Sustaining Honesty in Public Service: The Role of Selection*

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Abstract

We study the role of self-selection into public service in sustaining honesty in the public sector. Focusing on the world's least corrupt country, Denmark, a survey experiment shows clear *positive* self-selection into public service in terms of honesty. This result differs sharply from existing findings from more corrupt settings. Differences in valuation of own income and public-private wage differences appear central to the observed selection pattern. Dishonest individuals are more financially motivated and self-select out of public service and into higher paying private sector jobs. Accordingly, higher public sector wages are shown to attract *more dishonest* candidates to public service.

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1 Introduction

Research on corruption has tended to emphasize formal differences in individual incentives for misuse of public office, emphasizing monitoring and punishment as deterrents from engaging in corrupt behavior. While this focus has been very fruitful (see Olken and Pande 2012 for a recent survey), recent evidence have suggested that individual attributes such as cultural values may also play a prominent role (Fisman et al. (2015) and Fisman and Miguel (2007)).

This paper explores the role of individual selection in generating an equilibrium of honesty and low corruption in public service. Using Denmark as a low-corruption case study, we ask whether potential candidates for public service jobs differ in their propensity for dishonest behavior, and if so whether systematic self-selection of honest types into public service may be a channel that helps sustain a low level of corruption. To draw lessons for combatting corruption in other settings, we further ask how the observed selection pattern is related to other individual attributes, as well as the level of public sector wages.

Theory provides ambiguous predictions regarding the questions we pose. The inherent propensity for dishonesty could differ significantly across potential candidates for public service or could be relatively constant within a country. Moreover, even if dishonesty does vary across potential public service candidates, it is unclear how dishonesty should relate to preferences for entering public service. On the one hand, the relatively low level of public sector corruption in Denmark could discourage dishonest individuals from entering this sector. On the other hand, the Danish public sector is not immune to rent extraction (see Amore and Bennedsen (2013)), and the sheer size of public budgets in Denmark means that even small scale rent extraction may be very lucrative for dishonest individuals. Finally, to the extent that dishonesty correlates with other individual attributes that shape job preferences, such as risk aversion or valuation of own earnings, this may further complicate the observed selection pattern.

To provide empirical guidance on these questions, we conduct a survey experiment with students in the fields of law, economics, and political science at the University of Copenhagen in Denmark. Given its consistent ranking as the least corrupt country in the world, Denmark is a useful benchmark for studying how countries can sustain low levels of corruption. For studying selection into public service, the particular population of students we focus on is very well suited.

They face a very clear choice between public service and private sector careers and make up an important part of the public sector workforce.

The first part of our empirical analysis examines the extent of heterogeneity in dishonesty and how this heterogeneity is related to preferences for entering public service. We adopt the experimental methodology of Hanna and Wang (2013) and subject students to a standard set of cheating tasks building on Fischbacher and Föllmi-Heusi (2013). In our implementation of the tasks, students can win money by correctly guessing the outcome of a series of dice rolls but are allowed to see the outcome of each roll before reporting their guess. Students therefore have the option of winning dishonestly by misreporting their guess, knowing that it can never be proven whether in fact they were dishonest. Comparing the distribution of successful guesses in the dice game to the expected distribution without lying, however, is informative about dishonest behavior. We develop and apply a simple econometric framework that allows us to estimate the full distribution of dishonesty as well as obtain individual measures of dishonesty that can be related to individual job preferences.

The estimated distribution of dishonesty reveals extensive heterogeneity among potential candidates for public service. While 10 % of students barely cheat at all, 13 % cheat practically all the time. The remaining 77 % fall somewhere in between, resulting in a standard deviation of cheat rates across students of 0.39. Relating dishonesty to job preferences, we find clear evidence of positive self-selection into public service, as dishonest individuals in Denmark are systematically *less* likely to want to enter public service. Students ranking public administration as one of their top two job choices cheat around 10 percentage points less than other students.

This clear pattern of positive self-selection in Denmark stands in stark contrast to previous results from more corrupt countries. As we describe further below, comparable experiments from corrupt countries have either found no relationship between honesty and preferences for a public service career or systematic *negative* selection into public service in terms of honesty. Contrasted with these previous findings, our results suggest that positive self-selection of honest individuals into public service is one channel through which Denmark is able to sustain its low levels of corruption and public sector dishonesty.

The second part of our empirical analysis uses additional experimental data to examine how

the observed selection pattern is related to other student attributes and the level of public sector wages. We focus first on four student attributes that are possible correlates of dishonesty and job preferences: Risk-aversion, ability, altruism and gender. We find no evidence that ability or risk-aversion can explain the self-selection of honest individuals into public service. In particular, dishonesty does not correlate with grades, experimental measures of risk aversion, or stated preferences for job security. Conversely, altruism and relative valuation of own income appear important for the observed selection pattern. Students who donate less in a dictator game and state that salary is an important job characteristic are both more dishonest and more likely to prefer private sector jobs. Moreover, we find that dishonest students are particularly likely to express a preference for high-paying financial sector jobs. Looking at gender, we find that men are both more likely to be dishonest and less likely to want to work in the public sector, although this pattern largely appears to reflect gender differences in valuation of earnings.

Finally, we examine how the observed selection pattern is related to the level of public sector wages. Public sector jobs in Denmark are characterized by relatively low wages compared to the private sector. Combined with our findings regarding altruism and valuation of own earnings, this suggests that the observed selection pattern may reflect that more financially motivated dishonest individuals self-select out of the Danish public sector due to its relatively low wage level. We provide evidence in favor of this hypothesis by analyzing a set of counterfactual job preference question that ask student to choose between a job in the public and the private sector given different counterfactual relative wage levels. In scenarios that increase the public sector wage relative to the private sector, we find that the average dishonesty among students preferring public sector jobs increases.

These results underscore the policy importance of understanding selection into public service. Higher public sector wages is often proposed as a way to combat corruption because they lower the incentives to engage in corruption among existing public officials (Becker and Stigler (1974)). Our findings, however, show that high public sector wages may sometimes have counterproductive effects on corruption by encouraging the selection of dishonest individuals into public service. In addition, the results have potential implications for how to interpret the recently emphasized stylized fact that low-income countries struggling with corruption tend to have a systematically

higher public sector wage premiums (Finan, Olken, and Pande (2015)).

In terms of previous work, the idea that individuals may differ in their inherent propensity for dishonesty has a long tradition in the theoretical literature on corruption (Lui 1986; Cadot 1987; Andvig and Moene 1990) and is supported empirically by the fact that personality traits predict corrupt behavior (Callen et al. 2015). The role of selection on the dishonesty dimension has also received attention (Caselli and Morelli 2004; Besley 2004; Bernheim and Kartik 2014). In particular, our finding that higher public sector wages attract more dishonest candidates mirror theoretical predictions regarding the effect of politician salaries in the influential work of Besley (2004).

Empirically, a number of recent papers have examined selection into public service.[1] Selection in terms of dishonesty, however, has garnered relatively little attention. Closest to the present paper are Hanna and Wang (2013), who use the same experimental methodology to show that dishonest university students are more likely to want to enter public service in India. Similarly, Banerjee, Baul, and Rosenblat (2015) run a corruption experiment at two different Indian universities and find more dishonest behavior at the university targeting public service careers. Finally, Alatas et al. (2009) find no correlation between preferences for working in the public sector and bribing behavior in an explicit corruption game among Indonesian students. Our paper differs from these previous papers by examining the role of selection in a low-corruption setting, as well as by exploring how selection patterns are shaped by the level of public sector wages and by other individual attributes. The stark contrast between our results and these previous results underscores that the positive selection pattern we document is specific to the low-corruption context we study.

Methodologically, our paper also draws on and contributes to a growing economics literature on dishonesty. Besides Fischbacher and Föllmi-Heusi (2013) and Hanna and Wang (2013), our experimental dishonesty task draws particularly on Jiang (2013). We in turn contribute to this literature by illustrating how data from a repeated dishonesty task can be used to estimate the full

[1] Dal Bó, Finan, and Rossi (2013), Ashraf et al. (2014), and Deserranno (2014) use field experiments to examine how pecuniary incentives affects selection into public service jobs in Mexico, Zambia and Uganda in various dimensions, including ability and pro-social preferences. Combining survey and experimental data, Kolstad and Lindkvist (2013) and Serra, Serneels, and Barr (2011) document that pro-social preferences correlate with wanting to work in the public sector in Tanzania and with working in the non-profit sector in Ethiopia. Finan, Olken, and Pande (2015) provides a broader survey.

distribution of individual-level propensities for dishonesty. By using experimental methods to study questions related to corruption, our paper also relates to a broader experimental literature on corruption or bribery games.[2]

The paper proceeds as follows. In Section 2, we outline key characteristics of Denmark and the student population we study. In Section 3 we present the survey experiment used to construct the key variables of the study, dishonesty and preference for public sector employment. In Section 4 we present the empirical results. Section 5 concludes.

2 Empirical setting

The setting of the study is Denmark. For studying how to sustain honesty in public service, Denmark is a particularly useful benchmark case given its consistent ranking among the very least corrupt countries in the world. Figure 1 shows the levels of corruption in different countries 1996-2014 as measured by the commonly used Transparency International's Corruption Perceptions Index (CPI), with Denmark highlighted. Since 2007 Denmark has ranked as the least corrupt country in the CPI every year but two, and in the history of the CPI Denmark has never ranked lower than fourth. This pattern is not exclusive to the CPI.[3] For example, the World Bank Governance Indicator "Control of Corruption", detailed in Kaufmann, Kraay, and Mastruzzi (2010), has ranked Denmark as the least corrupt country in the world every year since 2007 and never ranked Denmark lower than second.[4]

[Figure 1 about here.]

[2]This literature differs from our paper, however, by examining games where subjects can engage in bribing or other corrupt behavior and by primarily focusing on the effects of institutional settings such as various forms of monitoring (see Abbink and Serra 2012 for a recent survey). Additionally, by using experimental methods to examine selection into public service careers, our paper also relates to recent work using experimentally measured worker attributes to study sorting in the labor market (e.g. Dohmen and Falk 2011; Fouarge, Kriechel, and Dohmen 2014; Cohn, Fehr, and Maréchal 2014).

[3]Beyond corruption rankings, national representative surveys of citizens' perceived trustworthiness of various institutions and occupational groups find a persistent pattern of high levels of trust in the political system, the public sector and its employees (see Sønderskov and Dinesen 2014).

[4]As discussed in the introduction, the previous studies dealing with dishonesty and selection into public service were conducted India (Hanna and Wang (2013) and Banerjee, Baul, and Rosenblat (2015)) and Indonesia (Alatas et al. (2009)). India and Indonesia have consistently ranked in the bottom half of the 50 to 175 countries included in the CPI and currently ranks 85 and 107, respectively. These studies thus focus on a vastly different, high-corruption context than the present paper.

Within Denmark, the population we study consists of students enrolling as undergraduates in the fields of law, economics and political science. In the Danish higher education system, students choose a field of study already upon entering university. Conditional on not dropping out, practically everyone continues to do a master's degree in the same field of study. The students enrolling in one of these three fields therefore generally graduate with a master's degree about five to seven years after enrolling in the undergraduate degree.

We chose to focus on this student population for two reasons: The first is that this population faces a very clear choice between entering the private sector or going into public service. For current employees with a background in economics, law, or political science, around 46 percent work in the public sector and 54 in the private sector. Typical private sector careers for this student population include finance, law firms, and lobbying organizations. In terms of public service careers, the vast majority goes into some form of public administration.

The second reason we focus on this student population is that it is large and important enough to actually affect the corruption level of the public sector. About 10 percent of all state level employees have a background in one of the three fields we study. They are also dominant at the very top-level of the public sector: 100 pct. of current deputy secretaries and about 40 pct. of members of parliament hold a degree in one of the three fields.

As discussed above, corruption is by all accounts rare in Denmark. Given the motivation for our study, however, it is worth briefly considering what type of corrupt behavior our student population might in principle undertake in their public service careers. For those entering public administration at the local level, many of them will be engaged in direct administrative decisions that affect individual citizens. Examples include decisions on various permits, building regulations, business licenses, divorce cases, adoption, paternity issues or the award of public contracts. Private citizens or local businesses with interests in cases of this type can attempt to bribe or otherwise influence the responsible public official. Amore and Bennedsen (2013) provide evidence of this type of behavior occurring in Denmark. In other instances, potential corruption could take a more indirect form. Many graduates from these fields work in offices which help develop and prepare legislation or policy input to elected officials. Organized interests or private companies could aim to bribe lower level bureaucrats in order to affect the outcome of

these policy processes.

3 Data and experimental design

Our empirical analysis is based on an online survey experiment conducted at the University of Copenhagen during December 2014.[5] The university administration provided us with complete lists of everyone who enrolled as undergraduates in law, economics and political science, including student e-mail addresses. From these lists random samples of 1,000 students who enrolled over the years 2009-2011 and 2013-2014[6] were drawn from each of the three fields and were invited to participate in the survey experiment.

The invitation to participate was sent as an e-mail with a link to the survey along with a username and password. Participants were told that the survey dealt with their attitudes to various topics and "how they acted in situations characterized by uncertainty." The latter referred to the various incentivized games which they would encounter in the survey and which will be outlined in detail below. Participants were also told that they would be paid to participate. In accordance with the actual outcomes, participants were informed that the average participant would earn no less than 50 DKK (8 USD),[7] that the maximum payoff was above 300 DKK (50 USD), and that the survey would take approximately 20 minutes to complete.[8] For comparison, the student population in question would in a typical student job usually receive a union defined hourly wage of about 110 DKK (18 USD), corresponding to 37 DKK (6 USD) per 20 minutes. The announced (and realized) payoffs therefore made participation attractive without being excessively high. In addition to the initial invitation e-mail, two follow-up reminder e-mails were also sent after six and 17 days.

863 subjects completed the survey. From these we drop one individual who experienced

[5]The experiment was run using a software called "ILab" developed by Andreas Gotfredsen and Alexander Sebald from the Economics Department at the University of Copenhagen designed to conduct large-scale internet experiments.

[6]Students who enrolled prior to 2009 were not invited as many of them will have already graduated by 2013 and therefore may no longer use their student e-mail addresses. Pilot studies and technical tests were run on students enrolling in 2012, so these were not invited so as to not contaminate the subject pool.

[7]At the time of the survey experiment 1 USD equaled about 6 DKK.

[8]The maximum payoff among participants was 315 DKK (53 USD), while the average payoff was 80 DKK (13 USD). The median time from first opening the survey to completion was 25 minutes, although since participants were free to leave the survey and come back later to finish this likely overstates actual time use.

technical difficulties during the main dishonesty experiment in the survey, leaving us with a base sample of 862 participants. In terms of representativeness, our sampling scheme ensures that the sample receiving e-mail invitations is representative of our population of study. At the end of Section 4 and in the appendix, we further examine potential issues related to selective non-participation by exploiting the availability of administrative university data for non-participants.

3.1 Experimental dishonesty game

The first main purpose of our survey experiment is to measure individual subjects' inherent propensity for dishonesty. We follow Hanna and Wang (2013) and measure dishonesty using a repeated version of the dice game approach from Fischbacher and Föllmi-Heusi (2013) (referred to as *dice-under-cup* from now on). Behavior in various types of dice-under-cup games has become a widely used measure of dishonesty (for recent examples see Cohn, Maréchal, and Noll (2015), Cohn, Fehr, and Maréchal (2014), Ariely et al. (2014) or Shalvi, Eldar, and Bereby-Meyer (2012)). Behavior in dice-under-cup games has also been shown to correlate with real-world dishonest behavior and rule breaking (Hanna and Wang 2013; Cohn, Maréchal, and Noll 2015; Cohn and Maréchal 2015). Given that the present paper is motivated by understanding public sector corruption, the validation exercise in Hanna and Wang (2013) is particularly relevant. Hanna and Wang (2013) show that dishonesty in a dice-under-cup game is correlated with fraudulent absenteeism in a sample of public sector nurses.

We adapted the implementation of the game to our empirical setting and econometric framework. In particular, to be able to systematically examine and address issues of sample representativeness and non-participation, we used an online version of the game based on the computer-adaptation in Jiang (2013) and used university records to sample and recruit students via e-mail. The online implementation also allows us to obtain a larger sample than would have been practical in a lab implementation.

Our implementation of the dice-under-cup game proceeded in the following way:[9] At four different points in the survey experiment, participants were asked to play ten rounds of a dice game. Students were told that the game was intended to test how they "guess in situations

[9] A screen cap of the game as viewed by the subjects are presented in the appendix section A.7 including exact translations of all instructions for the game.

characterized by randomness" and that they could win money in the game by correctly guessing the outcome of a dice roll. In each round of the dice game subjects were first asked to think of a number between 1 and 6 that they expected the dice to show after the dice roll. Students then clicked "next" while keeping their guess in mind. A dice was rolled on screen and the outcome of the dice roll was reported. The participants were then asked to report their guess while the actual outcome of the dice roll was still displayed. On the following screen the payoff from the round was reported. Reporting a correct guess yielded a gain of 2 DKK (0.33 USD) relative to an incorrect one.[10]

The point of the dice-under-cup game is that in each round, subjects have the option of winning dishonestly by reporting the actual outcome of the dice roll regardless of what their initial guess was. Moreover, a strength of the design is that subjects are not explicitly primed to think about dishonesty and subjects know in each round that it can never be revealed whether in fact they reported their guess honestly.[11] Comparing the number of successful guesses across the forty rounds of the dice game to the expected distribution of successful guesses, however, is informative about dishonest behavior. The next section presents the econometric framework we use to estimate individual propensities for dishonesty from the experimental results.

3.2 Measuring dishonesty

We now present the simple econometric framework that we use to construct estimates of the distribution and individual levels of dishonesty from subjects' behavior in the dice-under-cup game described above. The data consists of a random sample of N subjects, which we index by i. Each subject participates in a series of K rounds of a dice-under-cup game, which we index by k. As described above, our experiment and data has $N = 862$ and $K = 40$. In each round the subject can either win or lose. The rounds are independent of each other with a constant

[10] Depending on the round, a correct guess either yielded 3 DKK or 2 DKK, while an incorrect one either yielded 1 DKK or 0 DKK so as to keep the gain from a correct guess constant equal to 2 DKK. The change in payoffs across the different rounds was used to achieve a suitable level for the total (expected payoff), while avoiding decimals payoff amounts. In our pilot studies, we found no evidence that such changes in the levels of payoffs affected behavior in the dice game.

[11] One may still worry that upon realizing that they can lie undetected in the game, subjects implicitly feel that being dishonest is the point of the game. In an attempt to mitigate this type of experimental demand, we concluded the introduction screen by stating that: "it is important that you are careful about remembering and reporting the exact number on which you guessed prior to rolling the die.".

probability of winning of p^*. In our experiment the probability of (truthfully) guessing a dice roll is one in six so $p^* = \frac{1}{6}$ in our case.

In the dice-under-cup game, we do not directly observe whether subjects win or lose, however. For each round and each subject, we instead observe a self-reported measure of whether the subject won or not, where subjects are free to report dishonestly. We let y_{ik} be an indicator variable for whether subject i reported winning in round k. In the context of our implementation of the dice-under-cup game, y_{ik} is simply an indicator for whether the reported guess matches the actual dice roll. We let $Y_i = \sum_{k=1}^{K} y_{ik}$ denote the total number of wins (total number of correct guesses) reported by subject i.

We introduce heterogeneity in the propensity for being dishonest by assuming that when reporting the outcome of a round, subject i reports dishonestly some fraction $\theta_i \in [0, 1]$ of the time. We further make the assumption that if reporting dishonestly, a subject reports a win for sure in that round. Otherwise he or she reports the truth. The subject-specific θ_i therefore captures subject i's propensity for dishonesty and we refer to it as subject i's *cheat rate*. Thus the aim of our empirical analysis will be to first examine the extent of heterogeneity in subjects' cheat rates and second how cheat rates relate to job preferences and other subject attributes.

Perhaps the most obvious way of examining heterogeneity in dishonesty from the repeated dice-under-cup game would be to simply examine the heterogeneity in the number of wins reported across subjects. Doing so, however, confounds differences in the level of dishonest behavior with differences in the amount luck experienced in the dice game. We therefore take a different approach that allow us to separate true heterogeneity in dishonesty from differences in luck. In the appendix section A.2, we show how a flexible maximum likelihood estimator for the full distribution of cheat rates can be constructed under simple assumptions on the time dependence of dishonest behavior. In our empirical analysis, we use this approach to examine the underlying heterogeneity in dishonesty.

Next, in order to examine the relationship between cheat rates, job preferences and other attributes, we want to construct individual measures of each subject's cheat rate. The probability of observing a win for a subject with a given cheat rate, θ_i, is $E\left(Y_{ik} = 1 \middle| \theta_i\right) = P\left(Y_{ik} = 1 \middle| \theta_i\right) =$

$p^* + (1 - p^*)\theta_i$. From this we can construct an unbiased[12] Method of Moments estimator of i's cheat rate by replacing population moments with empirical moments and rearranging:

$$\hat{\theta}_i = \frac{1}{1-p^*}\frac{1}{K}Y_i - \frac{p^*}{1-p^*}$$

In our empirical analysis, we use this *estimated cheat rate*, $\hat{\theta}_i$, as our employed measure of subjects' propensity for dishonesty and regress this on subjects job preferences and various other attributes. Relative to the true individual cheat rate, θ_i, our measure will suffer from measurement error due to the randomness in whether subjects actually win. Because $\hat{\theta}_i$ is an unbiased estimator of θ_i, however, replacing the true cheat rate with the estimated cheat rate as the outcome variable in a linear regression will still yield consistent and/or unbiased estimates under the usual assumptions.[13]

In relating our approach and estimates to methods used in the previous literature, three things are worth noting. First, since our estimated cheat rate $\hat{\theta}_i$ is just a linear transformation of the total number of reported wins, the common practice of using actual reported number of wins instead (or reported win rate) would only lead to a rescaling of the linear regression estimates presented later. Second, despite involving individual estimated cheat rates, our approach using estimated individual cheat rates works even if $K = 1$. That is, even if each subject has only participated in a single round of the dice-under-cup game, a comparison of the estimated cheat rates among groups of subjects with different attributes will allow us to estimate the true gap in average cheating rates between these groups (Houser, Vetter, and Winter 2012). We exploit this for a robustness check where we only use data on the first dice roll instead of the full set of rolls. Third, the econometric framework above makes it straightforward to examine the extent of measurement error in the estimates of individual dishonesty. In the appendix section A.1, we derive an expression for the extent of measurement error in the estimated cheat rate, $\hat{\theta}_i$ under the assumption that cheating behavior is independent across time. Measurement error is found

[12] Unbiasedness is easily seen from $E\left(\hat{\theta}_i|\theta_i\right) = \frac{1}{1-p^*}\frac{1}{K}\sum_{k=1}^{K} P\left(y_{ik} = 1|\theta_i\right) - \frac{p^*}{1-p^*} = \theta_i$. It is worth noting that the estimated, $\hat{\theta}_i$, will be negative for any subject who reports winning fewer than $K\frac{p^*}{1-p^*}$ times, in spite of the fact that in fact $\theta_i \geq 0$ by assumption. It is possible to define different estimators that are non-negative, however, these estimator will not be unbiased.

[13] Because $\hat{\theta}_i$ is unbiased, the resulting measurement error, $(\theta_i - \hat{\theta}_i)$ is mean-independent of the true θ_i.

to be decreasing in K and increasing in p^*. This motivates our chosen implementation of the dice-under-cup game, which has many rounds ($K = 40$) and a low win probability in each round ($p^* = \frac{1}{6}$).

3.3 Job sector preferences

The second key ingredient in the empirical analysis will be measures of subjects' preferences for public service jobs. For our main measure of job preferences, we asked respondents to imagine that they have obtained their academic degree and are now free to choose between jobs. In this scenario they were then asked to rank eight categories based on the most common jobs held by graduates from our student population: public administration, private sector job in the financial sector, private sector job in a political party or lobby organization, private sector job within public relations, private sector job in a law firm, a job in the Danish Central Bank, other public sector job, or other private sector job. As already noted, public administration is by far the most important public service career for our population. As our main measure of subjects' preferences for entering public service, we therefore use the rank given to public administration.

For robustness and additional results, we also elicited three additional measures of job preferences: First, respondents were asked the likelihood of them ending up in each of the eight job categories described above. To ease subjects' way through the survey, we did not require that the reported probabilities sum up to a hundred so in the empirical analysis we rescale them appropriately. Second, we administered a standard 16-item questionnaire measuring Public Service Motivation (PSM), which in the political science literature is often used as an indication of respondents' dispositional preferences for working in the public sector (Perry 1996; Perry, Hondeghem, and Wise 2010).[14]

Finally, to examine the role played by public sector wages, respondents were asked to compare their preferred job in the private versus public sector given various different counterfactual wage differences between the two jobs. For each of the different counterfactual wage scenarios subjects were asked to list which of the two jobs they preferred.

[14]Empirically, a number of studies have found PSM to correlate with employment in the public sector or preferences for employment in the public sector (Crewson 1997; Houston 2000; Lewis and Frank 2002).

3.4 Other measures in the survey

To examine how dishonesty and selection into public service are related to other subject attributes, we included a range of other standard experimental tasks and questions in the survey experiment. To measure altruism and relative valuation of own income, we asked subjects to play a simple dictator game. At the beginning of the survey, subjects were given a gift of 15 DKK (2.5 USD). They were then offered to get the money transferred to their account when the survey was finished or donate some or all of the money to one of five charities of their choice. Furthermore, as they increased their own donation we matched their amount with up to 4 DKK (0.75 USD).

We also included an incentivized measure of risk aversion. Students were told that one in ten of them would be randomly selected to enter into a coin flip lottery at the end of the survey. They were then asked to choose between five different such lotteries with varying risk profiles. The most risky coin lottery involved a gain of 200 DKK (33 USD) in case of heads and 0 DKK for tails. The least risky lottery involved a gain of 80 DKK (16 USD) regardless of the coin flip.

As a proxy of ability, we asked subjects' to report their high school GPA. High school exams are standardized nationally in Denmark and provide a good measure of ability for our population of study. In the empirical analysis, we standardize GPAs across field to avoid mechanical correlations stemming from the admissions cut-offs for the different fields.[15]

To get measures of what is driving subject' job preferences, we also asked them to rank the following five job characteristics in order of importance: salary, work hours and other terms of work, importance, entertainment value and job security.

Finally, we use data on the subjects' gender. Table 1 provides summary statistics for all the main variables used in the empirical analysis. As the table shows, a few of the observations lack information about some variables. These are caused by erroneous reporting and a few subjects experiencing technical issues during parts of the survey experiment.[16]

[Table 1 about here.]

[15] Admission to different fields in Danish higher education is based high school GPA, with the necessary GPA varying widely across different fields. This introduces strong mechanical differences in student GPAs across fields, which are unrelated to their own career preferences.

[16] Connectivity issues on subjects' devices resulted in a few answers not being registered properly. In addition a few subjects reported all zeros when asked about the likelihood of ending up in the different jobs listed in the survey.

4 Empirical Analysis

Our empirical analysis of dishonesty and selection into public service proceeds as follows. First, we examine how much heterogeneity in dishonesty exists among our student population and then whether there is evidence of systematic self-selection of the more or less dishonest into public service. Next, we look into what factors may be driving the pattern of selection. We do this in two main steps by first examining which other attributes predict cheating behavior and then examining which of these attributes also correlate with wanting to enter public service. Finally, we present results on how the observed selection pattern relates to public sector wages before discussing various robustness checks and additional results.

4.1 How much heterogeneity exists in dishonesty?

We are interested in examining whether Danish students who exhibit a preference for entering public service are noticeably more or less dishonest than other students, as measured by their cheating rate in our dice under-cup-game. For this to be the case, it is of course necessary that cheating does in fact occur among Danish students and that the rate of cheating also differs markedly across students. Figure 2 shows a histogram of the observed number of correct guesses across students in our experiment along with the distribution of correct guesses that would be expected under complete honesty. There are signs of extensive dishonesty. For example, the probability of an honest student having 10 or more correct guesses is about 12 percent, yet 73 percent of students report 10 or more correct guesses in our sample.

[Figure 2 about here.]

In terms of heterogeneity, the spread in the distribution of correct guesses also indicates that subjects differ in how much they cheat. As discussed in Section 3, however, the spread in the number of reported correct guesses confounds differences in the level of dishonest behavior with differences in luck during the dice-under-cup game. To accurately separate out the actual heterogeneity in dishonesty, we implement a maximum likelihood estimator for the distribution of cheat rates.[17] Under the assumption that cheating behavior is independent over time, we

[17] Econometric details of the estimator are given in the appendix section A.1.

estimate the full distribution of cheat rates using a flexible beta distribution mixture.[18] Figure 3 shows the estimated distribution of cheat rates.

[Figure 3 about here.]

The estimated distribution show extensive heterogeneity in dishonesty among Danish students, including significant mass concentrated close to both zero and one. About 10 % are practically completely honest and cheat less than 1 % of the time, while 13 % are practically completely dishonest and cheat more than 99 % of the time.[19] The remaining 77 % fall somewhere in-between.[20] Overall, the standard deviation of cheat rates across subjects is 0.39, relative to a mean of 0.42.

4.2 Do more or less dishonest students self-select into public service?

Having documented extensive heterogeneity in dishonesty, we next examine if dishonesty is systematically related to preferences for entering public service. In Table 2, we regress subjects' estimated cheat rates on preferences for a public service career. Column 1 focuses on our main measure of job preferences: whether subjects' rank public administration in the top two of the eight job categories described in Section 3. Students ranking public administration in the top 2 cheat about 10 percentage point less than other subjects and this difference is highly statistically significant.

[Table 2 about here.]

For transparency and robustness, the rest of the columns in the table presents corresponding results using alternative measures of public sector job preferences from our survey. In column 2 we replace the indicator variable from column 1 with the flipped actual rank given to public administration (so a higher value means a stronger preference for public service). In column

[18] The results presented here are based on estimating the distribution of cheat rates as a mixture of two beta distributions. As shown in the appendix section A.2, this model fits the data very well. Based on standard model selection criteria and tests, it is also preferred to richer models that include more beta distributions in the mixture or allow for mass points in the distribution.

[19] Note that since we are modeling the cheat rate distribution as continuous, the share of people whose cheatrate is identically zero or one is zero by definition.

[20] The result that many subjects cheat a little bit but not the full amount is a standard finding in dice-under-cup games (Fischbacher and Föllmi-Heusi 2013; Hilbig and Hessler 2013; Shalvi, Handgraaf, and De Dreu 2011).

3 we use the measured PSM score. In column 4 we use data from our counterfactual wage question, focusing on whether subjects would choose the public sector over the private sector if faced with a sectoral wage gap of 5,000 DKK (833 USD), corresponding to the typical gap in starting wages between the two sectors. Finally, in column 5 we include the subjects reported probability of entering public administration. Across all these measures we see a negative and highly significant correlation between cheat rates and expressing a preference for entering public service.

4.3 How is selection related to other student attributes?

Having established that honest students are systematically more likely to want to enter public service in Denmark, we next try to shed some light on what underpins this pattern. In particular, we examine to what extent the pattern may be driven by students' with certain attributes being both more dishonest and less likely to want to enter public service. In doing so we focus on four subject attributes, which ex ante appear likely to contribute to the relationship between dishonesty and job preferences:

Risk aversion has been shown previously to predict job choices (e.g. Buurman et al. 2012; Fouarge, Kriechel, and Dohmen 2014), as public jobs are often viewed as having higher job security. Moreover, a subject's risk tolerance could also correlate with their tolerance for dishonest behavior.

Ability has received significant attention in the literature on selection into public service (e.g. Dal Bó, Finan, and Rossi 2013; Ashraf et al. 2014; Deserranno 2014), and could also correlate with dishonesty.

Altruism, understood as subjects' willingness to forego own income to benefit others, is often found to predict job preferences (e.g. Dur and Zoutenbier 2014; Buurman et al. 2012; Kolstad and Lindkvist 2013). In particular, since public service jobs in Denmark generally pay less than private sector jobs, altruistic subjects may be more willing to enter public service. As dishonesty generally involves personal gain at the expense of others, altruism could also be systematically related to dishonesty.

Finally, *gender* has been shown previously to be related to both job choices and dishonesty,

as women are typically more likely to work in the public sector (Dur and Zoutenbier 2014; Buurman et al. 2012; Lewis and Frank 2002) and less likely to engage in dishonest behavior (Houser, Vetter, and Winter 2012; Bucciol, Landini, and Piovesan 2013).

We first examine how each of these attributes relate to dishonest behavior. In Table 3, we regress the estimated cheat rate on measures of subjects' ability, risk aversion, altruism and gender.

[Table 3 about here.]

In column 1, subjects' GPA is effectively uncorrelated with their cheat rate, suggesting that dishonesty is unrelated to ability. In column 2, we fail to detect any correlation between the estimated cheat rate and whether the subject chooses the most risky lottery in the lottery section of our survey.[21] This suggests that risk preferences are uncorrelated with dishonesty, which is further borne out in column 3 where we see no relationship between cheat rates and whether or not a subject ranked job security among the two most important job characteristics, as described in Section 3.

In column 4 we see that donations in our dictator game is a clear negative predictor of dishonesty. Each additional 1 DKK donation is associated with a 1.6 percent lower cheat rate. One interpretation of this is that subjects who are less altruistic and place a higher weight on their own income are more likely to behave dishonestly, as this is a way to increase their own income. In line with this interpretation, column 5 shows that subjects who rate salary as an important job characteristic also cheat 8 percentage points more.

In column 6, male subjects are seen to behave more dishonestly, cheating about 6 percent more than their female counterparts.

Finally, in column 7 we simultaneously include all the various regressors. This specification confirms donation in the dictator game and the ranking of salary as a job characteristic as clear predictors of dishonesty, whereas gender is insignificant and has a smaller estimated coefficient. As our different measures of subject attributes are correlated with each other and may suffer from different degrees of measurement error, care is warranted when interpreting regressions that include many of them simultaneously. With that caveat in mind, however, the results are

[21] Alternative specifications that compare estimated cheat rates across all four lottery tickets lead to similar results.

indicative that altruism and valuation of own earnings are the main correlates of dishonesty and that the observed gender differences in dishonesty may only be working through gender differences in altruism and valuation of own earnings.

Having examined which subject attributes correlate with dishonesty, we next examine which ones also correlate with preferences for entering public service. In Table 4, we regress a dummy for having ranked public administration as one of the top two preferred jobs on the same set of subject attributes as in Table 3.

[Table 4 about here.]

In column 1 we see that our proxy of ability, standardized GPA, is uncorrelated with job preferences. Ability appears uncorrelated with preferences for entering public service in our context. In column 2, we see some evidence that subjects who pick the most risky lottery in our survey are less likely to have a preference for a job in public administration ($p = 0.10$). On the other hand, column 3 shows that ranking job security as an important job characteristic is actually negatively correlated with expressing a preference for entering public service, although this is not statistically significant.

In columns 4 and 5, we see that both our measures of altruism and relative valuation of own income are strong predictors of job preferences. Column 4 shows that for each additional 1 DKK a subject donated in the dictator game, the subject is 0.9 percentage point more likely to express a particular preference for working in public administration. Column 5 shows that subjects who rank salary as an important job characteristic are about 20 percentage points less likely to express such a preference.

Column 6 echoes the standard finding that women are more likely to work in the public sector by showing that men are about 13 percentage points less likely to express a preference for a public sector job compared to women.

In column 7 we again include the full set of variables in the model. This leads to estimated coefficients that are very similar to the previous columns, although the mixed results regarding risk preferences are further underscored as the negative correlation between job preferences and preferences for job security is now marginally statistically significant, while the correlation

between job preferences and lottery choice is not.[22]

Together, the results in Tables 3 and 4 show no evidence that the systematic relationship between dishonesty and preferences for entering public service in Denmark is related to ability or risk preferences, as neither of these correlate with dishonesty. On the other hand, subjects who donate little in our dictator game and rank salary as an important job characteristic are both systematically more dishonest and systematically less likely to want to enter public service. Altruism and relative valuation of own income thus appears to play a role in shaping the observed pattern of self-selection. The results also suggest a role for gender, as men are both more dishonest and less likely to want express a preference for entering public service. As noted, however, this in turn also appears to stem from gender differences in altruism and valuation of own income.

4.4 Which jobs do dishonest students prefer?

We next look at which job categories dishonest students are particularly likely to prefer. To this end, Table 5 splits the sample into an *honest* and a *dishonest* half based on the estimated cheat rate and then compares how many students in each group rank the eight different job categories as their most preferred. The last row of the table thus restates the paper's main results by showing that public administration is ranked as the top job much more often for honest students than dishonest students: 25.9 % of the honest half of students rank public administration as their preferred job, while only 17.3 % of the dishonest half do so.

Looking at which jobs the dishonest half of students rank in the top instead of public administration, we see that by far the most important category is the financial sector. 18.9 % of dishonest students rank the financial sector at the top versus only 8.6 % among honest students: a bigger gap than we observe for any other job category. While jobs in the various listed categories may differ in many different dimensions, financial sector jobs particularly stand out as by far the best paid jobs. The popularity of financial sector jobs among dishonest students thus dovetails our findings regarding altruism and valuation of own earnings.[23] Dishonest individuals

[22]The very mixed empirical relationship between risk preferences and preferences for a job in public administration goes somewhat against the conventional view in the literature that public sector jobs are more secure and therefore attract risk averse subjects. One possible interpretation is that for the highly educated group of subjects we consider here, the job security benefits in the public sector are negligible.

[23]We note that the second most important job category for dishonest students is the Danish Central Bank. In

self-select out of the public sector jobs and into high-paying private sector jobs in part because they are less altruistic and place a higher weight on their own earning opportunities when making job choices.

[Table 5 about here.]

4.5 How is the selection pattern related to public sector wages?

We now turn to consider how the observed selection pattern into public service is related to a key policy variable, namely the level of public sector wages. In Denmark, public sector jobs generally pay less than private sector jobs. This stands in stark contrast to the significant public sector wage premiums that are typical in many developing countries that struggle with corruption (Finan, Olken, and Pande (2015)). Given the results in the previous sections, the observed selection pattern in Denmark may thus be related to the modest level of public sector wages in Denmark.

To test the role of public sector wages in shaping the selection pattern into public service, we use data from our set of counterfactual wage gap questions, where subjects were asked to choose between their preferred private and public sector jobs conditional on the two jobs having different possible wage gaps. Figure 4 shows the results.

[Figure 4 about here.]

Each pair of lines in the figure correspond to a different hypothetical wage gap between the public and private sector, ranging from the private sector paying 20,000 DKK more per month (3,333 USD) to the private sector paying 20,000 DKK less. For each wage gap, the height of the lines shows the average estimated cheat rate among those who would prefer the public and private sector, at the given wage gap.

Furthest to the left, in the scenario where the private sector job pays 20,000 DKK more, the average estimated cheat rate among subjects preferring the private sector is 0.43 as opposed to only 0.31 among subjects preferring the public sector, a gap of 12 percentage points. Moving right to scenarios where the public sector wage is relatively higher, the average cheat rates in

practice, jobs in the Central Bank often serve as stepping stones for lucrative private sector jobs in finance and related industries.

the two groups begin to converge. In the scenario where the private sector pays 5,000 DKK, roughly the current level of the public-private wage gap for our student population, the gap in cheat rates is down to 9 percentage points. Moving further right, the pattern continues. As the relative public sector wage is increased, the average cheat rate increases among public sector candidates and the public-private gap in dishonesty narrows. It eventually flips in scenarios where the public sector wage is 10,000 DKK or more above the private sector wage.

The answers in the counterfactual wage scenarios thus suggest that higher public sector wages would in fact lead to a more dishonest pool of candidates for public service jobs. This supports the notion that the relatively low level of public sector wages in Denmark is important for the observed selection pattern.

4.6 Robustness and additional results

We finish this section of the paper by summarizing a few additional results and robustness checks that are presented at length in the appendix.

For simplicity and transparency, the preceding sections primarily used regressions for analyzing the relationship between dishonesty, job preferences and other attributes. An alternative approach is to use factor analysis to explicitly determine a number of latent factors that jointly explain dishonesty, job preferences and other subject attributes. As we go through in appendix A.3, such an analysis yields the same conclusions as those presented above: The analysis identifies two latent factors that correspond closely to risk aversion and altruism. The latter factor correlates positively with both honesty and preferences for entering public service, while the former factor does not correlate with honesty.

Our survey experiment samples students conditional on having already chosen to enter one of the three fields, law, economics and political science. One question of interest is therefore to what extent the self-selection pattern we find reflects self-selection into field of study that happens prior to our sampling frame. In Table 13 in the appendix we examine selection conditional on field of study by including field controls in the regressions from Table 2. Selection into different fields can explain between one half and two-thirds of the observed selection pattern, but the selection pattern is also apparent within fields. From the field controls, we also see that students

of economics are significantly more likely to cheat than other students. This echoes previous results regarding economics as a field (e.g. B. Frank and Schulze 2000).

For completeness, Table 20 in the appendix regresses subjects' estimated cheat rate on job preferences while adding the various other subject attributes as controls. As should be expected given the results in Section 4.3, the relationship between cheat rates and job preferences is unaffected when controls for ability or risk preferences are added and only weakens when controls are added for donation behavior, the importance of salary or gender. We note that the estimated correlation between job sector preferences and dishonesty remains highly significant throughout, however, even when all student attributes are added as controls. This is suggestive that additional unobserved factors are also important for the observed pattern of self-selection but could also simply reflect that our empirical measures of altruism and valuation of own earnings are imperfect.

In the appendix, we also conduct a series of robustness checks to shore up various concerns with our empirical analysis:

First, our implementation of the dice-under-cup game differs from many previous implementations in that we ask subjects to play many rounds. This repetition may raise concerns that subjects become fatigued or otherwise change their game perception or behavior. As noted in Section 3, however, it is possible to perform all of the regression analysis above using data from only a single dice roll for each subject. As a robustness check, Table 14 and 17 in the appendix therefore reruns the analyses above using only data on the first dice roll for each subject.

Second, given the student population we focus on, another concern is that the behavior of some subjects may be affected by knowledge of the existing academic literature on dishonesty and its relation to our experimental tasks. At the end of the survey experiment, we asked subjects whether they had prior familiarity with any of its elements. Independent coding of the responses show that 40 subjects expressed awareness of either dice-under-cup games, similar experimental games (e.g. coin flipping), or explicitly mentioned the potential for cheating. Table 16 and 19 in the appendix repeats the analysis after excluding these subjects.

Third, our sample includes 143 subjects who cheat on all dice rolls and report the maximum number of correct guesses in our dice-under-cup games. As an additional robustness check,

Table 15 and 18 in the appendix repeats the empirical analysis without these subjects.

As Tables 14-19 show, the papers conclusions are robust to all three alternative sample restrictions. Besides the obvious loss of precision when dropping observations, the alternative specifications lead to very similar results as the ones presented above. The only exception to this is that the positive correlation between gender and dishonesty drops in both magnitude and significance when excluding groups of subjects.

Finally, as usual when analyzing survey or experimental data, representativeness and selective non-participation is a concern. In appendix A.4 Tables 8-12, we examine issues of non-participation by exploiting that the administrative university data contains information on enrollment year, field, completed classes and gender for everyone invited to our survey experiment. Although our participation rate of 28.7 % is reasonably high, our participant population does differ somewhat from invited non-participants. In particular, participants are a bit younger, more likely to study economics and slightly more likely to be male. Applying a reweighting procedure to correct our regression estimates for non-participation, however, shows no evidence that selective non-response affects our results.

5 Conclusion

We study the role of self-selection into public service in sustaining an equilibrium of low corruption and public sector dishonesty. Focusing on the world's least corrupt country, Denmark, we conduct a survey experiment among a relevant student population to obtain individual measures of dishonesty, preferences for entering public service and other relevant attributes.

We document extensive heterogeneity in dishonesty among potential candidates for public service and a clear pattern of positive self-selection into public service: Students expressing a preference for entering public service cheat 10 percentage point less on average in a standard experimental dishonesty task. This result stands in sharp contrast to results from comparable experiments conducted in more corrupt countries.

To shed light on the mechanisms behind the observed selection pattern, we use additional experimental data to examine how the selection pattern is related to other individual attributes

and the level of public sector wages. Risk-aversion and ability do not explain the observed selection pattern. Altruism and valuation of own earnings play an important role, however, as dishonest individuals are more financially motivated and self-select out of the public sector and into higher-paying private sector jobs. To further examine the role of public sector wages, we analyze a set of counterfactual job preference question that vary the wage gap between the public and private sector. Consistent with our findings regarding altruism and valuation of own earnings, we find that higher public sector wages would attract *more dishonest* candidates to the public sector in Denmark.

Overall, our results suggest a clear for role for selection in sustaining honesty in public service. Relative to more high-corruption countries, Denmark exhibits a starkly different pattern of positive self-selection into public service in terms of honesty. Given the evidence that personality types matter for corruption (Hanna and Wang (2013), Callen et al. (2015)), this suggests that positive self-selection of honest individuals into public service is indeed one channel through which Denmark is able to sustain its low levels of corruption and public sector dishonesty.

In addition, our results highlight the importance of understanding selection in the dishonesty dimension when formulating policy. In particular, public sector wage increases have long been viewed as a useful anti-corruption policy because they lower the incentives to engage in corruption among existing public officials (Becker and Stigler (1974)). However, our findings indicate that high public sector wages can have counterproductive effects on corruption by attracting more financially motivated and dishonest individuals to the public sector.

In terms of future work, our findings suggest that selection into public service should be a topic of first order importance for corruption researchers. Combined with recent evidence on public sector wage premiums in low-income countries in particular (Finan, Olken, and Pande (2015)), our results indicate that an important characteristic of an honest public sector may be that it does not attract workers by paying excessively high wages. At the same time, however, he effects of public sector wages on selection may be highly context dependent and high wages may in some case be important for other reasons, such as being able to successfully fill positions. Understanding patterns of selection into public service across different contexts and the role of public sector wages in shaping this selection is thus an important direction for future work.

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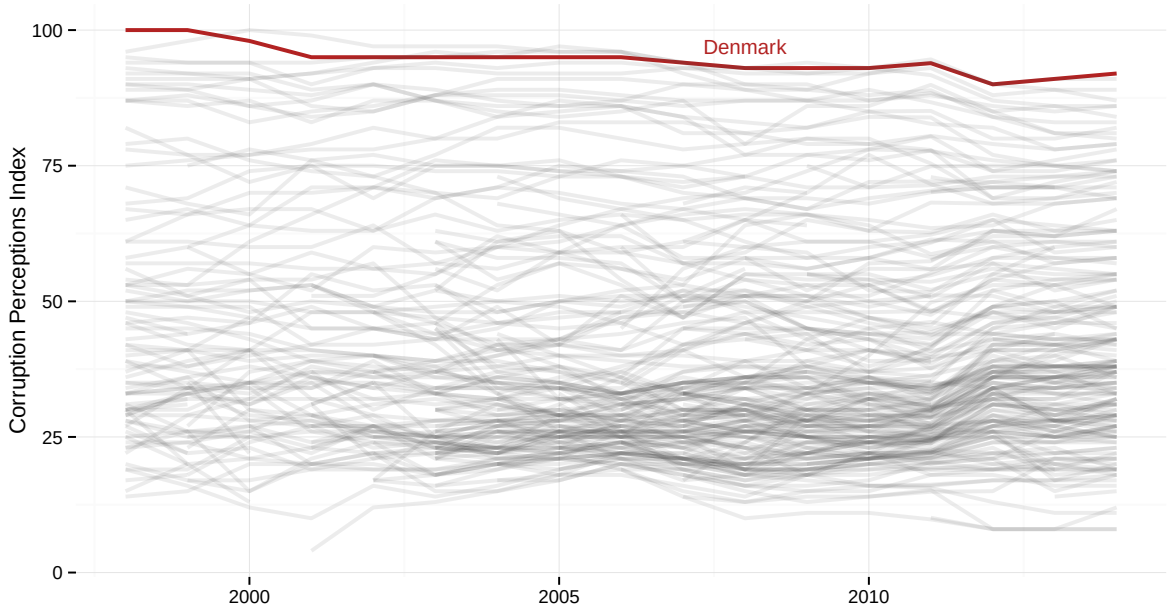
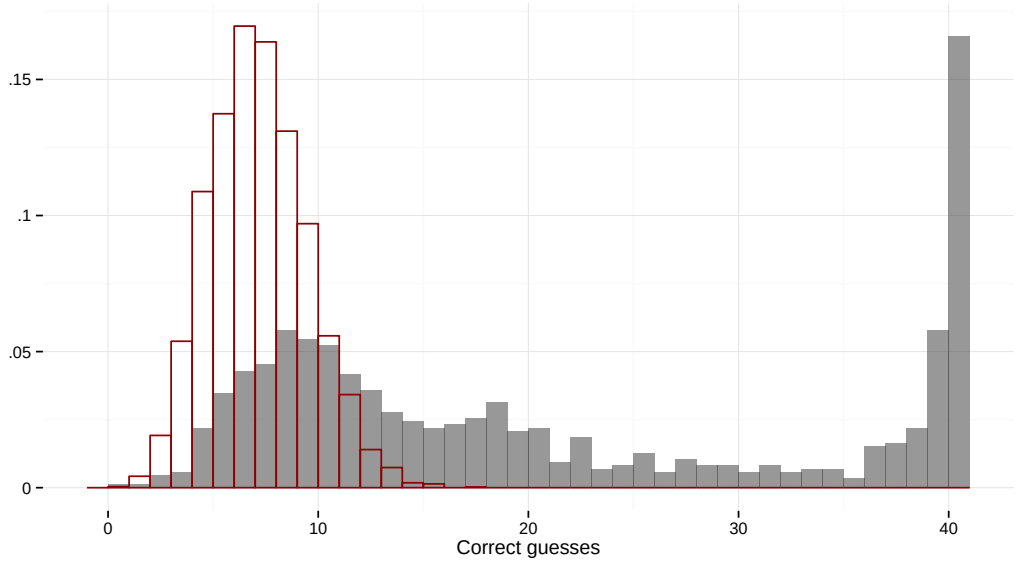
Figure 1: Corruption Perceptions Indices 1996-2014, all countries



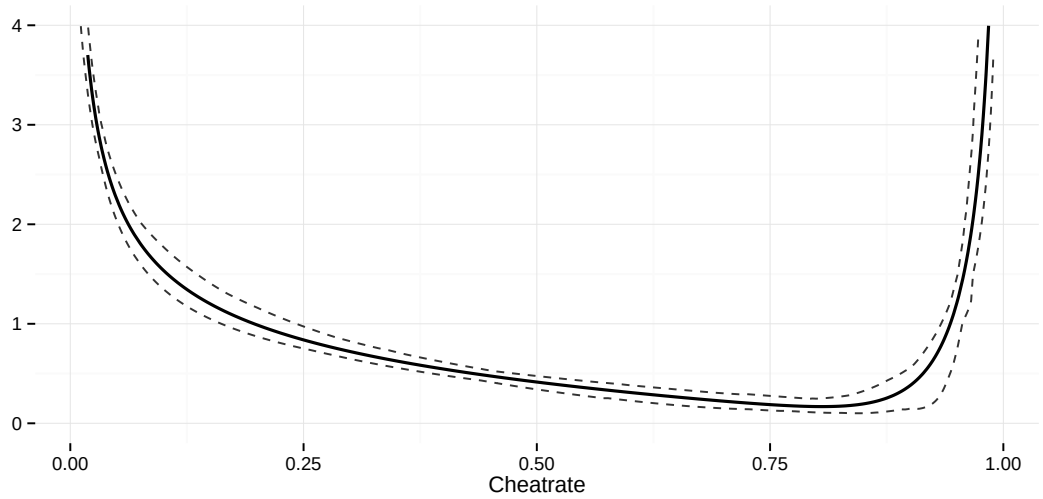
The figure shows the evolution of the Corruption Perceptions Index (CPI) 1996-2014 for all countries in the CPI data (grey), with Denmark highlighted.

Figure 2: Histogram of observed number of correct guesses and predicted distribution under full honesty (outlined).



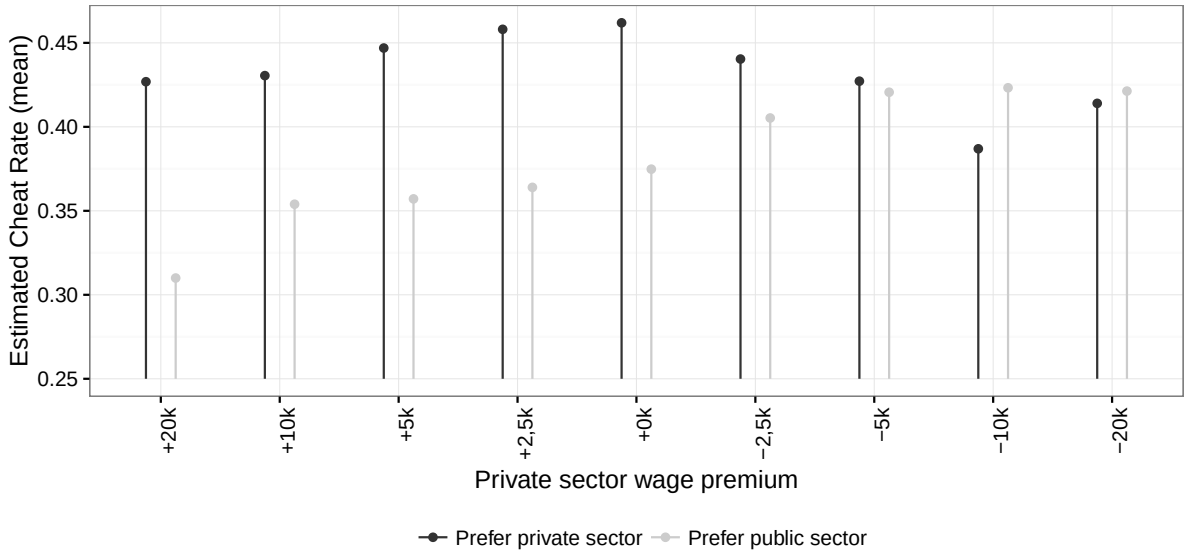
The histogram shows the observed number of correct guesses in the data (filled) as well as the predicted distribution under full honesty.

Figure 3: Estimated distribution of cheat rates



The figure plots the probability density function of the distribution of cheat rates across students, estimated by maximum likelihood by fitting a beta distribution mixture with two components. The estimated mixture weights and distribution parameters are shown in the appendix section A.2. Dotted lines show pointwise 95% confidence intervals obtained via bootstrapping. Note that the y-axis is truncated; the function goes to infinity at the endpoints.

Figure 4: Average cheat rate for those preferring public and private sector by size of public-private wage gap



The figure shows the averages estimated cheat rate among subjects preferring public and private sector in different counterfactual wage scenarios that vary the private sector wage premium. Each pair of one black and one grey line correspond to a different wage scenario. Black lines show the estimated cheat rates of those choosing the private sector sector in the wage scenario. Grey lines shows the estimated cheat rates for those choosing the public sector.

Table 1: Summary statistics, key variables

Statistic	N	Mean	St. Dev.	Min	Max
Number of correct guesses	862	20.724	13.186	0	40
Estimated cheat rate	862	0.422	0.396	−0.200	1
Public administation ranked ≤ 2	862	0.422	0.494	0	1
Higher ranking of public administration	862	−3.414	2.079	−8	−1
Public service motivation score	860	2.440	0.521	0.250	3.950
Public sector picked at current wage	862	0.281	0.450	0	1
Probability of public administration	858	0.207	0.130	0	0.900
GPA (standardized)	861	−0.002	0.998	−5.914	2.332
Picks risky lottery	862	0.501	0.500	0	1
Job security ranked ≤ 2	862	0.119	0.325	0	1
Donation	862	6.798	6.521	0	15
Wage ranked ≤ 2	862	0.288	0.453	0	1
Male	862	0.536	0.499	0	1
Age	862	23.056	3.413	18	54
Field: Law	862	0.182	0.386	0	1
Field: Economics	862	0.442	0.497	0	1
Field: Politial science	862	0.376	0.485	0	1

The table shows summary statistics for the participants in the survey experiment. The variables are the number of reported correct guesses across the 40 dice games, the estimated cheat rate, an indicator for whether public administration was ranked in the top two of the eight job categories, the flipped actual rank given to public administration (so that a higher value means a stronger preference for public administration), the public service motivation score, an indicator for whether the public sector was picked in the wage scenario corresponding to the current wage gap, the subjective probability of ending up in public administration, GPA standardized by field (the non-zero mean is due to the one excluded participant), an indicator for choosing the most risky lottery, the amount donated in the dictator game, the subject's gender and age, indicators for whether job security and wage was ranked in the top two of the five job characteristics and indicator variables for field of study.

Table 2: Estimated cheat rate and public service job preferences

	Estimated cheat rate				
	(1)	(2)	(3)	(4)	(5)
Public administation ranked ≤ 2	-0.102^{***}				
	(0.027)				
Higher ranking of public administration		-0.022^{***}			
		(0.006)			
Public service motivation score			-0.152^{***}		
			(0.026)		
Public sector picked at current wage				-0.090^{***}	
				(0.029)	
Probability of public administration					-0.285^{***}
					(0.105)
Constant	0.465^{***}	0.345^{***}	0.793^{***}	0.447^{***}	0.481^{***}
	(0.018)	(0.025)	(0.066)	(0.016)	(0.026)
N	862	862	860	862	858
R^2	0.016	0.014	0.040	0.010	0.009

The table shows regressions of subjects' estimated cheat rate on various measures of public service job preferences. The job preference measures are an indicator for whether public administration was ranked in the top two of the eight job categories, the flipped actual rank given to public administration (so that a higher value means a stronger preference for public administration), the public service motivation score, an indicator for whether the public sector was picked in the wage scenario corresponding to the current wage gap, the subjective probability of ending up in public administration. Robust standard errors in parenthesis. *p<0.1; **p<0.05; ***p<0.01.

Table 3: Estimated cheat rate and student characteristics

	Estimated cheat rate						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
GPA (standardized)	0.007						0.014
	(0.014)						(0.014)
Picks risky lottery		0.035					0.036
		(0.027)					(0.027)
Job security ranked ≤ 2			0.002				-0.002
			(0.039)				(0.038)
Donation				-0.016^{***}			-0.016^{***}
				(0.002)			(0.002)
Wage ranked ≤ 2					0.083^{***}		0.048^{*}
					(0.029)		(0.029)
Male						0.061^{**}	0.034
						(0.027)	(0.027)
Constant	0.422^{***}	0.404^{***}	0.422^{***}	0.533^{***}	0.398^{***}	0.389^{***}	0.481^{***}
	(0.013)	(0.019)	(0.014)	(0.019)	(0.016)	(0.019)	(0.028)
N	861	862	862	862	862	862	861
R^2	0.0003	0.002	0.00000	0.073	0.009	0.006	0.082

The table shows regressions of subjects' estimated cheat rate on various characteristics. The characteristics are GPA standardized by field, an indicator for choosing the most risky lottery, the amount donated in the dictator game, an indicator for being male and indicators for whether job security and wage was ranked in the top two of the five job characteristics. Robust standard errors in parenthesis. *p<0.1; **p<0.05; ***p<0.01.

Table 4: Preference for public employment and student characteristics

	Public administation ranked ≤ 2						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
GPA (standardized)	0.001						-0.002
	(0.017)						(0.017)
Picks risky lottery		-0.058^{*}					-0.042
		(0.034)					(0.034)
Job security ranked ≤ 2			-0.072				-0.093^{*}
			(0.051)				(0.049)
Donation				0.009^{***}			0.006^{**}
				(0.003)			(0.003)
Wage ranked ≤ 2					-0.202^{***}		-0.184^{***}
					(0.035)		(0.036)
Male						-0.126^{***}	-0.092^{***}
						(0.034)	(0.035)
Constant	0.423^{***}	0.451^{***}	0.431^{***}	0.364^{***}	0.480^{***}	0.490^{***}	0.513^{***}
	(0.017)	(0.024)	(0.018)	(0.024)	(0.020)	(0.025)	(0.036)
N	861	862	862	862	862	862	861
R^2	0.00000	0.003	0.002	0.013	0.034	0.016	0.058

The table shows regressions of an indicator for subjects ranking public administration in the top two of the eight job categories on various characteristics. The characteristics are GPA standardized by field, an indicator for choosing the most risky lottery, the amount donated in the dictator game, an indicator for being male and indicators for whether job security and wage was ranked in the top two of the five job characteristics. Robust standard errors in parenthesis. *p<0.1; **p<0.05; ***p<0.01.

Table 5: Top ranked job categories among less and more dishonest

Top ranked job	Est. cheat rate $<$ median	Est. cheat rate $\geq$ median	Difference	p-value
Financial sector	8.62	18.94	10.31	0.0000
Central bank	4.66	10.16	5.50	0.003
Other private	19.11	20.79	1.67	0.60
Law firm	11.89	11.55	-0.34	0.96
Other public	3.96	3.23	-0.73	0.69
Public relations	6.76	4.16	-2.60	0.13
Political party or lobby org.	19.11	13.86	-5.26	0.05
Public administration	25.87	17.32	-8.55	0.003

The table examines top ranked job categories among more dishonest vs. less dishonest subjects. Each row corresponds to a different job category. The first numerical columns shows the fraction of subjects ranking each job category as the preferred one among subjects with an estimated cheat rate below the median. The second numerical column shows the fraction of subjects ranking each job category as the preferred one among subjects with an estimated cheat rate above the median. The last two columns shows the difference in these fractions for each of job category as well as the p-value for testing whether the difference is zero.

A Appendix (FOR ONLINE PUBLICATION)

A.1 Additional econometric details for estimators

This section derives the variance of the individually estimated cheat rates used in the paper and goes through the construction of the maximum likelihood estimator for the full distribution of cheat rates.

In order to analyze the variance of the estimated cheat rate and construct estimators of the distribution of cheat rates, we will have to take a stance on the dependence of cheating behavior across rounds of the dice game. We focus here on the case where cheating behavior is independent across time. In this case, for an individual with cheat rate θ_i, the total number of reported wins, Y_i, is simply the number of successes in K independent trials with success probability $p^* + (1-p^*)\theta_i$. Conditional on θ_i, Y_i therefore follows a binomial distribution:

$$Y_i|\theta_i \sim B(K, p^* + (1-p^*)\theta_i) \tag{1}$$

Recall from the main text that our estimated cheat rate for each individual is $\hat{\theta}_i = \frac{1}{1-p^*}\frac{1}{K}Y_i - \frac{p^*}{1-p^*}$. Applying the standard formula for the variance of a binomially distributed random variable along with some simple algebra then yields the following expression for the variance of the estimated individual cheat rate:

$$Var\left(\hat{\theta}_i \middle| \theta_i\right) = \frac{\theta_i(1-\theta_i)}{K} + \frac{p^*}{(1-p^*)}\frac{(1-\theta_i)}{K}$$

From the above expression we see that the measurement error in our measure of dishonesty is increasing in p^* and decreasing in K. This motivates the design of our dice game which has a relatively low win probability, $p^* = \frac{1}{6}$ and asks students to repeat the dice game many times over, $K = 40$.

Next we turn to the construction of an estimator for the full distribution of dishonesty. From (1) it follows that conditional on θ_i the probability of observing some number of guesses Y_i is $\binom{K}{Y_i}(p^* + (1-p^*)\theta_i)^{Y_i}(1-p^* + (1-p^*)\theta_i)^{K-Y_i}$. If we let F denote the distribution of θ_i

across the population, we can integrate out θ_i to get the unconditional probability of observing Y_i correct guesses:

$$\int_0^1 \binom{K}{Y_i} (p^* + (1-p^*)\theta)^{Y_i} (1 - p^* + (1-p^*)\theta)^{K-Y_i} \, dF(\theta)$$

The likelihood of observing a random sample of individuals with $Y_1, Y_2, ..., Y_N$ correct guesses is then:

$$\prod_{i=1}^{N} \int_0^1 \binom{K}{Y_i} (p^* + (1-p^*)\theta)^{Y_i} (1 - p^* + (1-p^*)\theta)^{K-Y_i} \, dF(\theta)$$

To estimate the distribution F using maximum likelihood, we will need to invoke a parameterization so we specify that F belongs to some parametric family parameterized by the vector $\lambda \in \Lambda$: $\mathcal{F} = \{F(\cdot;\lambda)|\lambda \in \Lambda\}$. With this specified, the problem of estimating the true F is equivalent to the problem of estimating the true λ. We can take logs above and construct an estimator of λ by maximizing the log likelihood function as follows:

$$\hat{\lambda} = \underset{\lambda}{\text{argmax}} \quad \sum_{i=1}^{N} \log \left(\int_0^1 \binom{K}{Y_i} (p^* + (1-p^*)\theta)^{Y_i} (1 - p^* + (1-p^*)\theta)^{K-Y_i} \, dF(\theta;\lambda) \right)$$

In the main text we implement this approach while setting $\mathcal{F}$ to be the family of two-component beta mixture distributions so that λ consists of the mixture weights and the parameters of each of the beta-distributions in the mixture. The next sections explores alternative models based on different families $\mathcal{F}$.

A.2 Estimated distribution of cheat rates, detailed results

This section present additional results regarding the estimated distribution of cheat rates. Table 6 shows estimated parameters for three different models for the distribution. Model (1) is the one considered in the main text. It specifies the distribution of cheat rates as a mixture of two beta distributions with parameters and weights to be estimated. Parameterizing the beta-distributions in terms of mean and variance, the table show the estimated parameters and weights for each of the two components in the mixture, corresponding to the estimated cheat rate distribution plotted in the main text.

Model (2) in the table extends Model (1) by including an additional beta distribution in the mixture. The extra beta distribution is estimated to have a weight of about 0.05, a mean of about 0.33 and a variance that is very close to zero. In practice this third estimated beta-distribution in the mixture is thus indistinguishable from a discrete distribution with all its mass at 0.33. This motivates Model (3) in the table which instead extends Model (1) by including a mass point in addition to the two-component beta-mixture. Similar to the results in Model (2), the included mass point is estimated to have a mass of about 0.05 and be located at 0.33.

Comparing the fit of the three models, the practical similarity of models (2) and (3) is evidenced by the fact that they both yield a log likelihood of -2813, whereas model (1) yields a slightly worse log likelihood of -2814. Since models (2) and (3) also include more free parameters, however, model selection based on standard information criteria (IC) suggests that Model (1) is preferred as it has a strictly smaller Bayesian IC and Akaike IC than both Models (2) and (3). Conducting Likelihood Ratio tests of Model (1) against Model (2) and Model (3), we also cannot reject Model (1) at any conventional level of significance ($p = 0.15$ and $p = 0.18$ respectively).[1]

Finally, Figure 5 provides a different check on the fit of Model (1) by plotting the predicted distribution of correct guesses under the estimated distribution against the actually observed distribution of correct guesses. As the figure shows, the estimated distribution does a very good job of fitting the observed distribution.

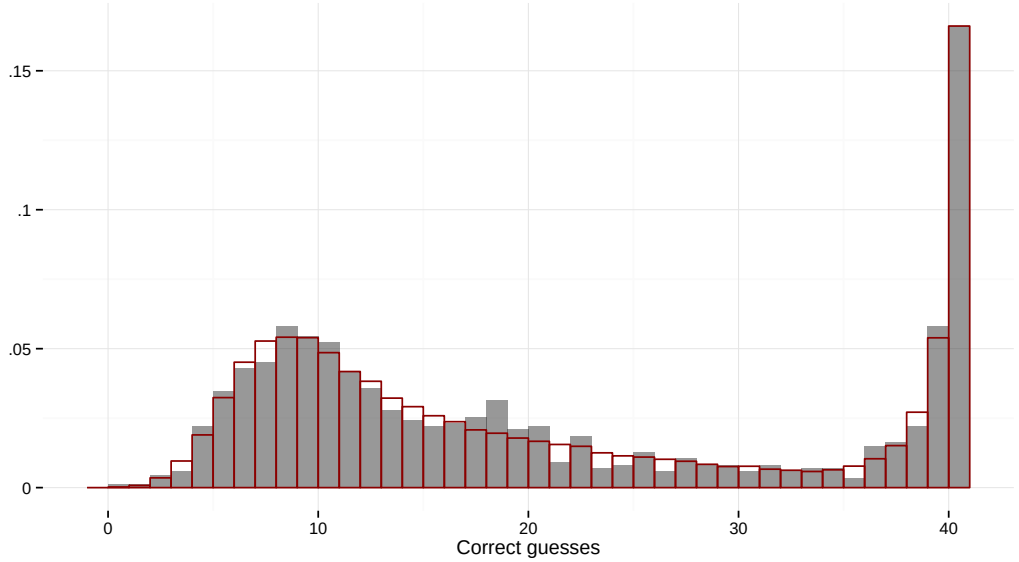
[1] Testing Model (1) against the other models implies testing whether one of the components in a mixture has zero weight. This is a non-standard testing problem. We therefore base the likelihood ratio test on McLachlan (1987)'s parametric bootstrap procedure for mixture distributions.

Table 6: Distribution of cheat rates, detailed estimates

	Model:		
	(1)	(2)	(3)
	Beta-mixture component I:		
Weight	0.275	0.274	0.288
	(0.058)	(0.063)	(0.037)
Mean	0.975	0.975	0.975
	(0.052)	(0.038)	(0.018)
Variance	0.001	0.001	0.001
	(0.018)	(0.015)	(0.006)
	Beta-mixture component II:		
Weight	0.725	0.672	0.712
	(0.058)	(0.060)	(0.037)
Mean	0.214	0.205	0.205
	(0.018)	(0.056)	(0.038)
Variance	0.049	0.052	0.052
	(0.008)	(0.021)	(0.012)
	Beta-mixture component III:		
Weight	-	0.054	-
		(0.069)	
Mean	-	0.331	-
		(0.054)	
Variance	-	$<$0.001	-
	Additional mass point:		
Mass at point	-	-	0.052
			(0.057)
Mass point location	-	-	0.334
			(0.152)
Log likelihood	-2814	-2813	-2813
Akaike IC	5638	5644	5640
Bayesian IC	5662	5687	5673
p-value, LR-test H_0 : Model (1)	-	0.149	0.178

The table shows maximum likelihood estimates for the distribution of cheat rates based on three different model specifications. Model (1) specifies the distribution to be a two-component beta-mixture. Model (2) specifies the distribution to be a three-component beta-mixture. Model (3) specifies the distribution to be mixture between a two-component beta-mixture and a mass point. For each model the estimated parameters and mixture weights are shown along with resulting Log Likelihood, Akaike Information Criteria and Bayesian Information criteria. Bootstrapped standard errors are in parenthesis. The last row shows p-values of likelihood ratio tests of Model (1) vs. Model (2) and Model (3), respectively, based on the parametric bootstrap of McLachlan (1987).

Figure 5: Histogram of observed number of correct guesses and predicted distribution from main estimated cheat rate distribution



The histogram shows the observed number of correct guesses in the data (filled) as well as the predicted distribution based on the estimated distribution of cheat rates in Model (1) (outlined).

A.3 Factor analysis of dishonesty, job preferences and other characteristics

As an alternative to the sequential set of regressions in the main text, this section conducts a factor analysis of preferences for entering public service, dishonesty and the four additional student characteristics, ability, risk aversion, altruism and gender.

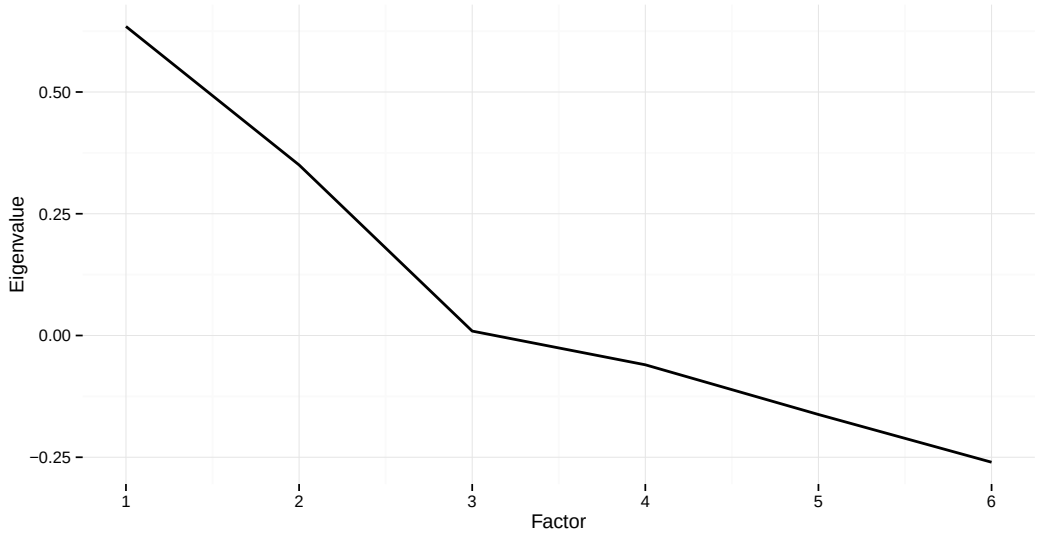
The variables used in the factor analysis are the flipped actual rank given to public administration (so that a higher value means a stronger preference), the estimated cheat rate, standardized GPA, the flipped riskiness rank of the chosen lottery (so that a higher value means more tolerance for risk), the amount donated in the dicator game and a dummy variable for being male. We compute the correlation matrix between these variables, using polychoric or polyserial correlations where appropriate to accommodate discrete variables[2] and apply the principal factor method.

To determine how many factor to retain, Figure 6 shows a Scree plot with the eigenvalues for the six identified factors. Looking at the line, the 'elbow' bends at the third component so we identify and proceed with two latent factors. We finally apply varimax rotation to the two factors to obtain interpretable loadings. Table 7 and Figure 7 show the resulting factor loadings.

Looking first at the factor loadings on the donation variable measuring altruism or relative valuation of own earnings, we see that it loads strongly on factor one but virtually does not load at all on factor two. Conversely the risk tolerance measure loads strongly on factor two but does not load on factor one. A useful interpretation of the factors is thus that factor one captures traits related to altruism or valuation of own earnings and factor two captures traits related to risk tolerance. With this interpretation in mind, the factor loadings tell a similar story to the analysis presented in the main text: Dishonesty, as measured by the estimated cheat rate, correlates negatively with altruism (factor one) but is unrelated to risk preferences (factor two). Preferences for entering public service shows a clear positive correlation with altruism and a less pronounced negative correlation with tolerance for risk. Altruistic individuals with a low relative valuation of own earnings are thus more dishonest and tend to self-selection out of public service. In terms of gender, men are significantly more tolerant of risk but also appear slightly

[2]Ignoring the discreteness of the variables and using the simple correlation matrix leads to virtually identical results.

Figure 6: Scree plot for factors



The figure shows a scree plot for the estimated factors. The x-axis corresponds to the six factors sorted by the size of the corresponding eigenvalue. The y-axis shows the eigenvalues for each factor.

less altruistic, implying that men are less likely to want to enter public service. Finally ability, as measured by GPA, is slightly negatively related to risk tolerance but essentially unrelated to altruism, implying that it is also unrelated to preferences for entering public service.

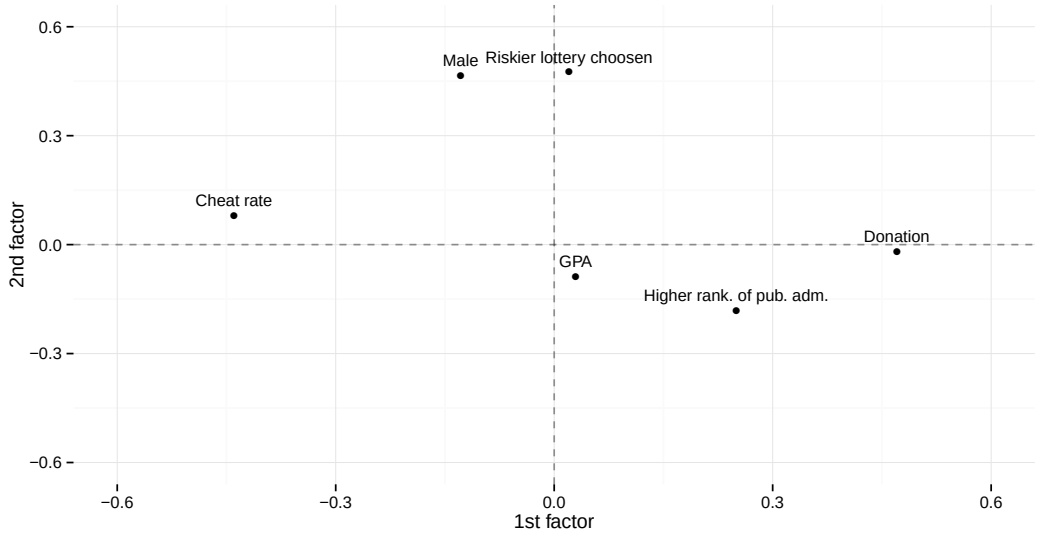
In sum, the conclusions of the paper's main text are robust to using factor analysis as an alternative method of analysis.

Table 7: Factor loadings after rotation

	Factor 1	Factor 2
Higher ranking of public administration	0.250^{***}	-0.183^{*}
	(0.059)	(0.107)
Estimated cheat rate	-0.440^{***}	0.081
	(0.046)	(0.063)
GPA (standardized)	0.029	-0.088
	(0.067)	(0.080)
Riskier lottery choosen	0.021	0.475^{**}
	(0.047)	(0.218)
Donation	0.471^{***}	-0.018
	(0.043)	(0.053)
Male	-0.128**	0.465^{**}
	(0.052)	(0.214)

The table shows the factor loadings of the two identified factors onto the six variables used in the analysis: the flipped actual rank given to public adminis- tration (so that a higher value means a stronger preference), the estimated cheat rate, standardized GPA, the flipped riskyness rank of the choosen lottery (so that a higher value means more tolerance for risk), the amount donated in the dicator game and a dummy variable for being maleadministration. The results were obtained by principal-factor analysis on a correlation matrix using polychoric and polyserial correlations as appropriate for the discrete variables, keeping the two most important factors and then applying the varimax rotation. Bootstrapped standard errors are in parenthesis. $^{***}p < .01$, $^{**}p < .05$, $^{*}p < .1$

Figure 7: Factor loadings after rotation



The figure plots the factor loadings of the two identified factors onto the six variables used in the analysis: the flipped actual rank given to public administration (so that a higher value means a stronger preference), the estimated cheat rate, standardized GPA, the flipped riskyness rank of the choosen lottery (so that a higher value means more tolerance for risk), the amount donated in the dicator game and a dummy variable for being maleadministration. The results were obtained by principal-factor analysis on a correlation matrix using polychoric and polyserial correlations as appropriate for the discrete variables, keeping the two most important factors and then applying the varimax rotation.

A.4 Analyzing representativeness and selective nonparticipation

This section examines potential issues with selective nonparticipation among students invited for participation in our survey experiment. The concern is that students self-select into participation based on particular traits which creates selection bias in our estimates. In our experiment, 862 subjects ended up participating. Relative to the 3,000 e-mail invitations that was sent out, this yields a response rate of 28.7 percent.

One strength of our experimental design is that since we sample and invite students from the university registers, we have data also on the characteristics of those who do not participate. Table 8 compares participants to nonparticipants in terms of the available characteristics: field of study, age, gender and study experience as measured by the number of earned ECTS point (European Credit Transfer System). The table reveals some moderate systematic differences, with participants being on average younger and more likely to be male than the average nonparticipant. There are no mean differences between the two groups on study experience, although we find evidence of systematic differences in the distribution of the study experience variable.

Table 8: Comparing participants to invited non-participants

	mean participant	mean nonparticipant	diff	t test p value	KS p value
Age	24.128	25.176	-1.049	0.000	0.000
Female	0.466	0.503	-0.037	0.067	-
Study experience (ECTS points)	45.112	44.482	0.630	0.754	0.066
Field: Law	0.182	0.390	-0.207	0	-
Field: Economics	0.445	0.294	0.152	0	-
Field: Politial Science	0.369	0.312	0.057	0.003	-

The table compares the sample of participants in the survey experiment with the sample of invited non-participants using the available data from university records. The available variables are student age, and indicator for the student being female, the students study experience as measured by the earned number of ECTS points (European Credit Transfer System), as well as indicators for field of study. Each row corresponds to a different variable. The first numerical columns shows the variable mean among participants, while the second column shows the mean among non-participants. The third and fourth columns show the difference in means between the groups and the p-value for a t-test that the means are the same. The last column shows the p-values for a Kolmogorov-Smirnoff test that the distributions of the variable is the same across the two groups.

To asses whether our results are driven by selective nonparticipation, we implement a correction based on inverse probability weighting. This method is intuitive and tractable, and the statistical properties of the inverse probability weighting method are well understood (Wooldridge 2002; Wooldridge 2007; Solon, Haider, and Wooldridge 2015). The validity of inverse probability weighting rests on the assumption that nonparticipation is random once we condition on all the observed data, a standard assumption when attempting to correct for systematic nonparticipation

(Gelman, King, and Liu 1999; King et al. 2001; Blackwell, Honaker, and King 2015; Solon, Haider, and Wooldridge 2015).

In practice, we model the participation probability by estimating a logit model on whether each subject participated in the experiment. We use the six variables in Table 8 as explanatory variables in the logit model. This generates, for each subject, a predicted probability of participating in the experiment. When the logit model is correctly specified, weighting each observation with the inverse of this probability generates consistent and unbiased regression estimates for the population (Wooldridge 2002). To obtain standard errors, we use a bootstrap procedure that resamples the full set of invitees.

Tables 9 through 12 show the full set results of the article when correcting for selective nonparticipation. The point estimates are generally close to those of the unweighted regressions, and there is little evidence that the results presented in the main text are affected by selective nonparticipation.

Table 9: Estimated cheat rate and public service preferences with reweighting to correct for non-participation

	(1)	(2)	(3)	(4)	(5)
Public administation ranked ≤ 2	-0.084^{**}				
	(0.034)				
Higher ranking of public administration		-0.018^{**}			
		(0.008)			
Public service motivation score			-0.103^{**}		
			(0.042)		
Public sector picked at current wage				-0.069^{**}	
				(0.034)	
Probability of public administration					-0.173
					(0.153)
Constant	0.418^{***}	0.322^{***}	0.633^{***}	0.403^{***}	0.419^{***}
	(0.027)	(0.025)	(0.114)	(0.023)	(0.043)

The table shows weighted regressions of subjects' estimated cheat rate on various measures of public service job preferences. The applied weights are the inverse of the predicted participation probability from a logit-model that includes age, an indicator variable for being male, study experience as measured by earned number of ECTS points and indicators for field of study. The job preference measures are an indicator for whether public administration was ranked in the top two of the eight job categories, the flipped actual ranked given to public administration (so that a higher value means a stronger preference for public administration), the public service motivation score, an indicator for whether the public sector was picked in the wage scenario corresponding to the current wage gap, the subjective probability of ending up in public administration. Bootstrapped standard errors are in parenthesis. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

Table 10: Estimated cheat rate and public service preferences with field controls and reweighting to correct for non-participation

	(1)	(2)	(3)	(4)	(5)
Public administation ranked ≤ 2	-0.054^{*}				
	(0.031)				
Higher ranking of public administration		-0.012			
		(0.008)			
Public service motivation score			-0.070^{*}		
			(0.040)		
Public sector picked at current wage				-0.030	
				(0.031)	
Probability of public administration					-0.051
					(0.123)
Field: Economics	0.269^{***}	0.271^{***}	0.271^{***}	0.267^{***}	0.270^{***}
	(0.045)	(0.043)	(0.043)	(0.046)	(0.044)
Field: Politial Science	0.005	0.006	0.020	-0.006	-0.005
	(0.041)	(0.041)	(0.037)	(0.043)	(0.040)
Constant	0.320^{***}	0.256^{***}	0.462^{***}	0.311^{***}	0.312^{***}
	(0.043)	(0.039)	(0.116)	(0.042)	(0.051)

The table shows weighted regressions of subjects' estimated cheat rate on various measures of public service job preferences and indicator variables for field of study. The applied weights are the inverse of the predicted participation probability from a logit-model that includes age, an indicator variable for being male, study experience as measured by earned number of ECTS points and indicators for field of study. The job preference measures are an indicator for whether public administration was ranked in the top two of the eight job categories, the flipped actual ranked given to public administration (so that a higher value means a stronger preference for public administration), the public service motivation score, an indicator for whether the public sector was picked in the wage scenario corresponding to the current wage gap, the subjective probability of ending up in public administration. Bootstrapped standard errors are in parenthesis. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

Table 11: Estimated cheat rate and student characteristics with reweighting to correct for non-participation

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
GPA (standardized)	0.035						0.041*
	(0.024)						(0.024)
Picks risky lottery		0.045					0.044
		(0.035)					(0.030)
Job security ranked ≤ 2			0.007				0.013
			(0.044)				(0.041)
Donation				−0.014***			−0.014***
				(0.003)			(0.002)
Wage ranked ≤ 2					0.082**		0.046
					(0.035)		(0.032)
Male						0.077**	0.046
						(0.034)	(0.031)
Constant	0.390***	0.363***	0.384***	0.474***	0.361***	0.344***	0.423***
	(0.015)	(0.030)	(0.019)	(0.032)	(0.023)	(0.027)	(0.039)

The table shows weighted regressions of subjects' estimated cheat rate on various characteristics. The applied weights are the inverse of the predicted participation probability from a logit-model that includes age, an indicator variable for being male, study experience as measured by earned number of ECTS points and indicators for field of study. The characteristics are GPA standardized by field, an indicator for choosing the most risky lottery, the amount donated in the dictator game, an indicator for being male and indicators for whether job security and wage was ranked in the top two of the five job characteristics. Bootstrapped standard errors are in parenthesis. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

Table 12: Preference for public employment and student characteristics with reweighting to correct for non-participation

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
GPA (standardized)	0.027						0.029
	(0.025)						(0.028)
Picks risky lottery		−0.043					−0.036
		(0.046)					(0.042)
Job security ranked ≤ 2			−0.007				−0.032
			(0.060)				(0.058)
Donation				0.011***			0.009***
				(0.003)			(0.003)
Wage ranked ≤ 2					−0.178***		−0.163***
					(0.046)		(0.042)
Male						−0.117**	−0.085*
						(0.048)	(0.046)
Constant	0.402***	0.419***	0.399***	0.330***	0.449***	0.459***	0.458***
	(0.021)	(0.037)	(0.024)	(0.032)	(0.029)	(0.036)	(0.048)

The table shows weighted regressions of an indicator for subjects ranking public administration in the top two of the eight job categories on various characteristics. The applied weights are the inverse of the predicted participation probability from a logit-model that includes age, an indicator variable for being male, study experience as measured by earned number of ECTS points and indicators for field of study. The characteristics are GPA standardized by field, an indicator for choosing the most risky lottery, the amount donated in the dictator game, an indicator for being male and indicators for whether job security and wage was ranked in the top two of the five job characteristics. Bootstrapped standard errors are in parenthesis. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

A.5 Additional results and robustness checks regarding cheat rates and job preferences

Table 13: Estimated cheat rate and public service job preferences with control for subjects' field of study.

	Estimated cheat rate				
	(1)	(2)	(3)	(4)	(5)
Public administation ranked ≤ 2	-0.045^{*}				
	(0.027)				
Higher ranking of public administration		-0.009			
		(0.007)			
Public service motivation score			-0.089^{***}		
			(0.028)		
Public sector picked at current wage				-0.030	
				(0.029)	
Probability of public administration					-0.055
					(0.103)
Field: Economics	0.252^{***}	0.254^{***}	0.249^{***}	0.252^{***}	0.255^{***}
	(0.033)	(0.033)	(0.033)	(0.033)	(0.033)
Field: Politial science	0.0003	0.0001	0.020	-0.007	-0.006
	(0.033)	(0.034)	(0.034)	(0.033)	(0.034)
Constant	0.329^{***}	0.279^{***}	0.521^{***}	0.321^{***}	0.323^{***}
	(0.028)	(0.036)	(0.071)	(0.027)	(0.032)
N	862	862	860	862	858
R^2	0.112	0.111	0.121	0.110	0.109

The table shows regressions of subjects' estimated cheat rate on various measures of public service job preferences and indicator variables for field of study. The job preference measures are an indicator for whether public administration was ranked in the top two of the eight job categories, the flipped actual rank given to public administration (so that a higher value means a stronger preference for public administration), the public service motivation score, an indicator for whether the public sector was picked in the wage scenario corresponding to the current wage gap, the subjective probability of ending up in public administration. Robust standard errors in parenthesis. *p<0.1; **p<0.05; ***p<0.01.

Table 14: Estimated cheat rate and public service job preferences using only the first dice game

	Estimated cheat rate for first dice roll				
	(1)	(2)	(3)	(4)	(5)
Public administation ranked ≤ 2	-0.097^{**}				
	(0.041)				
Higher ranking of public administration		-0.018^{*}			
		(0.010)			
Public service motivation score			-0.134^{***}		
			(0.039)		
Public sector picked at current wage				-0.072	
				(0.045)	
Probability of public administration					-0.103
					(0.162)
Constant	0.359^{***}	0.256^{***}	0.645^{***}	0.338^{***}	0.339^{***}
	(0.027)	(0.039)	(0.097)	(0.024)	(0.039)
N	862	862	860	862	858
R^2	0.007	0.004	0.014	0.003	0.001

The table shows regressions of subjects' estimated cheat rate on various measures of public service job preferences, where the cheat rate estimated is based only on the first dice game. The job preference measures are an indicator for whether public administration was ranked in the top two of the eight job categories, the flipped actual rank given to public administration (so that a higher value means a stronger preference for public administration), the public service motivation score, an indicator for whether the public sector was picked in the wage scenario corresponding to the current wage gap, the subjective probability of ending up in public administration. Robust standard errors in parenthesis. *p<0.1; **p<0.05; ***p<0.01.

Table 15: Estimated cheat rate and job preferences excluding subjects with 100 pct. win rate

	Estimated cheat rate				
	(1)	(2)	(3)	(4)	(5)
Public administation ranked ≤ 2	-0.080^{***}				
	(0.024)				
Higher ranking of public administration		-0.017^{***}			
		(0.006)			
Public service motivation score			-0.093^{***}		
			(0.025)		
Public sector picked at current wage				-0.053^{**}	
				(0.027)	
Probability of public administration					-0.209^{**}
					(0.094)
Constant	0.342^{***}	0.249^{***}	0.537^{***}	0.322^{***}	0.351^{***}
	(0.017)	(0.023)	(0.065)	(0.015)	(0.023)
N	719	719	717	719	716
R^2	0.015	0.012	0.020	0.005	0.007

The table shows regressions of subjects' estimated cheat rate on various measures of public service job preferences, excluding subjects who reported a correct guess for all dice rolls. The job preference measures are an indicator for whether public administration was ranked in the top two of the eight job categories, the flipped actual ranked given to public administration (so that a higher value means a stronger preference for public administration), the public service motivation score, an indicator for whether the public sector was picked in the wage scenario corresponding to the current wage gap, the subjective probability of ending up in public administration. Robust standard errors in parenthesis. *p<0.1; **p<0.05; ***p<0.01.

Table 16: Estimated cheat rate and job preferences excluding subjects with dice game experience

	Estimated cheat rate				
	(1)	(2)	(3)	(4)	(5)
Public administation ranked ≤ 2	-0.103^{***}				
	(0.027)				
Higher ranking of public administration		-0.022^{***}			
		(0.007)			
Public service motivation score			-0.144^{***}		
			(0.026)		
Public sector picked at current wage				-0.093^{***}	
				(0.030)	
Probability of public administration					-0.295^{***}
					(0.109)
Constant	0.453^{***}	0.332^{***}	0.762^{***}	0.435^{***}	0.470^{***}
	(0.018)	(0.026)	(0.067)	(0.016)	(0.026)
N	822	822	820	822	818
R^2	0.017	0.014	0.037	0.011	0.009

The table shows regressions of subjects' estimated cheat rate on various measures of public service job preferences, excluding subjects that explicitly indicated that they were cheating or had prior knowledge of the dice task. The exclusion was based on subjects responses in an open-ended text box in which they were asked about their impression of the survey and whether they had prior familiarity with any of its elements. The exlcusion is based on an independent coding of the responses. It indicated that 40 subjects expressed awareness of either dice-under-cup game, similar experimental games (e.g. coin flipping), or explicitly mentioned the potential for cheating. Robust standard errors in parenthesis. *p<0.1; **p<0.05; ***p<0.01.

A.6 Additional results and robustness checks regarding other student attributes

Table 17: Estimated cheat rate and characteristics using only the first dice game

	Estimated cheat rate for first dice roll						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
GPA (standardized)	0.019						0.028
	(0.020)						(0.020)
Picks risky lottery		0.053					0.025
		(0.041)					(0.042)
Job security ranked ≤ 2			0.007				0.009
			(0.063)				(0.062)
Donation				-0.011^{***}			-0.011^{***}
				(0.003)			(0.003)
Wage ranked ≤ 2					0.034		-0.006
					(0.045)		(0.045)
Male						0.155^{***}	0.143^{***}
						(0.040)	(0.042)
Constant	0.319^{***}	0.291^{***}	0.317^{***}	0.396^{***}	0.308^{***}	0.235^{***}	0.305^{***}
	(0.020)	(0.029)	(0.022)	(0.030)	(0.024)	(0.029)	(0.043)
N	861	862	862	862	862	862	861
R^2	0.001	0.002	0.00002	0.016	0.001	0.017	0.033

The table shows regressions of subjects' estimated cheat rate on various characteristics, where the cheat rate estimated is based only on the first dice game. The characteristics are GPA standardized by field, an indicator for choosing the most risky lottery, the amount donated in the dictator game, an indicator for being male and indicators for whether job security and wage was ranked in the top two of the five job characteristics. Robust standard errors in parenthesis. *p<0.1; **p<0.05; ***p<0.01.

Table 18: Estimated cheat rate and characteristics while excluding subjects with 100 pct. win rate

	Estimated cheat rate						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
GPA (standardized)	0.002						0.006
	(0.013)						(0.012)
Picks risky lottery		-0.005					0.004
		(0.025)					(0.024)
Job security ranked ≤ 2			0.030				0.030
			(0.036)				(0.035)
Donation				-0.014^{***}			-0.013^{***}
				(0.002)			(0.002)
Wage ranked ≤ 2					0.100^{***}		0.076^{***}
					(0.027)		(0.027)
Male						0.013	-0.001
						(0.025)	(0.024)
Constant	0.307^{***}	0.309^{***}	0.303^{***}	0.406^{***}	0.278^{***}	0.300^{***}	0.375^{***}
	(0.012)	(0.017)	(0.013)	(0.019)	(0.014)	(0.017)	(0.026)
N	718	719	719	719	719	719	718
R^2	0.0001	0.0001	0.001	0.077	0.019	0.0004	0.089

The table shows regressions of subjects' estimated cheat rate on various characteristics while excluding subjects who reported a correct guess for all dice rolls. The characteristics are GPA standardized by field, an indicator for choosing the most risky lottery, the amount donated in the dictator game, an indicator for being male and indicators for whether job security and wage was ranked in the top two of the five job characteristics. *p<0.1; **p<0.05; ***p<0.01.

Table 19: Estimated cheat rate and student characteristics while excluding subjects with dice game experience

	Estimated cheat rate						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
GPA (standardized)	0.011						0.016
	(0.014)						(0.014)
Picks risky lottery		0.024					0.028
		(0.027)					(0.028)
Job security ranked ≤ 2			0.016				0.013
			(0.040)				(0.038)
Donation				-0.016^{***}			-0.016^{***}
				(0.002)			(0.002)
Wage ranked ≤ 2					0.089^{***}		0.057^{*}
					(0.030)		(0.029)
Male						0.045	0.020
						(0.027)	(0.028)
Constant	0.409^{***}	0.397^{***}	0.407^{***}	0.517^{***}	0.383^{***}	0.385^{***}	0.472^{***}
	(0.014)	(0.019)	(0.015)	(0.019)	(0.016)	(0.019)	(0.029)
N	821	822	822	822	822	822	821
R^2	0.001	0.001	0.0002	0.070	0.011	0.003	0.079

The table shows regressions of subjects' estimated cheat rate on various characteristics while excluding subjects that explicitly indicated that they were cheating or had prior knowledge of the dice task. The exclusion was based on subjects responses in an open-ended text box in which they were asked about their impression of the survey and whether they had prior familiarity with any of its elements. The exlcusion is based on an independent coding of the responses. It indicated that 40 subjects expressed awareness of either dice-under-cup game, similar experimental games (e.g. coin flipping), or explicitly mentioned the potential for cheating. The characteristics are GPA standardized by field, an indicator for choosing the most risky lottery, the amount donated in the dictator game, an indicator for being male and indicators for whether job security and wage was ranked in the top two of the five job characteristics. Robust standard errors in parenthesis. *p<0.1; **p<0.05; ***p<0.01.

Table 20: Estimated cheat rate, preference for public service, and other student characteristics

	Estimated cheat rate						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Public administation ranked ≤ 2	-0.103^{***}	-0.100^{***}	-0.102^{***}	-0.078^{***}	-0.091^{***}	-0.095^{***}	-0.068^{**}
	(0.027)	(0.027)	(0.027)	(0.026)	(0.027)	(0.027)	(0.027)
GPA (standardized)	0.007						0.014
	(0.014)						(0.014)
Picks risky lottery		0.030					0.033
		(0.027)					(0.027)
Job security ranked ≤ 2			-0.005				-0.008
			(0.039)				(0.037)
Donation				-0.016^{***}			-0.016^{***}
				(0.002)			(0.002)
Wage ranked ≤ 2					0.064^{**}		0.036
					(0.029)		(0.029)
Male						0.048^{*}	0.027
						(0.027)	(0.027)
Constant	0.466^{***}	0.449^{***}	0.465^{***}	0.561^{***}	0.441^{***}	0.436^{***}	0.516^{***}
	(0.018)	(0.023)	(0.019)	(0.021)	(0.021)	(0.023)	(0.032)
N	861	862	862	862	862	862	861
R^2	0.017	0.018	0.016	0.082	0.021	0.020	0.089

The table shows regressions of subjects' estimated cheat rate on preference for public service, and various characteristics. The job preference measures are an indicator for whether public administration was ranked in the top two of the eight job categories. The characteristics are GPA standardized by field, an indicator for choosing the most risky lottery, the amount donated in the dictator game, an indicator for being male and indicators for whether job security and wage was ranked in the top two of the five job characteristics. Robust standard errors in parenthesis. *p<0.1; **p<0.05; ***p<0.01.

A.7 Screencaps and instructions from survey experiment

Below we present translated instructions and screencaps from the survey experiment:

A.7.1 Dice games: Dishonesty measure

Translated instructions:

> You have now responded to the first series of questions.
>
> The purpose now is to see how you guess in situations marked by randomness. You will play 10 rounds of a dice game in which you can win money in each round.
>
> You have to guess what the die will show. The more die rolls you guess, the more money you will win.
>
> Each round of the game proceeds like this:
>
> 1. First, you will have to guess a number of dots from 1 to 6. When you have made your guess you can press the continue button.
>
> 2. Hereafter a die will roll and you will be asked to report the number of dots which you guessed earlier.
>
> 3. The next screen will show the result of the round. If your guess matched the number of dots on the die then you will win 3 DKK, else you will win 1 DKK.
>
> You should avoid using the back bottom during the dice games as it might delete your total winnings.
>
> Note: it is important that you are careful about remembering and reporting the exact number of dots which you guessed prior to rolling the die.

Figure 8: Intro screen to first set of dice games as viewed by the respondent

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Du har nu svaret på den første serie af spørgsmål.

Formålet er nu at undersøge hvordan du gætter i situationer præget af tilfældighed. Du skal derfor spille 10 runder af et terningespil, hvor du i hver runde kan vinde pengebeløb.

Du skal gætte, hvad terningen slår. Jo mere rigtigt du gætter, desto større beløb vinder du.

Hver runde af terningespillet foregår således:

1. Først skal du gætte et antal øjne fra 1 til 6. Når du har lagt dig fast på et gæt, trykker du på fortsæt-knappen
2. Der vil herefter blive slået med en terning, og du vil blive bedt om at indtaste det antal øjne, du gættede på tidligere
3. Den næste skærm viser resultatet af runden. Hvis dit tal matcher terningens øjne, vinder du **3 kr**., ellers vinder du **1 kr**.

Under terningsspillene skal du lade være at bruge din browsers "back"/"tilbage" knap da dette kan komme til at slette noget af din gevinst.

Bemærk: det er vigtigt, at du er grundig med at huske og angive netop det tal, du tænkte på før du slog med terningen.

Figure 9: Dice game test screen as viewed by the respondent

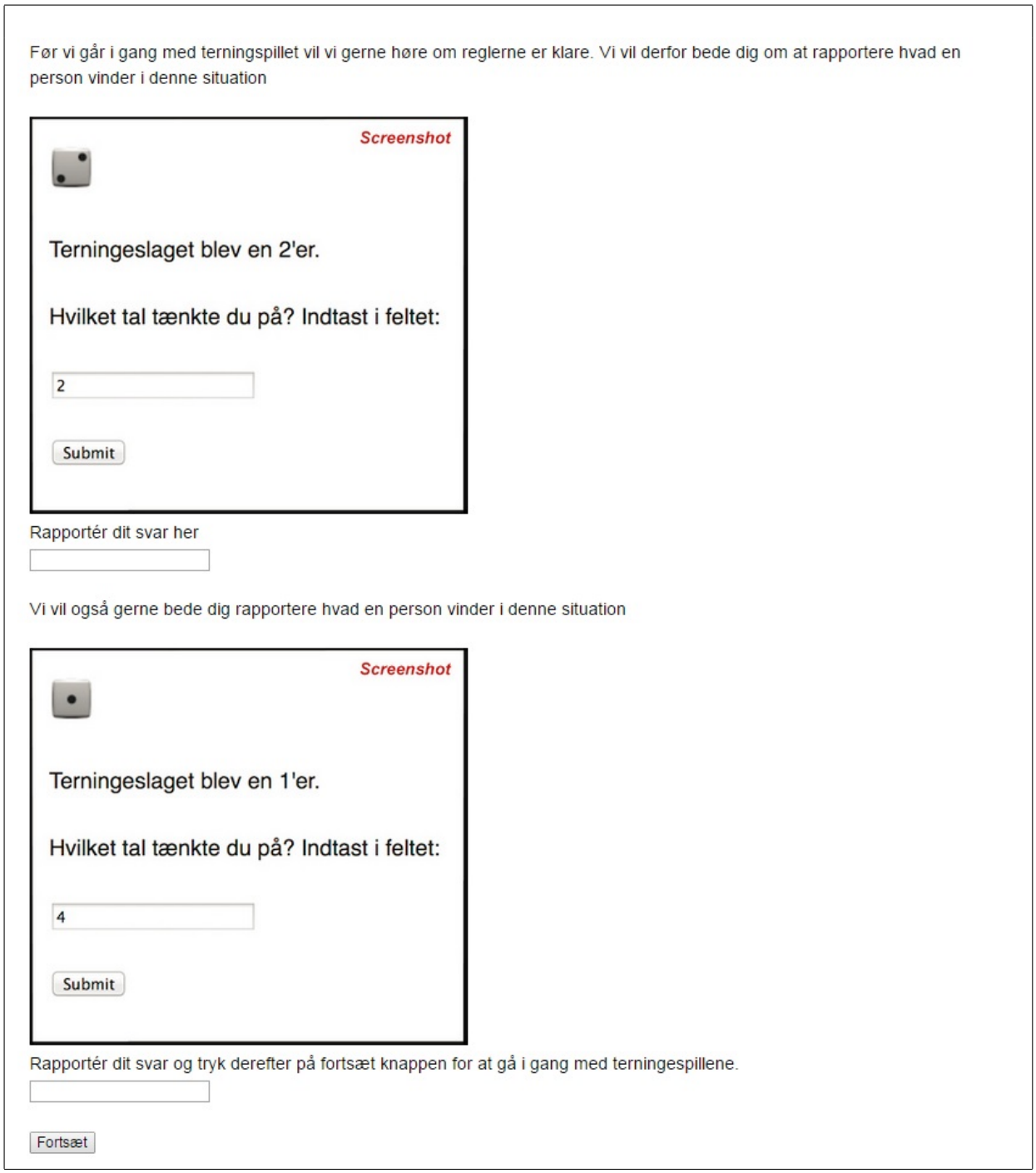

Figure 10: Intro screen: *Guess a number between 1 and 6. Hereafter, press the bottom below in order to throw with the digital die.*

Figure 11: Guess report screen (following a three second animation of spinning die): *The die throw was six. Which number did you guess? Please report in the field:*

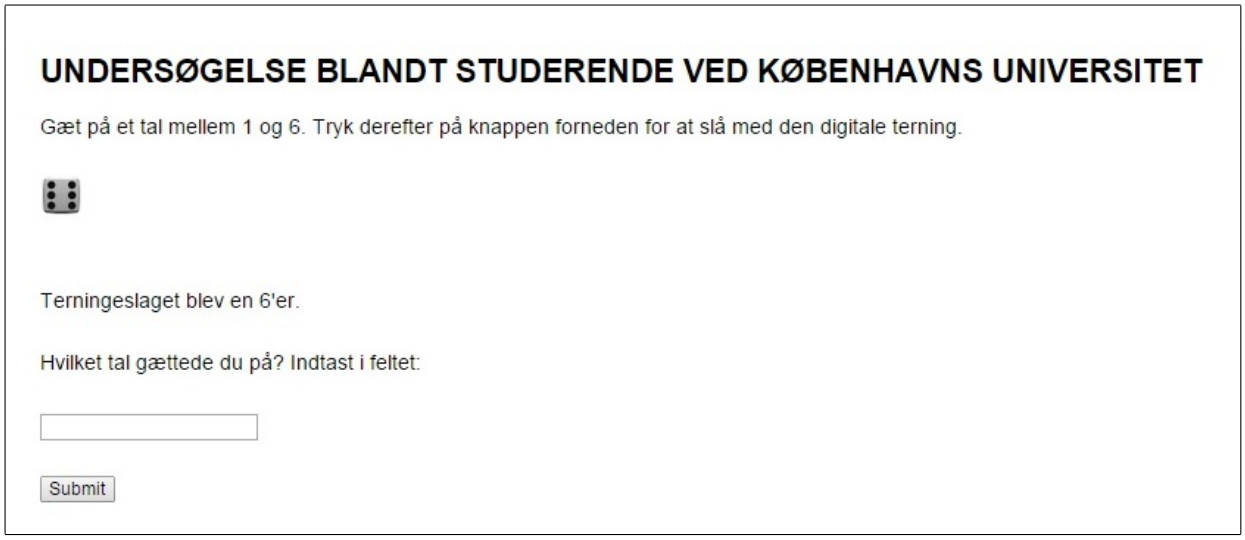

Figure 12: Payoff screen (in case of wrong guess): *Your guess did not match the die. You win 1 DKK. Your combined winnings in the survey amounts to 16 DKK.*

A.7.2 Donation: Altruism measure

Translated instructions:

Welcome to the study. Before we proceed, you are given a gift of 15 DKK (2.75 USD) as an appreciation of the time you spend on the survey. After the survey you will have the option to get this sum automatically transferred to your bank account together with the additional rewards you collect in the survey. But you can also choose to donate some of the money to one of the following charities:

- The Danish Cancer Society (Kræftens Bekæmpelse)
- DanChurchAid (Folkekirkens Nødhjælp)
- Save the Children (Red Barnet)
- Amnesty International
- Red Cross (Røde Kors)

Depending on how much you choose to donate we will additionally donate the amount provided in the below schema of donation options:

	Your donation	Our donation	Total donation
Option A	0 DKK	0 DKK	0 DKK
Option B	5 DKK	3 DKK	8 DKK
Option C	10 DKK	4 DKK	14 DKK
Option D	15 DKK	4 DKK	19 DKK

Which of the donation options do you choose?

- Option A
- Option B
- Option C
- Option D

Figure 13: Donation screen as viewed by the respondent. Following the screen participants who choose to donate an amount of money were asked which one of the five charities they wanted to donate to

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Velkommen til undersøgelsen. Inden vi går videre modtager du allerede nu en gave på **15 kr.** som tak for at du tager dig tid til at deltage.

Efter undersøgelsen har du mulighed for at få udbetalt denne sum helt automatisk til din NemKonto sammen med de yderligere belønninger, du optjener i løbet af undersøgelsen. Men du kan også vælge at donere nogle af pengene til en af følgende velgørenhedsorganisationer:

- Kræftens Bekæmpelse
- Folkekirkens Nødhjælp
- Red Barnet
- Amnesty International
- Røde Kors

Afhængig af hvor meget du vælger at donere vil vi lægge en yderligere donation oveni som angivet i følgende skema over donationsmuligheder.

	Din donation	Vores donation	Samlet donation
Mulighed A	0 DKK	0 DKK	**0 DKK**
Mulighed B	5 DKK	3 DKK	**8 DKK**
Mulighed C	10 DKK	4 DKK	**14 DKK**
Mulighed D	15 DKK	4 DKK	**19 DKK**

Hvilken donationsmulighed vælger du?

- ○ Mulighed A
- ○ Mulighed B
- ○ Mulighed C
- ○ Mulighed D

Submit

A.7.3 Lottery: Risk aversion measure

Translated instructions:

The survey does, as already mentioned, among other things, deal with your decisions in situations marked by randomness. Among the participants in the study we draw a subset which participate in a simple coin-flip lottery. About one in ten participants will be selected to participate.

If you are selected to participate in the lottery a virtual coin will be flipped and you will win an amount of money depending on if the coin shows heads or tails. You can choose how the reward depends on the coin flip from the list of possible options below:

	Payoff if heads	Payoff if tails
Option A	200 DKK	0 DKK
Option B	160 DKK	30 DKK
Option C	140 DKK	40 DKK
Option D	120 DKK	50 DKK
Option E	80 DKK	80 DKK

Which of the donation options do you choose?

- Option A
- Option B
- Option C
- Option D
- Option E

Please press forward when you have made your choice. You will be informed about if you have been selected to participate in the lottery by the end of the survey.

Figure 14: Lottery screen as viewed by the respondent

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Som sagt handler undersøgelsen bl.a. om dine beslutninger i situationer præget af tilfældighed. Blandt de deltagende i undersøgelsen trækker vi lod om muligheden for at deltage i et simpelt mønt-lotteri. Omkring hver tiende deltager vil få mulighed for at deltage.

Hvis du bliver trukket ud til at deltage i lotteriet vil der blive flippet en virtuel mønt og du vil vinde et antal kroner som afhænger af om mønten viser plat eller krone. Du skal selv vælge hvordan dine gevinster skal afhænge af mønten ud fra nedenstående liste af mulighed.

	Gevinst ved "krone"	Gevinst ved "plat"
Mulighed A	200 DKK	0 DKK
Mulighed B	160 DKK	30 DKK
Mulighed C	140 DKK	40 DKK
Mulighed D	120 DKK	50 DKK
Mulighed E	80 DKK	80 DKK

Hvilken mulighed vælger du?

- ○ Mulighed A
- ○ Mulighed B
- ○ Mulighed C
- ○ Mulighed D
- ○ Mulighed E

Når du har valgt, bedes du trykke videre. Du vil først få at vide til sidst i undersøgelsen, om du er udvalgt til lotteriet.

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