant	11.396***	13.630***	10.277***	12.789***
	(0.20)	(0.49)	(0.26)	(0.59)
Observations	3,014	2,933	3,014	2,933
R-squared	0.002	0.011	0.003	0.012

Note: Primed-Rich x Real-Rich, Primed-Rich x Real-Poor, Primed-Poor x Real-Poor, and Primed-Poor x Real-Poor are all dummies. * ,** ,*** indicate significance at the 10%, 5%, and 1% levels, respectively. Heteroscedasticity-robust standard errors in brackets below. Controls include gender, age, education, and East Germany dummy.

Further evidence comes from regressions (3) and (4) which employ dummies indicating the groups shown in Figure 3, where *Primed-Rich x Real-Rich* constitutes the excluded category. Testing for difference of the three groups from the *Primed-Rich x Real-Rich* group without controls (specification (3)) and with controls (specification (4)) shows that all groups report significantly larger earnings than *Primed-Rich x Real-Rich*. That is, the group which has high status according to their real income and has also been primed as upper class, makes the most modest payment claims, and does not misreport (i.e., to claim more

12

than €10) on average. Thus, the analysis does not confirm that either primed or true social status is related to unethical behavior. In contrast, our data suggest that higher social status is related to *more* ethical behavior.

4. Discussion

The current paper studies the causal effect of social status on ethical behavior as well as the correlational association between true social status (proxied by income) and ethical behavior. We use an established status-priming task, and find significant effects on perceived social status, confirming that the priming worked as intended. We measure ethical behavior with an innovative task in which participants can cheat to different degrees to receive higher payments. The task does not include a social component and does not involve deception of participants. Moreover, it does not depend on risk preferences, a possible confounding factor while analyzing behavior of individuals with different income levels or status. We provide evidence that the primed high-status and the actual high-status participants are less likely to cheat in our task. According to our results, the group of both high-status primed and high-income participants is the only group that does not report payments that are significantly larger than the truth-telling benchmark, and reports significantly lower payments than the other groups. Thus, our data clearly rejects the claim that the primed or real poor are substantially more ethical than the rich, as suggested in the literature using priming tasks. On the other hand, we cannot reject the claim that the primed and the truly rich are more ethical: our data are consistent with positive effects.

Previous evidence from correlational studies shows that high status individuals are sometimes more ethical and social, while causal priming studies show that high status individuals are less ethical and social. Our study is the first to combine both approaches of the previous literature. In principle, both effects could coexist. However, our results do not suggest that this is the case. Instead, they indicate that higher social class participants may sometimes be more ethical (for unknown reasons, possibly including selection or habituation), and that findings of a negative causal effect of status on ethical behavior are not robust. As previous priming studies have used convenience samples of university students, the reported negative effects of feeling rich may not extend to the general population. Importantly, a simple failure of the priming manipulation can be excluded as we observe strong effects in our manipulation check. Prior studies on the lack of ethics among the rich have received an unusual amount of scholarly interest and public attention. However, despite such popular rhetoric, we find no evidence to support such claims.

References

Abeler, J., Nosenzo, D., & Raymond, C. (2019). Preferences for truth-telling. *Econometrica*, *87*(4), 1115-1153.

Afridi, F., Li, S. X., & Ren, Y. (2015). Social identity and inequality: The impact of China's hukou system. *Journal of Public Economics*, 123, 17-29.

Andreoni, J., Nikiforakis, N., & Stoop, J. (2017). Are the rich more selfish than the poor, or do they just have more money? A natural field experiment (No. w23229). Working Paper, National Bureau of Economic Research.

Blom, A. G., Gathmann, C., & Krieger, U. (2015). Setting up an online panel representative of the general population: The German Internet Panel. *Field Methods*, *27*(4), 391-408.

Bucciol, A., & Piovesan, M. (2011). Luck or cheating? A field experiment on honesty with children. *Journal of Economic Psychology*, *32*(1), 73-78.

Charness, G., Masclet, D., & Villeval, M. C. (2014). The dark side of competition for status. *Management Science*, *60*(1), 38-55.

Chen, Y., & Li, S. X. (2009). Group identity and social preferences. *American Economic Review*, *99*(1), 431-57.

Cingl, L., & Korbel, V. (2020). External validity of a laboratory measure of cheating: Evidence from Czech juvenile detention centers. *Economics Letters*, 109094.

Cohn, A., Fehr, E., & Maréchal, M. A. (2014). Business culture and dishonesty in the banking industry. *Nature*, *516*(7529), 86-89.

Cohn, A., Maréchal, M. A., & Noll, T. (2015). Bad boys: How criminal identity salience affects rule violation. *The Review of Economic Studies*, *82*(4), 1289-1308.

Côté, S., House, J., & Willer, R. (2015). High economic inequality leads higher-income individuals to be less generous. *Proceedings of the National Academy of Sciences*, 112(52), 15838-15843.

Dubois, D., Rucker, D. D., & Galinsky, A. D. (2015). Social class, power, and selfishness: When and why upper and lower class individuals behave unethically. *Journal of Personality and Social Psychology*, 108(3), 436.

Erat, S., & Gneezy, U. (2012). White lies. *Management Science*, *58*(4), 723-733.

Fischbacher, U., & Föllmi-Heusi, F. (2013). Lies in disguise—an experimental study on cheating. *Journal of the European Economic Association*, *11*(3), 525-547.

Fosgaard, T. R. (2020). Students cheat more: Comparing the dishonesty of a student sample and a representative sample in the laboratory. *The Scandinavian Journal of Economics*, *122*(1), 257-279.

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

Guinote, A., Cotzia, I., Sandhu, S., & Siwa, P. (2015). Social status modulates prosocial behavior and egalitarianism in preschool children and adults. Proceedings of the National Academy of Sciences, 112(3), 731-736.

Hoff, K., & Pandey, P. (2014). Making up people - The effect of identity on performance in a modernizing society. *Journal of Development Economics*, 106, 118-131.

Houser, D., Vetter, S., & Winter, J. (2012). Fairness and cheating. *European Economic Review*, *56*(8), 1645-1655.

Jiang, T. (2013). Cheating in mind games: The subtlety of rules matters. *Journal of Economic Behavior & Organization* 93, 328–336.

Korndörfer, M., Egloff, B., & Schmukle, S. C. (2015). A large scale test of the effect of social class on prosocial behavior. *PLoS ONE*, 10(7), e0133193.

Kraus, M. W., Piff, P. K., & Keltner, D. (2009). Social class, the sense of control, and social explanation. *Journal of Personality and Social Psychology*, 97,992–1004.

Manstead, A. S. (2018). The psychology of social class: How socioeconomic status impacts thought, feelings, and behaviour. *British Journal of Social Psychology*, *57*(2), 267-291.

Manne, A. (2014, July 29) The Money-Empathy-Gap. *New Yorker Magazine*. Retrieved from: www.nymag.com

Miller, L. (2012, June 29) The age of entitlement: how wealth breeds narcissism. *The Guardian*. Retrieved from: www.theguardian.com

Minah, J., Smeets, P., Stoop, J., & Vosgerau, J. (2018). Are socio- economic status and prosocial/ethical behavior related? Three replications of Piff et al.'s (2012) field studies. Discussion Paper, Maastricht University.

Piff, P. K., Kraus, M. W., Côté, S., Cheng, B. H., & Keltner, D. (2010). Having Less, Giving More: The Influence of Social Class on Prosocial Behavior. *Journal of Personality and Social Psychology* 99, 771–784.

Piff, P., D. Stancato, S. Côté, R. Mendoza-Denton, and D. Keltner (2012). Higher Social Class Predicts Increased Unethical Behavior. *Proceedings of the National Academy of Science* 109, 4086–4091.

Piff, P. K., & Robinson, A. R. (2017). Social class and prosocial behavior: Current evidence, caveats, and questions. *Current Opinion in Psychology*, *18*, 6-10.

Rahwan, Z., Yoeli, E., & Fasolo, B. (2019). Heterogeneity in banker culture and its influence on dishonesty. *Nature*, *575*(7782), 345-349.

Smeets, P., Bauer, R. & Gneezy, U. (2015). Giving Behavior or Millionaires. *Proceedings of the National Academy of Science* 112, 10641–10644.

Schmukle, S. C., Korndörfer, M., & Egloff, B. (2019). No evidence that economic inequality moderates the effect of income on generosity. *Proceedings of the National Academy of Sciences* 116, 9790–9795.

Tajfel, H., & Turner, J. (1986). The Social Identity Theory of Intergroup Behavior. In *The psychology of Intergroup Relations*, ed. Stephen Worchel and William Austin, 7–24. Chicago: Nelson-Hall.

Trautmann, S. T., van de Kuilen, G., & Zeckhauser, R. J. (2013). Social Class and (Un)ethical Behavior: A Framework, With Evidence From a Large Population Sample. *Perspectives on Psychological Science* 8, 487–497.

Turner, J. C. (1985). Social Categorization and the Self-concept: A Social Cognitive Theory of Group Behavior. In Advances in Group processes (Vol. 2), ed. E. J. Lawler, 518–38. Greenwich, CT: JAI Press.

Appendix

A1. Survey Experiment

A1.1 Randomization

The first part of the experiment tackles the exogenous manipulation of social class, making use of a priming paradigm. Participants were randomly assigned to one of two priming treatments. Randomization is stratified by participant's income. In particular, participants of each income class are randomly assigned to one of the two treatments. Data on income classes comes from a previous Core wave of the GIP (Wave 37) and comprises 15 income brackets. Participants with missing income information make up an additional group. Within each income group or class, participants are randomly allocated to the *Primed-Poor* or *Primed-Rich* treatment condition. Figure A1.1 displays the percentage of participants in each treatment by income bracket. Note that participants with missing information on income make up the categories 'Don't know', 'No answer', 'Question not asked'.
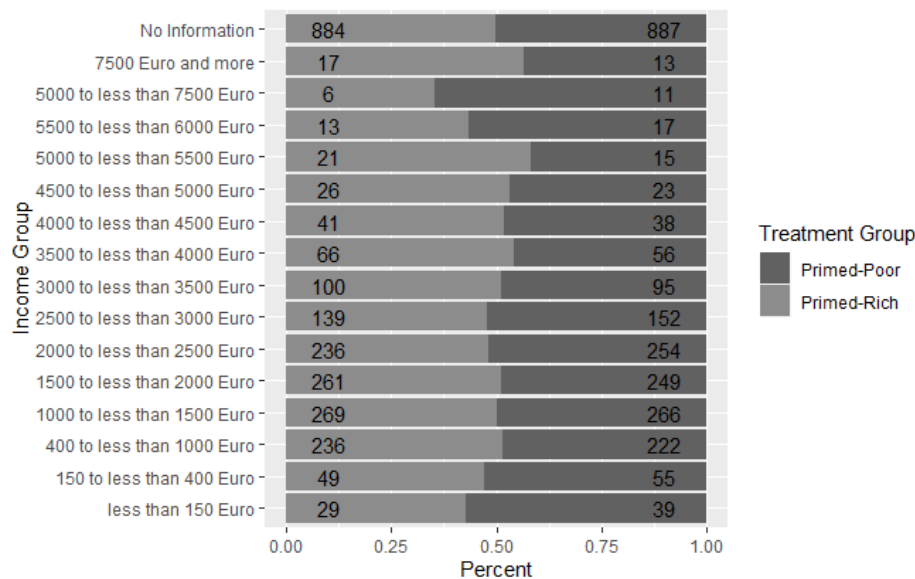

Figure A1.1. Treatment randomization per income group (class)

The priming manipulation presents participants with a short text about their (primed) social class relative to others. Next, participants are asked to express their agreement or disagreement (4-point scale from 1=strongly agree to 4=strongly disagree) with nine claims about the standing of the rich and poor, respectively. Finally, a manipulation check is performed in which participants are asked to assess their perceived social standing using a social class ladder (where 1 indicates the bottom of status hierarchy and 10 indicates the top of status hierarchy). See detailed instructions as shown to participants below.

A1.2 Priming instructions and manipulation check

Instructions Primed-Poor:
Imagine the society as a ladder describing the social status of citizens. See also the graphic on the right side. The richest and most influential in our society are positioned at the top of this ladder: they have the highest wealth and income, and the most respected professions in our society. The less wealthy and influential are positioned further below.

Most of us are further down this ladder, and we have certain ideas about this perhaps rather unknown group of the rich. We want to get an overview of the ideas the less well-off have about the rich and most influential. Please evaluate the following statement about the rich in our country: (on 4-point scale from 1=strongly agree to 4=strongly disagree).

1. *The rich have nothing to worry about.*
2. *The rich lead an interesting life with a lot of variety.*
3. *The rich are happy.*
4. *The rich are successful.*
5. *The rich have great influence on political decisions.*
6. *The rich have a high level of education and very good educational opportunities.*
7. *The rich have financial security.*
8. *The rich belong to the country's elite.*
9. *The rich drive expensive cars.*

Imagine the society as a ladder that describes the social status of citizens. See also the graphic on the right side. The poorest and least influential in our society are positioned at the bottom of this ladder: they have the lowest wealth and income, and the least respected professions in our society. The more wealthy and influential are positioned further above.

Most of us are higher up on this ladder, and we have certain ideas about this perhaps rather unknown group of the poor. We want to get an overview of the ideas the better-off have about the poor and least influential. Please evaluate the following statement about the poor in our country: (on 4-point scale from 1=strongly agree to 4=strongly disagree)

1. *The poor have many worries.*
2. *The poor lead a bleak life.*
3. *The poor are unhappy.*
4. *The poor are not successful.*
5. *The poor have no influence on political decisions.*
6. *The poor have a low level of education and few educational opportunities.*
7. *The poor have no financial security.*
8. *The poor never belong to the elite of a country.*
9. *The poor often use public transport.*

This ladder shows where people in Germany stand. At the top of the ladder (marked "10") are those people who are doing best, those who have the most money, have the best education and are the most respected. At the bottom of the ladder (marked "1") are those who are the worst off, have the least money, have the worst education, and are the least respected.

Where would you place yourself on this ladder relative to the people at the very top and the very bottom? Please mark the box next to the rung you think you are standing on!

```
10
 9
 8
 7
 6
 5
 4
 3
 2
 1
```
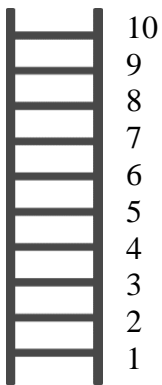
**A1.2 Measurement of (un)ethical behavior**

The second part of the survey experiment measures ethical behavior using a modified mind game (Jiang, 2013).

Instructions 'mind game':

[Page 1]

You will now play the Letter - Wheel of Fortune game. With a little luck, you can win a considerable amount of money. The Wheel of Fortune displays the first 11 letters of the alphabet, from A to K. The Wheel of Fortune works as follows: you must first choose a letter between A and K in your mind and memorize it. Next, the virtual Wheel of Fortune is spun and the computer selects one of these letters (from A to K) with equal probability. After you are displayed the result of the virtual Wheel of Fortune, you need to enter the letter you initially have chosen in your mind.

Letter - Wheel of Fortune
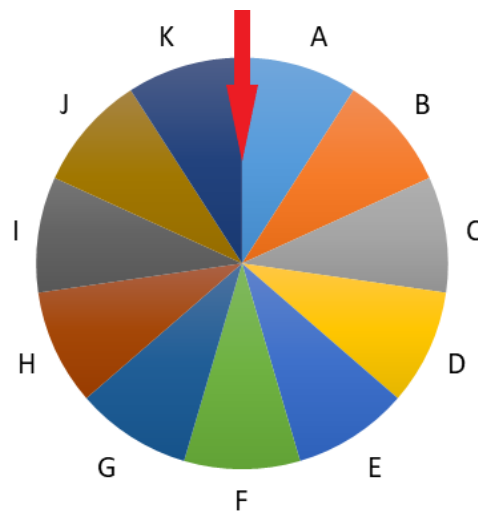
Your payout will be calculated as follows: If the letter chosen in your mind equals the randomly chosen letter by the Wheel of Fortune, your payout will amount to €20. Otherwise, the computer counts the number of steps clockwise that have to be made to reach the computer letter from your chosen letter (see Wheel of Fortune figure). For each step, 2€ are deducted from the 20€. Here is an example: your chosen letter is K, the Wheel of Fortune draws the letter C. That means your chosen letter is three steps away from the drawn letter. The payout is then 20€ - 3 steps of 2€ each = 14€. To summarize, this task consists of the following three steps:

1. *Choose a letter from A to K in your mind and memorize it.*
2. *Then the virtual Wheel of Fortune is spun. At this time, your letter chosen in your mind is only known to you and not yet registered in the system.*
3. *Enter now the letter you have chosen in step 1 in the respective field. Your payout will then be calculated by the computer as the distance between the letter randomly selected by the Wheel of Fortune and the letter you entered.*

Among all participants who participate in this game, exactly 300 participants will be randomly selected and paid out in real money. The amount paid is determined by the outcome of the Wheel of Fortune game. The money will be credited to the individual survey account of each participant. No participant can be selected more than once. We expect approximately 5000 participants in this survey.

Please choose a letter between A and K in your mind.
Click on "Start Wheel of Fortune" after you have chosen a letter.

[Page 2]
Here you can find the result of spinning the Wheel of Fortune. As explained before, please enter the letter you have chosen in your mind. Your possible payout will be calculated automatically and anonymously by the computer.

Letter Wheel of Fortune: __
Your letter: __
Your payment in Euro: __

A2. Additional analysis: manipulation check

Figure A2.1 indicates that those participants *Primed-Rich* on average report higher self-assessment of their standing in society (i.e., manipulation check question) than those *Primed-Poor* across all income classes.
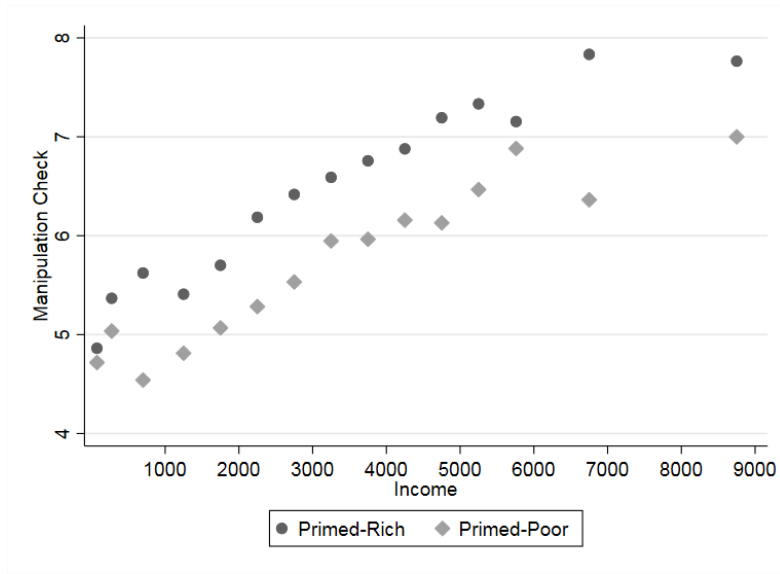

Figure A2.1. Answer to manipulation check question by income class.

Table A2.1: OLS regression with answer to manipulation check question as dependent variable.

Manipulation Check	(1)	(2)	(3)	(4)
Primed-Rich	0.777***	0.766***		
	(0.05)	(0.05)		
Real-Rich	0.933***	0.810***		
	(0.05)	(0.06)		
Primed-Rich x Real-Poor			-1.006 ***	-0.871 ***
			(0.07)	(0.08)
Primed-Poor x Real-Poor			-1.718 ***	-1.584 ***
			(0.07)	(0.08)
Primed-Poor x Real-Rich			-0.859***	-0.833***
			(0.07)	(0.07)
Controls	No	Yes	No	Yes
Constant	4.794***	4.635***	6.544***	6.246***
	(0.05)	(0.11)	(0.05)	(0.12)
Observations	3,014	2,933	3,014	2,933
R-squared	0.15	0.19	0.15	0.19

Note: Primed-Rich x Real-Poor, Primed-Poor x Real-Poor, and Primed-Poor x Real-Poor are all dummies. *,**,*** indicate significance at the 10%, 5%, and 1% levels, respectively. Heteroscedasticity-robust standard errors are in brackets below. Controls include gender, age, education and East German dummy.

A3. Ethics Review and Preregistration

The study design was submitted and accepted by the GIP board as confirming to the state's research and privacy guidelines. The study was preregistered at aspredicted.org as "The Causal Effect of Social Class on Ethical Behavior (#16459)", November 15, 2018.

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Social class and (un)ethical behavior: Causal versus correlational evidence

Abstract
Are upper class individuals less ethical? Highly popularized research findings support this notion. This paper provides a novel test to evaluate the relationship between social status and ethical behavior. We successfully prime a large heterogeneous sample of the German population as either high or low social status. We then elicit ethical behavior in an incentivized experimental task. Thus, our data allows us to study both correlation (using demographic data) and causality (using the priming). Our study does not support the claim that higher social status individuals are less ethical, as prominently suggested by the literature. This result holds both for a respondent's true social status and for her primed subjective social status. Our findings call for a re-interpretation of the existing evidence.