

School of Economics Working Paper  
2023-05

# Right in the Middle: A Field Experiment on The Role of Integrity Training and Norms in Combating Corruption

Oana Borcan \*

Nikita Grabher-Meyer \*

Stephanie Heger \*\*

Amrish Patel \*

\* University of East Anglia

\*\* University of Bologna



**SCHOOL OF  
ECONOMICS**

School of Economics  
University of East Anglia  
Norwich Research Park  
Norwich NR4 7TJ  
United Kingdom  
[www.uea.ac.uk/economics](http://www.uea.ac.uk/economics)

# Right in the Middle: A Field Experiment On The Role Of Integrity Training And Norms In Combating Corruption

Oana Borcan<sup>1</sup>, Nikita Grabher-Meyer<sup>1</sup>, Stephanie Heger<sup>2</sup>, Amrish Patel<sup>1</sup>

<sup>1</sup> University of East Anglia

<sup>2</sup> University of Bologna

## Abstract

Although integrity education and awareness is touted as an important solution to combat corruption, there is little evidence on its effectiveness. To fill this gap, we conduct a lab-in-the-field experiment where law students in Ukraine are randomly assigned to an innovative and interactive integrity training programme to enhance students' awareness and behaviour around ethical issues. We collect data on attitudes towards corruption and actual corrupt behaviour through a series of surveys and a novel experimental game, in which both the integrity-trained students and those who did not get assigned to integrity training play the role of middlemen in a bribe exchange between firms and public officials. We show that integrity training had a significant impact on attitudes towards corruption but only significantly reduced corrupt behaviour in the game when the students knew they were playing alongside other integrity-trained students.

## 1. Introduction

Market exchange systems have been regarded as a panacea for improving economic efficiency and living standards in countries with previously centralized economies. While marketization has created new opportunities for economic development, it also exacerbated corruption in countries with weak economic and institutional frameworks, such as Ukraine (Abed and Davoodi, 2000; Ramanujam, 2012). Businesses use corrupt practices to gain

---

<sup>1</sup> Corresponding author. Email: [o.borcan@uea.ac.uk](mailto:o.borcan@uea.ac.uk). We thank Ernesto Reuben, Laura Gee, Boon Han Koh and Stefan Penczynski and seminar participants at the University of East Anglia and University of Arizona, and at the dissemination meeting with the Ukraine National Corruption Prevention Agency for their valuable comments. We thank the United Nations Office on Drugs and Crime, USAID New Justice Program, David Vaughan and Artem Shaipov, Nataliya Petrova Oleksandra Keudel, Iryna Shyba, Nataliya Gutorova, Oleh Herasymchuk and 17 Ukrainian universities deans for their support and collaboration.

competitive advantage and conquer new markets, inducing others to engage in similar practices to remain competitive (Argandoña, 2004). Companies who refuse to pay bribes or uphold a more ethical conduct risk exclusion from the market (Lee-Jones, 2018). The consequences to society include higher transaction costs, poorer quality of products and services, loss of investor confidence, damaged reputation and business relations (UNODC, 2013b).<sup>2</sup>

Corrupt transactions including bribery were carried out through an intermediary in 75% cases investigated since the OECD Anti-Bribery Convention in 1999 (OECD, 2020, 2014). Middlemen use their local knowledge to link up interested parties, act as a guarantor of corrupt deals, protect their clients' reputation and reduce transaction costs (Della Porta and Vannucci, 1999; Lambsdorff, 2013). Nevertheless, detecting and punishing intermediaries can be challenging in countries with entrenched rule-breaking cultures and weak judiciaries. A complementary approach advocated for by international organizations is to promote a culture of integrity by instilling ethical values and behaviour and equipping young generations with skills to resist corruption. Despite the increasing role of integrity education in the international anti-corruption policy agenda, there is still little evidence on its effectiveness (OECD, 2018).

The objective of our study is to investigate whether supporting professional intermediaries, such as lawyers, to commit to uphold ethical values can reduce or prevent private sector corruption.<sup>3</sup> In particular, we conducted a lab-in-the-field experiment where we randomly allocated offers to 242 undergraduate law students in Ukraine to receive a newly designed integrity training programme aimed at enhancing students' ethical awareness and inspiring ethical behaviour in an interactive and emotionally invested way. The 12-hour training was designed and delivered online with the support of the USAID New Justice Program, and was inspired by the content of a series of peer-reviewed open-source University modules on ethics, integrity and anti-corruption developed by the United Nations Office on Drugs and Crime (UNODC).<sup>4</sup> It consisted of a combination of lectures and interactive workshops, including group work, role-playing, discussion boards, and guest appearances by

---

<sup>2</sup> International anti-corruption efforts have mostly focused on public sector corruption, which makes it difficult to estimate the exact cost of private sector corruption. Recent estimates by the World Economic Forum (2018) report that the global cost of corruption is at least \$3.6 trillion, or 5% of the global gross domestic product.

<sup>3</sup> Based on the results of recent exploratory surveys conducted among members of the legal profession by the IBA Anti-Corruption Committee, the OECD and the UNODC (2010), nearly half of all respondents recognized corruption to be an issue affecting the legal profession in their own jurisdiction (and nearly 90% of respondents came from the Commonwealth of Independent States region, including Ukraine).

<sup>4</sup> The United States Agency for International Development (USAID) New Justice Program was implemented in Ukraine from October 2016 to September 2021. The program was designed to support the Judiciary, the Government, the Parliament, the Bar, Law Schools, Civil Society, Media and Citizens to create the conditions for independent, accountable, transparent, and effective justice system that upholds the rule of law and to fight corruption. The program has been succeeded by the USAID Justice for All Activity in October 2021, which continues to actively support the Ukrainian Government and its non-governmental partners.

national high-profile integrity champions such as legal and anti-corruption experts, with the aim to instil fairness and honesty as core values in students' professional conduct.

To measure the effectiveness of ethics training, law students participated in a novel experimental bribery game in which they played the role of intermediaries with a choice whether to facilitate or not a corrupt transaction between a firm and a public official at the expense of society. Before making their decisions, integrity-trained and non-trained intermediaries were further randomly assigned to one of two social norm conditions (Cialdini et al., 1990; Bicchieri, 2016, Tankard & Levy Paluck, 2016): one group received information about the high incidence of integrity training amongst their peers and the other group did not receive any additional information. This between-subject 2x2 design allowed us to test the efficacy of the integrity training, alone and in conjunction with an injunctive social norm. To inform our hypotheses about the effect of integrity training we develop a theoretical framework that models the potential mechanisms through which integrity training and information may affect the decision to act corruptly.

Our experimental design also allowed us to test whether variation in corrupt behaviour was due to a change in moral attitudes and preferences induced by the integrity training or due to a change in subjective perceptions about the pervasiveness of integrity training among peers as a result of the information treatment. Intermediaries' beliefs about the ethical behaviour of their peers in the game were elicited at the end of the experiment. We measured intermediaries' moral attitudes and preferences in our baseline and endline surveys using Haidt's and Joseph's (2004) Moral Foundation Theory questionnaire.

Our prior was that the integrity training could have different impact depending on the juniority of the students and how embedded they were in the often corrupt Ukrainian academic cultures. We therefore analysed the heterogeneous effects of the treatments by students who were in their first year of study (junior), compared to those in the second year in above (senior). This follows previous research which showed that integrity training may be more effective for junior professionals than for those used to their organizational cultures (Harris et al, 2022).

Our experimental results show that it is challenging to detect the standalone integrity training impact on behaviour (based on a modest sample of 189 participants for which we have a full set of baseline covariates). While we see some moderately large negative effects for junior students, the estimates are imprecise. However, we find that receiving the information that integrity training is the norm among intermediaries significantly reduced first year students' willingness to facilitate bribery by over 50% (37 percentage points), irrespective of whether they were trained or not. Further, we find that a change in beliefs about the incidence

of corruption among their peers drives the reduction in corrupt behaviour among junior intermediaries, suggesting the relevance of social conformity among junior cohorts. While social conformity seems to be less of a concern for more senior cohorts, the combination of training and information generated a significant improvement in older students' attitudes towards shared responsibility and accountability for corruption, even though we did not detect a corresponding improvement in their actual behaviour in the experiment.

Experimental studies of corruption represent a growing field of study (Abbink et al., 2002; Barr and Serra, 2010; Banuri and Eckel, 2011; Serra, 2012). The methodological advantages of experiments are: 1. They enable causal identification of monetary or non-monetary interventions on corrupt behaviour, which is rarely possible with observational data; 2. They allow us to measure corruption as objective behaviour change; this is challenging in non-experimental settings, which resort to subjective measures due to the clandestine nature of corruption; 3. An increasing number of studies show corruption lab experiments results are externally valid (Abbink and Serra, 2012; Armantier and Boly, 2013; Banerjee, 2015; Banerjee and Mitra, 2018).

Despite anecdotal evidence suggesting that middlemen are ubiquitous in corrupt activities, the economic literature on intermediaries in corruption is still in its infancy. In general, the existing bribery models capturing the interactions of intermediaries, clients and public officials have shown the presence of intermediaries can exacerbate corruption by eliminating uncertainty with respect to whom and how much to bribe (Bayar, 2005), by reducing the risk of detection (Hasker and Okten, 2008), or by lowering the moral costs that potential bribers and bribees may suffer when engaging in corruption (Drugov et al., 2014).

The paper closest to our study is Drugov et al. (2014) whose lab experiment allows bribes to pass from private citizens to public officials directly in some treatments and through intermediaries in others. They show that the presence of intermediaries increases corruption by reducing the moral or psychological costs of both bribers and bribees. Apart from creating psychological distance to the corrupt acts, middlemen can reduce moral costs of the parties involved by institutionalizing corruption, giving bribery an appearance of ordinary business transactions (Bertrand et al., 2007; Drugov et al., 2014). In our paper intermediaries can similarly facilitate transactions, but, while in Drugov et al (2014) intermediaries are passive and the corrupt decisions rest with the citizens and public officials, in our game intermediaries have an active role in bribery transactions. Moreover, we target our intervention at intermediaries and we ask whether integrity training reduces their propensity to facilitate corrupt transactions by increasing their moral or psychological costs.

Our paper also advances another nascent stream of literature on the effects of integrity education programs on corrupt behaviour. While most prior ethics education research has focused on the link between integrity training and moral reasoning ability or ethical judgement and intent measured through self-reports (Shaub, 1994; Gautschi and Jones, 1998; Desplaces et al., 2007), only a few studies have tried to examine the impact of ethics education on actual decisions and behaviour, with mixed findings. Mayhew and Murphy (2008) study the effect of an ethics education program on reporting behaviour, using a quasi-experimental design with 4th year US students who completed the ethics education, and 5th year US students who did not. Under a public disclosure condition, the misreporting levels of program participants dropped significantly compared to the control group. Harris et al. (2022) provide evidence that an integrity training targeted at officers in the Ghana Police Service and aimed at re-activating their intrinsic motivations to serve the public and creating a new shared identity of “agent of change” was effective at changing their values and beliefs regarding on-the-job unethical behaviour and reducing dishonesty measured through an incentivised cheating game.<sup>5</sup> Closest to our study, Banerjee and Mitra (2018), test the efficacy of a randomly assigned ethics teaching module for first year Indian MBA students at raising the moral cost of demanding bribes in a harassment bribery game between public officials and citizens. The module taught theoretical concepts and normative appeals, which were shown to have a short-lived effect on the likelihood of bribe demand, but not on its amount. A large scale UNODC initiative to test integrity training in academia and business on over 35 thousand students in Pakistan, Kenya and Mexico found a promising increase in ethical responses to moral dilemmas. However, the study does not evaluate the intervention impact on objective outcomes (UNODC, 2023).<sup>6</sup>

To the best of our knowledge, our paper is the first study to test an integrity training intervention on incentivized corruption decisions by a natural population of future transaction intermediaries (i.e., law students), in a context susceptible to corruption (OECD & UNODC, 2010). Moreover, our intervention differs from previous papers in terms of the content of the integrity training. Our program covered ethics and anti-corruption topics through interactive discussions, practical group work on real-world dilemmas and guest talks from national champions of integrity as role models who shared practical insights and motivational stories.

---

<sup>5</sup> A current research project led by Meyer-Sahling and his team aims to design and implement state-of-the-art integrity training courses with civil servants in Nepal and Bangladesh and evaluate their effects on corruption and (un)ethical behaviour in a field experiment (ongoing). <https://ace.globalintegrity.org/projects/ethics/>.

<sup>6</sup> See the project factsheet at [https://businessintegrity.unodc.org/bip/uploads/res/projects/global-Integrity-education\\_html/2023\\_UNODC\\_CEB\\_GIA\\_one-pager.pdf](https://businessintegrity.unodc.org/bip/uploads/res/projects/global-Integrity-education_html/2023_UNODC_CEB_GIA_one-pager.pdf)

A third literature we contribute to concerns descriptive social norms and their impact on corrupt behaviour. Prominent social norms theories distinguish between injunctive and descriptive social norms, with the latter referring to what is considered as common (Cialdini et al., 1990; Bicchieri, 2016, Tankard & Levy Paluck, 2016). Recent theories on corruption highlight the descriptive element of social norms as a crucial predictor of corrupt behaviour. Rothstein (2000) suggests that people are more prone to engage in petty forms of corruption when they believe that others around them do so, even if they would consider it unacceptable. Some controlled lab experiments suggest that social nudges aiming to change perceived social norms is associated with reduced bribery (e.g., Köbis et al., 2015; Köbis et al., 2019). We take inspiration from Abbink et al. (2018), who used a collusive bribery game to show that firms offered bribes twice as often to officials known to be from a predominantly corrupt group relative to those from a mostly honest group (determined from their behaviour in a previous game). Similarly, we want to test whether summary information about a predominantly integrity-trained peer group of intermediaries can influence participants' perceptions of group norms (Paluck, 2016). Thus, we provide a theoretical foundation and empirical test for a dual policy: integrity training as well as a policy that provides information about the incidence of integrity training in the relevant population to investigate whether participants adjust their perceptions and behaviour accordingly.

The rest of the paper is organized as follows. Section 2 describes in detail the design and implementation of the ethics training. Section 3 illustrates our theoretical framework, followed by a description of the experimental procedures in Section 4. Section 5 outlines the main data sources, outcomes of interest and empirical strategy. Section 6 describes our results and Section 7 concludes.

## **2. Description of the integrity training**

The “Training in Ethics, Integrity and Anti-Corruption for Law Students” program (henceforth, the integrity training) was designed and delivered online with the support of the USAID New Justice Program and their higher education partners in Ukraine between March-May 2021. The intervention was particularly relevant to the Ukrainian context, as the country regularly ranks very low among the 15 post-Soviet states on the Transparency International Corruption Perception Index (CPI), with an average score of 30 on a scale of 0-100 (where 0 means highly corrupt and 100 means very clean).<sup>7</sup> There is no public institution in Ukraine that

---

<sup>7</sup> The Corruption Perceptions Index (CPI) is the most widely used global corruption ranking in the world. It measures how corrupt each country's public sector is perceived to be, according to experts and businesspeople. In 2021, Ukraine ranked 122 out of 180 countries, with a score of 32/100. <https://www.transparency.org/en/cpi/2021/index/ukr>

is free from corruption (Denisova-Schmidt and Prytula, 2017). In a recent national survey, almost 70% of respondents reported having made informal payments to health care workers, followed by representatives of secondary schools (64%), police (51%) and higher education staff (49%) (Kiev International Institute of Sociology, 2015).

Given these challenges, we wanted to design an integrity and anti-corruption training that was theoretically and empirically informed and that was appropriate for the cultural context. The training was inspired by the content of a series of peer-reviewed open-source University modules (14 modules on integrity and ethics and 13 modules on anti-corruption) developed in 2018 by the United Nations Office on Drugs and Crime (UNODC) in consultation with more than 70 academic experts from over 30 countries.<sup>8</sup> The purpose of the modules is to enhance students' ethical awareness and commitment to acting with integrity, to understand what corruption is and how to combat it, and equip them with the necessary skills to apply these norms in life, work and society. To increase their effectiveness, the modules cover both theoretical and practical perspectives, and use interactive teaching methods such as experiential learning and group-based work. These methods are intended to keep students engaged and help them develop critical thinking, problem solving and communication skills, all of which are important for ethics education (UNODC, 2022).

To adapt the UNODC modules to the local context, we conducted two focus group discussions in March-April 2021. From deans and representatives from 17 Ukrainian law schools, as well as law students and practitioners, we gained three key insights about the current challenges in combatting corruption and promoting ethical behaviour. First, the ethics modules offered in Ukrainian law degrees were overly theoretical and did not equip students with the skills to address real ethical career and personal challenges. Second, ethics modules were rarely led by faculty members committed to the cause of ethics education, which undermined their credibility. Third, the lack of role models and exposure to news about national leaders – such as politicians or managers – that achieved success through tax evasion or corruption led students to associate success in life with dishonesty and selfishness.

We used the insights from these meetings to design the ethics training. We focused the content on the themes of the UNODC modules on Challenges to Ethical Living, Ethics in

---

<sup>8</sup> The 14 University modules have been developed as part of the UNODC Education for Justice (E4J) initiative aimed at promoting the implementation of the Doha Declaration, which recognizes the importance of universal education for children and youth as key for the prevention of crime, terrorism and corruption, as well as for promoting sustainable development. In support of the Doha Declaration, E4J aims to build a culture of lawfulness through providing age-appropriate educational materials on topics related to criminal justice, crime prevention and the rule of law, and integrating those materials into the curricula of all education levels. <https://www.unodc.org/e4j/en/tertiary/integrity-ethics.html>



Business and in Law, What is corruption, Public and Private Sector Corruption. We dedicated only one-third of the integrity training to lecture-style sessions and the remaining two-thirds of the course were delivered in the form of interactive workshops, group work, role-playing activities and discussion boards using new learning technologies (e.g., Padlet, Mentimeter app etc) as well as case study presentations and Q&A sessions by nationally recognized legal experts and champions of integrity.<sup>9</sup> The purpose of the interactive workshops was to create an active learning environment where practical strategies for coping with everyday challenges to ethical behaviour were illustrated, and contemporary Ukrainian role models demonstrated that career success is compatible with ethical behaviour.

The integrity training took place over two weeks between 10-20 May 2021 and consisted of six synchronous sessions (of two hours each) of online lectures and small group workshops delivered via Zoom by four local trainers including law academics and anti-corruption experts.<sup>10</sup> All teaching was conducted in Ukrainian. Participation was free of charge and there was no assessment in this program. However, students practiced the concepts learnt in the class through online discussions and role playing. Students were also informed that, due to limited capacity, participation in the training was capped at 200 participants and needed to be decided by a random draw. For fairness considerations, interested non-participants were promised access to the asynchronous online integrity training resources once the study was completed.<sup>11</sup> On attending of at least four out of six sessions (75%), participants were awarded a participation certificate from the University of East Anglia and the USAID New Justice Program.

After the training, we conducted a debriefing session with the trainers about their teaching experiences, students' engagement with the sessions and their feedback. A good proportion of students were active (around 20% were consistently participating in the conversation, but the rest participated in some breakout group discussions or in the Zoom chat) and the workshop format worked well. The students particularly appreciated the presence of

---

<sup>9</sup> Among the invited guest speakers, there were: Mr Roman Maselko (on behalf of Judge Sergiy Bodnarenko), Ms Antonina Prudko (Head of Secretariat at UNIC, Ukrainian Network of Integrity and Compliance), Mr Artem Krykun-Trush (Attorney specialized on white-collar crime, compliance and investigations practices at DLA Piper), Mr Oleg Klimov (President of the All-Ukrainian Pharmaceutical Chamber), Ms Viktoriya Kozachenko (Head of the Integrity Office/National Agency on Corruption Prevention NAZK).

<sup>10</sup> The team of trainers included Nataliya Gutorova (Professor of the Department of Criminal Law and Criminal Law Disciplines of the Poltava Law Institute of the Yaroslav Mudryi National Law University), Oleh Herasymchuk (Associate Professor at the National University Ostroh Academy), Ms. Oleksandra Keudel (training coordinator and Post-Doctoral Fellow in Political Science at the School of Transnational Studies at the Free University of Berlin) and Ms Iryna Shyba (Deputy head at EU Anti-Corruption Initiative and executive director of the local think tank DEJURE Foundation).

<sup>11</sup> Due to research budget constraints and the ongoing war in Ukraine, we have not had the chance to offer the asynchronous online integrity training to interested non-participants.

guest speakers, who served to illustrate that career success is compatible with moral integrity and helped to open new networks for the students. Student feedback was anonymous and very generous. Overall, the average rating of the training was 4.77 (out of 5). Almost all students said the training fulfilled or exceeded their expectations. Qualitative feedback revealed that the students and trainers felt the pace was intense and the time was too short to cover all the topics in detail. A face-to-face or hybrid approach may have led to higher levels of student engagement.

### 3. Theoretical framework

To generate hypotheses about the effect of integrity training we develop a theoretical framework that models the potential mechanisms through which integrity training and information may affect the decision to act corruptly.

Intuitively, we analyse a situation where a firm can increase their chance of winning a contract by paying a public official a bribe via an intermediary. The tension in the game is that the firm does not know how much she must bribe the public official, but the intermediary does. Thus, the intermediary must decide first whether to inform the firm of the public official's required bribe amount and, if he does inform the firm, he must decide how much to embezzle from the firm.

#### 3.1 The game

The set of players comprises of a Firm ( $F$ ), an Intermediary ( $I$ ), a Public Official ( $PO$ ) and Society ( $S$ ). Their endowments are:  $Y_F, Y_I, Y_{PO}$  and  $Y_S$  respectively.

The Firm is awarded a contract of value  $v > 0$  with probability  $\underline{p} \in (0,1)$ . However, if the Firm pays the Public Official's *Minimal Acceptable Bribe* ( $MAB$ ), then they are awarded the contract with certainty. The  $MAB$  is privately known by the Firm and the Intermediary (assume a common prior uniformly distributed over between  $[\underline{MAB}, \overline{MAB}] \in \mathbb{N}^+$ ). The Firm can only offer a bribe via the Intermediary.

In Stage 1, the Intermediary decides whether to inform the Firm of the bribe ( $b$ ) to be paid. If the Intermediary does not inform, the firm cannot pay a bribe (neither corruption nor embezzlement occur) and the game ends. If the Intermediary does inform, they can report the  $MAB$  truthfully ( $b = MAB$ ) or over-report ( $b > MAB$ ), the latter case implying embezzlement.

Conditional on the Intermediary informing, Stage 2 is arrived at. In Stage 2, the Firm decides whether to pay  $b$  to the Intermediary. If the Firm decides not to pay (i.e. corruption

does not occur) the game ends. If they decide to pay (i.e. corruption occurs),  $MAB$  is transferred to the Public Official, the Intermediary retains  $b - MAB$  and society suffers an externality cost of  $E > 0$ .

In addition to the material incentives modelled above, we also capture two psychological incentives (as discussed in the introduction), players' moral and conformity incentives.

The Firm and Intermediary incur moral costs if they engage in corruption, reflecting feelings of guilt or awareness of engaging in immoral behaviour (Rose-Ackerman, 1978; Della Porta and Vannucci, 2005; Drugov et al., 2014). Specifically, the Firm incurs a cost if they pay a bribe and the Intermediary incurs a cost if they inform the firm.<sup>12</sup> Let  $m_I$  and  $m_F$  be each player's respective, privately known marginal moral cost (assume uniform priors over their respective domains,  $[0, \overline{m}_I]$  and  $[0, \overline{m}_F]$ ). The Firm's moral cost is  $m_F$  multiplied by the damage to Society ( $E$ ), while the Intermediary's moral cost is  $m_I$  multiplied by the sum of  $E$  and the amount over-reported ( $b - MAB$ ).

The Intermediary is also assumed to have social conformity concerns (Akerlof, 1980; Bernheim, 1994; Cialdini and Goldstein, 2004; Bicchieri, 2006; Tankard and Levy Paluck, 2016).<sup>13</sup> Specifically, we use a quadratic loss function such that the Intermediary suffers a larger social conformity cost the further away their bribe ask  $b$  is from the average bribe they believe other Intermediaries ask for, from  $\tilde{b}$ , i.e., the greater is  $(b - \tilde{b})^2$ . This is scaled by a preference parameter  $c$ .<sup>14</sup>

Figure 1 summarises how the Intermediary's and Firm's action choices map to payoffs.

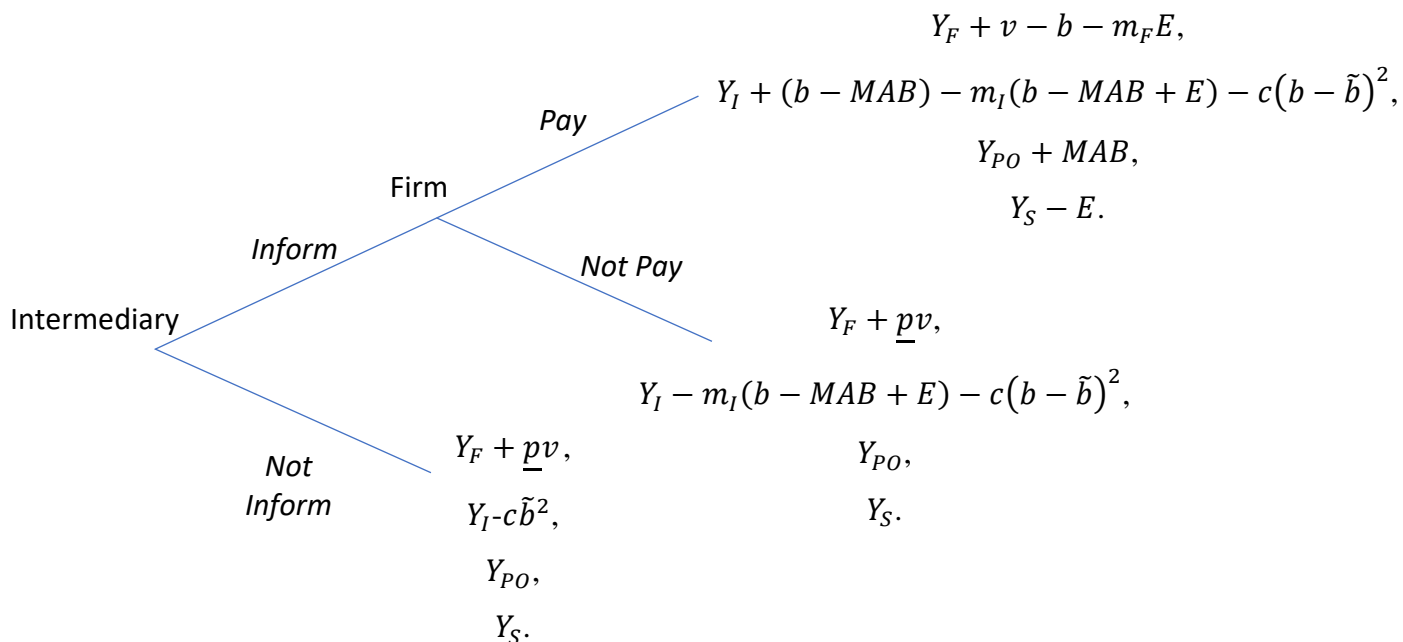
---

<sup>12</sup> Note that we assume a non-consequentialist view of morality here, in that the Intermediary incurs the moral cost upon informing (i.e. even if the transaction does not proceed as the Firm is unwilling to pay).

<sup>13</sup> Given our focus on intermediary behaviour we do not model a Firm's conformity concerns.

<sup>14</sup> For simplicity, we assume that  $\tilde{b}$  is exogenous. Unlike marginal moral costs, we assume that  $\tilde{b}$  and  $c$  are common knowledge given that in strong norm societies norm adherence is relatively easily observable.

Figure 1: Payoff summary



Note: This is not a complete representation of our game (since strategies are type- dependent), but rather a depiction of the mapping of action choices to payoffs. Payoffs are presented in the following order: Firm; Intermediary; Public Official and Society.

If the Intermediary does not inform, all players' payoffs equal their endowments except for the Firm, who wins the contract with probability  $\underline{p}$  and receives  $Y_F + \underline{p}v$  and the Intermediary who incurs a social conformity cost and receives  $Y_I - c\tilde{b}^2$ .

If the Intermediary informs and the Firm decides not to pay, then all players' payoffs equal their endowments except for the Firm, who gets  $Y_F + \underline{p}v$ , and the Intermediary, who gets  $Y_I - m_I(b - MAB + E) - c(b - \tilde{b})^2$ .

If the Intermediary informs and the Firm does pay, then players' payoff are:

Firm:  $Y_F + v - b - m_F E$

Intermediary:  $Y_I + (b - MAB) - m_I(b - MAB + E) - c(b - \tilde{b})^2$

Public Official:  $Y_{PO} + MAB$

Society:  $Y_S - E$

### 3.2 Solution concept and analysis

As this is a dynamic game with incomplete information, we use Perfect Bayesian Equilibrium as a solution concept. Its two main components, strategies and beliefs, must satisfy the following conditions:

1. Sequential rationality: each strategy should be optimal in expectation, given the beliefs
2. Belief consistency: each belief should be updated according to the equilibrium strategies, the observed actions, and Bayes' rule on every path reached in equilibrium with positive probability.

Since our primarily objective is to obtain comparative statics which inform our hypotheses, we assume and analyse an interior solution.

**Proposition:** There exists a Perfect Bayesian Equilibrium described by the following strategy profile (and associated beliefs).

- 1) Conditional on informing, the Intermediary asks for the optimal bribe:

$$b^*(m_I, MAB, \tilde{b}) = \frac{v(1 - \underline{p}) + MAB - m_I E \overline{m}_F + 2c\tilde{b}E \overline{m}_F}{2(1 + cE \overline{m}_F)}$$

- 2) The Intermediary informs iff  $m_I \leq m_i^*$ , where  $m_i^*$  solves:

$$m_i^* = \frac{\left[ \frac{v(1 - \underline{p}) - b^*}{E \overline{m}_F} \right] (b^* - MAB) - c(b^* - \tilde{b})^2 + c\tilde{b}^2}{(b^* - MAB + E)}$$

- 3) The Firm pays the bribe if:

$$m_F \leq \frac{v(1 - \underline{p}) - b}{E}$$

and does not otherwise.

**Proof:** All proofs are found in Appendix 1.

In summary, we have a closed form solution for the optimal bribe ask,  $b^*$ , which depends intuitively on exogenous variables. Its value is larger the larger are  $v$ ,  $MAB$  and  $\tilde{b}$ , and the smaller are  $\underline{p}$  and  $E$ . Moreover, the Intermediary decides to inform the Firm and ask for

$b^*$  only if its moral cost is sufficiently low ( $m_I \leq m_i^*$ ), since only then does his expected monetary benefit outweigh his expected moral cost. Analogously, the Firm pays the bribe only if its moral cost is sufficiently small ( $m_F \leq v(1 - \underline{p}) - b / E$ ).

### 3.3 Comparative statics

Our research question asks whether integrity training and information about the share of other intermediaries that have been trained will cause Intermediaries to behave more ethically. In terms of our model, we can think of integrity training as increasing the Intermediary's marginal moral cost. This can be modelled as an increase in  $\overline{m}_I$ . Receiving information that a large share of peers were trained can be thought of as decreasing the Intermediary's belief of others' average bribe ask,  $\tilde{b}$ .

An increase in  $\overline{m}_I$  and a decrease in  $\tilde{b}$  have the following effects on equilibrium behaviour:

**Corollary 1a:** An increase in  $\overline{m}_I$  reduces the expected bribe asked for by the Intermediary (conditional on informing).

**Corollary 1b:** A decrease in  $\tilde{b}$  reduces the expected bribe asked for by the Intermediary (conditional on informing).

**Corollary 2a:** An increase in  $\overline{m}_I$  reduces the probability that the Intermediary will inform.

**Corollary 2b:** A decrease in  $\tilde{b}$  reduce the probability that the Intermediary will inform.

**Corollary 3a:** An increase in  $\overline{m}_I$  reduces the ex-ante probability of the corrupt transaction taking place. The reduction is larger the larger is  $E$  and the smaller are  $\underline{p}$  and  $v$ .

**Corollary 3b:** A decrease in  $\tilde{b}$  increases the ex-ante probability of the corrupt transaction taking place.

In summary, we expect Intermediaries who are (not) integrity-trained and are (unaware) aware that most of their peers are also trained will be (most) least likely to facilitate corruption and embezzle.

## 4. Parameterization and implementation

Our implementing partner, the USAID New Justice Program, provided support with translation, advertising campaign and recruitment of participants for the study. It reached 17 local universities directly and a further 56 universities through student bodies. In total, the study advertisement reached participants across 28 cities in Ukraine. Students were invited to read

the information about the project and to consent to participate in the study (opt-in), for a chance to take part in the integrity training, several surveys and the experiment.

The recruitment of law students concluded in early May 2021, reaching 496 registrations. Of these, about half (242 randomly selected students) were offered the chance to participate in the integrity training and were therefore assigned to the treatment group.<sup>15</sup> The remaining 254 students were assigned to the control group. All students were informed of the opportunity to earn small gifts for completing our questionnaires. Of the randomly selected students who received the invitation to take part in the training, 145 students attended at least one out of six sessions. In total, 110 students completed the minimum requirement for receiving participation certificates (i.e., four out of six sessions). In terms of the actual participation in the experiment, we had 252 intermediaries play. In addition to this pool of participants, for the experiment we independently enrolled a further 82 students from other degrees in Ukraine to play the role of firms in the game, of which 40 actually played the game.

#### 4.1 Experimental procedures

We operationalized the game described in our theoretical framework using a novel experimental game which simulates a one-shot interaction between a Firm, an Intermediary, a Public Official and a Member of Society and that mimics the procurement process of public contracts. The experiment was programmed in Qualtrics and was run in an asynchronous online format, where group-matching was randomly assigned ex-post and play was anonymous. All participants read the same instructions so that the set of actions for each player was common knowledge. Moreover, we chose to conduct a framed experiment to provide rich context and to make the decisions salient to both law students, who played the role of Intermediaries, and to non-law students, who played the role of Firms, Public Official and Member of Society (Charness et al., 2007b).<sup>16,17</sup> However, to help mitigate and potentially control for experimenter demand effects, we monetary incentivized all choices (Zizzo, 2008; De Quiddt, 2018) and we

---

<sup>15</sup> Although participation in the training was capped at 200 participants, we invited 242 randomly selected students to take part in the training to account for potential attrition.

<sup>16</sup> In the context of laboratory corruption games, the role of framing has been mainly analysed by Abbink and Hennig-Schmidt (2006), Barr and Serra (2010) and Banerjee (2016). By presenting a bribery game framed as a (repeated) corrupt exchange between a firm and a public official, as opposed to the same game framed neutrally and in abstract terms, Abbink and Hennig-Schmidt (2006) do not find a framing effect and attribute it, among other things, to the fact that even with a neutral frame, the game captures the typical features of corruption. In a simple one-shot petty corruption experiment setting, Barr and Serra (2010) find mixed results as far as framing effects are concerned: for low externalities, private citizens don't seem to be more likely to offer bribes under a corruption frame than in the abstract frame, but a statistically significant difference is found in the mean bribe offered; for high externalities, the opposite results were found. Banerjee (2016) compares the behaviour of subjects in a harassment bribery game both in emotionally loaded language and in neutral language with a strategically identical but differently framed ultimatum game in neutral language. The observed treatment effect arises not from the neutral language of the ultimatum game but from a change in the sense of entitlement between the bribery and ultimatum game frames.

<sup>17</sup> We chose to assign the role of Firms, Public Official and Member of Society to non-law degree students to minimize contagion from (knowledge of) the integrity training.

avoided morally loaded terms—for example, we avoid using the word “bribe” and opt for “payment” instead (Abbink et al., 2018). Further, we minimized the interaction between the experimenter and the participants by making the experimenter less salient in the study and sending about one month after the training an automatically generated email including a link to the online experiment, achieving high levels of anonymity.

Each of the four players has an initial budget of 70 UAH to start. The Public Official and the Member of Society do not make any decisions in the game, but their final payoffs are impacted by the decisions of the Firm and the Intermediary. The Firm wants to win a contract from the Public Official that is worth 50 UAH to the Firm. The Intermediary will choose whether to help the Firm win the contract by informing the Firm of a piece of confidential information. If the Firm receives the confidential information from the Intermediary, the Firm decides whether or not to act upon this information. The experiment unfolds as follows.

First, the Intermediary learns a piece of confidential information which is the amount the Public Official must receive as a bribe to award the public contract to the Firm with a 100% chance. Without the bribe, the Firm will win the contract with a  $p$  chance, which is equal to 5%. The amount the Public Official must receive as a bribe is determined randomly. A random number generator chooses one of the following amounts and each amount has an equal chance of being chosen: 5 UAH, 10 UAH, 15 UAH, 20 UAH, 25 UAH, 30 UAH, 35 UAH, 40 UAH. Moreover, just before making their decisions, Intermediaries were randomly assigned to one of two social conditions: being truthfully informed (or not) that they are part of a group in which 75% of Intermediaries have just received an Integrity, Ethics and Anti-Corruption training.<sup>18</sup> This novel approach of manipulating descriptive social norms in the lab (already proposed by Krupka and Weber, 2007; Bicchieri and Xiao, 2009; Abbink et al., 2018) allowed us to control what subjects believed about the pervasiveness of integrity and ethical values in their reference group because they actually knew it (Abbink et al., 2018).

Second, the Intermediary decides whether or not to inform the Firm of this confidential information and therefore facilitate the corrupt transaction. The choice here is to “Inform” or “Not Inform”. Importantly, the Intermediary can inform the Firm of a number equal to or higher than the true bribe, called “True Payment Amount”. For example, if the Intermediary learns that the Public Official requires a bribe of 5 and the Intermediary chooses to Inform the Firm, the Intermediary can choose 5, or a number greater than 5 (but not smaller) from the following

---

<sup>18</sup> Intermediaries were randomly allocated to overlapping groups such that this statement holds true.



set: 10 UAH, 15 UAH, 20 UAH, 25 UAH, 30 UAH, 35 UAH, 40 UAH. In this case, we call “5” the True Payment Amount and “10” the Informed Payment Amount. If the Intermediary chooses to inform the Firm of 10 and the Firm chooses to pay, then the Intermediary passes the 5 to the Public Official and can embezzle the remaining difference (10-5).

Third, if the Intermediary informs the Firm about the confidential information, then the Firm can act on that information and “Pay” the Public Official or “Not Pay”. If the Firm Pays, the Firm wins the contract for sure. If the Firm does Not Pay, the Firm will win the contract with a 5% chance. In other words, the Firm is the second mover and given the asynchronous online format, we elicit the Firm’s choices via the strategy method, i.e., they are asked to make a choice between Pay and Not Pay for each potential Informed Payment Amount.<sup>19</sup> Both the Public Official and the Member of Society make no decisions and thus are passive players. If the Firm is willing to pay the reported informal payment, an illicit transaction occurs and the Firm – Intermediary – Public Official triple benefits, while the Member of Society incurs a cost. In fact, if the Firm decides to Pay, then Society loses 35 UAH (half) of their initial endowment as a way to mimic the negative externalities that illicit transactions have on society. There are no partial bribes. If the Firm decides to Pay the Public Official, the Firm must transfer the full Informed Payment Amount reported by the Intermediary. If the Intermediary does Not Inform the Firm, then the Firm can only choose to Not Pay and there is a 5% chance of winning the contract.

Once we collected Intermediaries’ and Firms’ responses, choices were anonymously and randomly matched to determine whether an illicit transaction took place and to calculate the earnings from the activity for all four roles<sup>20</sup>. Given our experimental design, we did not need as many Firms, Public Officials and Members of Society as Intermediaries. Overall, we had 40 Firms, 1 Public Official and 1 Member of Society who were paid based on the outcome of one randomly chosen Intermediary match. The payoffs of all players were determined by the choices of the Intermediary and the Firm and were paid within two weeks of the resolution of the game. To minimize experimenter demand effects and capture medium-term effects on behaviour, the experiment was played in July, more than one month after the conclusion of the integrity training. All specific instructions can be found in Appendix 4.

---

<sup>19</sup> Despite being aware of the potential limitations of the strategy method compared to the more standard direct-response method, we feel that the chosen elicitation method should not be a major concern for our study since we are primarily interested in the intermediaries’ decisions, which are not elicited using the strategy method. Furthermore, intermediaries are not informed that firm’s choices are elicited using this approach.

<sup>20</sup> All players were given the same initial budget, and decisions in the activity could give them additional earnings, which were then converted in real gift vouchers with values between 100 and 200 UAH.

## 4.2 Treatments and hypotheses

We employed a between-subject 2x2 design where we systematically varied the integrity training and the information treatments, as shown by Figure 2 below. We have three main hypotheses:

**Hypothesis 1:** The probability that the Intermediary will inform will be on average highest in the treatment without integrity training and information (Group 4), and lowest in the presence of both treatments (Group 1).

**Hypothesis 2:** The expected bribe asked for by the Intermediary (conditional on informing) will be highest in the treatment without integrity training and information (Group 4), and lowest in the presence of both treatments (Group 1).

**Hypothesis 3:** The ex-ante probability of the corrupt transaction taking place will be on average highest in the treatment without integrity training and information (Group 4), and lowest in the presence of both treatments (Group 1).

Figure 2: Treatment design

		<i>Information: 75% of group peers are integrity trained</i>		
		<i>Yes</i>	<i>No</i>	<i>Total</i>
<i>Integrity training</i>	<i>Yes</i>	Group 1: 46	Group 2: 49	95
	<i>No</i>	Group 3: 79	Group 4: 78	157
	<i>Total</i>	125	127	252

## 5. Data and empirical strategy

### 5.1 Data and sample

All 496 law students who initially agreed to participate filled out a basic questionnaire at enrolment, in which we elicited the age, gender, what year and which university they were enrolled in, the reason for participating and whether they had taken an ethics course. We used the year of enrolment in university to divide students into junior (first year) and senior (second year and above), on the empirically-motivated expectation that the effect of the integrity

training may differ between students who had already and had not yet accustomed to potentially corrupt academic cultures.

In addition, students in both treatment and control groups agreed to complete two main surveys (pre and post integrity training), one short in-between quiz and participate in an online experiment. To minimize attrition, students had the opportunity to receive a mobile top-up for participating in the online surveys. Students were also informed that if they completed both questionnaires, the quiz and the experiment, they would be entered in a random draw for the chance to win prizes worth 1400 UAH.<sup>21</sup>

We began data collection in early May 2021, before the start of the integrity training. 323 students completed this baseline survey, approximately equally split between the assigned treatment (49%) and control group (51%).<sup>22</sup> The survey was designed to generate baseline measures of students' moral values and preferences as well as their perceptions of corruption in Ukraine. In early June, about two weeks after the conclusion of the ethics training, we administered a short quiz with questions related to students' personality and attitudes to keep participants engaged in the study. We received a total of 214 complete responses.<sup>23</sup>

We launched the online asynchronous experiment in July 2021. We initially gave participants 3 weeks to complete the experiment. However, due to the timing coinciding with the summer holiday, we had a low response rate despite repeated reminders by email and text message (just over 100 complete responses within the first 3 weeks). We therefore changed the invitation strategy and employed a research assistant to call the enrolled students and remind them to complete our online experiment survey. This was successful, and we closed the experiment in the end of August, with 252 complete and valid records from law students, as well as an additional 40 non-law students who played the firm role in the experiment.

In September 2021, we sent an invitation to a final survey which concluded in October 2021, with 186 responses in total, equally split between the treatment (48%) and control group (52%).<sup>24</sup> Overall, 158 students (i.e., 32% of the 496 initially enrolled students) completed both the baseline and endline surveys, and participated in the experiment.

---

<sup>21</sup> The Ukraine Hryvnia to US Dollar exchange rate for May 2021 was: 1 UAH = 0.036 USD.

<sup>22</sup> Among the 242 law students randomly assigned to the treatment group, 158 (65%) completed the baseline survey. Of the 254 students assigned to the control group, 165 (65%) completed the survey.

<sup>23</sup> Of these 214 responses, 97 (45%) were completed by students assigned to the treatment group, whereas 117 (55%) were completed by control students. Overall, the quiz survey take-up was quite low. Of all the 242 students assigned to the treatment group, only 40% completed the quiz. A similar take-up rate can be found among control students (46%).

<sup>24</sup> Of the 242 students assigned to the treatment group, only 37% completed the endline survey. A similar take-up rate can be found among control students (38%).

## **5.2 Primary and secondary outcome variables**

### **5.2.1 Primary outcomes: Choices and behaviours**

The main objective of this study was to measure the impact of the integrity training on corrupt behaviour. Due to the complex and clandestine nature of the outcome of interest, we decided to take an experimental route to measure our primary outcome. At the beginning of the game the Intermediary has to make two important decisions. First, he decides whether to inform the Firm about the informal payment required by the Public Official and thus facilitate the corrupt transaction, our primary measurement of corruption. Second, if the Intermediary is willing to support its client and inform the Firm about the informal payment, he decides how much to ask for. In particular, the Intermediary can choose to report either the true bribe amount requested by the Public Official or a higher amount, and thus embezzle the difference, our secondary measure of corruption.

### **5.2.2 Secondary outcomes: Attitudes and beliefs**

We were also interested in investigating the psychological processes or mechanisms that could lead to shifts in Intermediaries' corrupt behaviour in the game. In particular, we wanted to test whether the integrity training could reduce Intermediaries' propensity to mediate corrupt transactions and embezzle by changing solely their moral preferences (i.e., by changing how they feel about corrupt behaviour), or by adjusting their subjective perceptions about corrupt behaviours in their community or group of reference.

We measured the first set of secondary outcomes, i.e., Intermediaries' moral preferences, by means of our baseline and endline surveys. Both questionnaires were divided into three main modules. The first one included 30 questions based on the Moral Foundation Theory questionnaire developed by Haidt and Joseph (2004).<sup>25</sup> This is a set of questions that social and cultural psychologists developed to understand human moral reasoning and its variations and similarities across cultures. It captures to what extent individuals endorse, value and use the following five innate and universally available dimensions of morality in their decision-making process: 1) Harm/Care (kindness and nurturance); 2) Fairness/Reciprocity (reciprocal altruism, justice and autonomy); 3) In-group/Loyalty (patriotism and group loyalty); 4) Authority/Respect (deference for superiors, respect for traditions); 5) Purity/Sanctity (decency). Each foundation is assessed using six items or questions that

---

<sup>25</sup> The complete questionnaire can be found here: <https://moralfoundations.org/questionnaires/>.

investigate both the relevance of and the judgements about the corresponding moral foundation. For example, Question 1 measures the relevance of the Harm/Care moral foundation by asking: “When you decide whether something is right or wrong, to what extent is whether or not someone suffered emotionally relevant to your thinking?”. Question 17, on the other hand, assesses individuals’ judgement about the same foundation by asking: “How much do you agree with the following statement: compassion for those who are suffering is the most crucial virtue?”. Each question is scored using a six-point Likert scale anchored from 1 (not at all relevant/strongly disagree) to 6 (extremely relevant/strongly agree). See a full list of questions in Appendix 3.<sup>26</sup> The second module of the baseline and endline surveys included a set of 15 questions that assessed respondents’ perceptions of the level of corruption in the Ukrainian society, the prevalence of bribery in exchange for public services, the risk to be held accountable, as well as the justifiability of corruption and cheating in certain contexts. One question in particular was closely related to the business transaction scenario mimicked in our experiment, and asked respondents to choose which actors they think should be held accountable: whether the firm, the intermediary, the civil servants, none of them or all of them. This question allowed us to directly assess how students assign blame and responsibility in corrupt situations involving different actors. It was also linked to the integrity training content, which emphasized the concept of personal and shared responsibility for upholding ethical values and maintaining ethics. The third module of the survey covered about 10 questions on personal characteristics such as family income, current employment, students’ career aspirations and their reasons for choosing a law degree. At the end of the endline survey we added a few questions assessing students’ personal experiences with cheating in university exams, making informal payments to improve university marks, bribing public servants, or witnessing and reporting colleagues or teachers behaving unethically.

Lastly, we measured the second set of secondary outcomes, i.e., Intermediaries’ beliefs about the corrupt behaviour of their peers in the game, through a series of questions appended to the end of the experiment, once all decisions were made. To encourage participants to report their true beliefs, we employed an incentivized belief elicitation method. Specifically, we offered participants the chance to receive a fixed bonus gift of 40 UAH. The chance was larger

---

<sup>26</sup> Since the Moral Foundation Theory employs multiple outcome variables (5 foundations) and numerous measures of the same outcome variable (6 items per each foundation), it is likely that multiple hypothesis testing could lead to a high rate of false positives. Like Harris et al. (2022) and Anderson (2008), we computed standardized indices for groups of similar outcomes as a way to address this concern. Specifically, we aggregated the six questions associated with each foundation into a corresponding index by first calculating an average score across the six items, and then demeaning each measure and dividing it by the standard deviation of the corresponding control group variable. We did the same for all sets of variables measuring the same outcome, thereby obtaining five foundation index values.

the closer the participants' beliefs were to the realized outcomes in the experiment.<sup>27</sup> Despite the attractive theoretical properties of the most popular methods for incentivizing honesty in belief elicitation (i.e., the proper scoring rules, probability matching and the binarized scoring rule), we intentionally avoided their application due to the degree of complexity of their underlying mechanisms (Charness et al., 2021). Instead, we decided to employ a simple belief-elicitation mechanism akin to the interval method and that could be more easily understood by participants and thus lead to more reliable and meaningful responses (Dufwenberg and Gneezy, 2000; Charness and Dufwenberg, 2006). We were elicited three main first-order beliefs: the percentage of Intermediaries in the game that would have been willing to report the informal payment to their matched Firm; the average over-reported amount that the Intermediaries in the game would have reported to their matched Firm; the maximum amount that the average Firm would have been willing to pay in the game.

### 5.3 Empirical specification

To estimate treatment effects of the integrity training and of the social norm information on Intermediaries' attitudes, perceptions and behaviour, we exploited the random variation of both assigned treatments. As mentioned before, 242 (49%) were randomly assigned to the treatment and of these, 145 students took in fact the training (60% compliance). In the experiment we had 252 (51% of enrolled students) participants, which form our experimental sample. Of these, 95 students completed the integrity training whereas 157 did not.<sup>28</sup>

Due to partial compliance and the impossibility of excluding potential selection bias, we obtained first the intent-to-treat (ITT) estimates using a simple OLS regression model:

$$Y_i = \alpha + \beta_1 \text{Training offer}_i + \beta_2 \text{Information}_i + \beta_3 \text{Junior}_i + \beta_4 \text{Training offer}_i * \text{Information}_i + \beta_5 \text{Training offer}_i * \text{Junior}_i + \beta_6 \text{Training offer}_i * \text{Information}_i * \text{Junior}_i + \gamma X_i + \epsilon_i \quad (1)$$

where  $Y_i$  is one of our primary or secondary outcome variables for Intermediary  $i$ , i.e., either corrupt behaviour as measured in our lab-in-the-field-experiment, or a survey-generated measure of Intermediaries' attitudes and perceptions about corruption, or their beliefs about their peers' corruptibility. *Training offer* <sub>$i$</sub>  is an indicator equal to 1 for all Intermediaries that

<sup>27</sup> See please the scoring rules in Appendix 4.

<sup>28</sup> Fully compliant students who participated both in the training and in the experiment represent only 40% of the assigned treatment group (i.e., 95 students out of 242). The group of 157 students who participated in the game but did not complete the training are made up of 129 students who belonged to the initially assigned control group as well as of 28 students who received the training offer but did not take it (the non-compliant students).

were randomly assigned to receive the offer to take ethics training, regardless of their actual training status, and 0 otherwise.  $Information_i$  is another indicator equal to 1 for all Intermediaries that were randomly assigned to the treatment group of the information that a majority of peers were trained, and 0 otherwise.

$Junior_i$  is an indicator equal to 1 for all Intermediaries that were students enrolled in their first year, and 0 otherwise. To reiterate, we divided students into junior and senior (enrolled in the second year and above), because first year students have not yet become accustomed to the academic norms of integrity or lack thereof, and there is evidence that less experienced professionals are more responsive to integrity training (Harris et al, 2022).  $Training\ offer_i * Information_i * Junior_i$  is an interaction term equal to 1 for all Intermediaries that were randomly assigned to the treatment group of both the integrity training and the information interventions, and who were enrolled in their first year.

In this specification,  $\beta_1$  is the estimated treatment offer effect of the integrity training treatment on senior students who did not receive the information,  $\beta_2$  is the estimated treatment effect of the information treatment on senior students who did not receive the training offer,  $\beta_3$  is the estimated difference in outcome between junior and senior students and  $\beta_4$  is the additional effect of receiving both treatments for junior students.  $X_i$  is a vector of Intermediaries' characteristics measured at baseline: gender, reason for enrolment in the program, previous integrity training participation, household income, if paying tuition fees at university, desire to become a corporate lawyer, reason for studying law, the five moral foundation values indices, and various perceptions of the level of corruption in Ukraine, of the accountability of actors involved in a corrupt transaction and justifiability of certain corrupt activities. Finally,  $\epsilon_i$  is the residual.

In addition, we estimated an IV regression model which captures the local average treatment effect (LATE) and that provides a consistent estimate of the average treatment effect for the subgroup of compliers only, i.e., those Intermediaries who received the training offer and took it. The estimation proceeds through a two-stage least squares regression:

$$\begin{aligned}
ActualTraining_i &= \delta + \theta_1 Training\ offer_i + \theta_2 Information_i \\
&+ \theta_3 Young_i + \theta_4 Training\ offer_i * Information_i \\
&* Young_i + \theta_5 Training\ offer_i * Information_i + \theta_6 Training\ offer_i * Young_i \\
&+ \theta_7 Information_i * Young_i + \gamma' X_i + \eta_i
\end{aligned}$$

$$Y_i = \alpha + \beta_1 \widehat{ActualTraining}_i + \beta_2 Information_i + \beta_3 Young_i + \beta_4 \widehat{ActualTraining}_i * Information_i * Young_i + \beta_5 \widehat{ActualTraining}_i * Information_i + \beta_6 \widehat{ActualTraining}_i * Young_i + \beta_7 Information_i * Young_i + \gamma X_i + \epsilon_i \quad (2)$$

In the first stage, the actual training participation (*ActualTraining<sub>i</sub>*) is predicted by the instrument, which is the initial assignment of law students to treatment and control groups (*Training offer<sub>i</sub>*). In the second stage, the outcomes of interest are regressed against the treatment take-up, as predicted in the first stage (Harris et al., 2022).

## 6. Results

### 6.1 Balance tests

Tables 1 and 2 present descriptive statistics that were collected at the enrolment and baseline stages for our overall sample as well as by treatment. Of the 252 Intermediaries participating in the game, 180 were female. About 90% of the sample was aged between 18-22. Nearly 45% of participants were enrolled in the first academic year, whereas 55% of the sample was attending their second to fifth year. Only 37% of the sample reported having previously received some form of integrity training and over 85% of students declared having enrolled in this study because of the opportunity to learn new skills.

Of the 252 Intermediaries who participated in the game, 123 received the training offer. Of the latter, 95 people had done at least one out of six training sessions. Students were assigned randomly to receive the training offer, based on a balance of enrolment covariates, but they opted into the game, which may have affected the balance of covariates in the experiment sample. Table 1 shows that the main covariates differ slightly only for seven out of 41 variables between students who received the training offer and those who did not (significant at 10% columns 1-3). The means are very close for the variables that are significantly different; however, most significant differences show the group that did not receive the training offer to have attitudes and preferences that are more aligned with ethical principles (e.g. they place more emphasis on and harm/care in deciding whether something is good or bad, and they are more likely to hold everyone accountable in a multi-stakeholder corrupt situation). The risk these differences pose is therefore limited to a potential downward bias in the impact of the training offer on outcomes. We control for the rich set of baseline covariates in the Intent-to-treat regressions.



In terms of compliance with the treatment, to check if it was systematically related to a subject's potential outcomes, we ran the same t-tests across students who did some training and those who did not, conditional on receiving the training offer (columns 4-6). Out of all the covariates collected through the Moral Theory Foundation and corruption attitudes surveys, four variables seemed to be appreciably different between the two groups. These include local middlemen accountability, justifiability of corrupt judges and hospital managers, and desire to become a corporate lawyer (significant at 1% or 5% significance level). The differences are mixed, not revealing a clear systematic differences in terms of attitudes to corruption between treated and untreated students. Nevertheless, we cannot rule out the possibility of selection into the training. To account for this, we rely on the Intent-to-treat estimates, we estimate Two Stage Least Squares to understand the LATE, and we include these covariates in regressions.

Similarly, Table 2 shows the balance of covariates for the second main treatment, i.e., the message including information about the high incidence of integrity training among peer Intermediaries. Participants were randomly assigned into the information treatments during the game. Enrolment variables and other pre-test scores do not seem to differ substantially between those students who received the message and those who did not (columns 1-3), with the exception of interest in behavioural experiments. As before, we ran the same t-tests across students who received the message and those who did not, conditional on receiving the training offer (columns 4-6) and not (columns 7-9), to check if compliance was systematically related to subjects' potential outcomes. Only three out of 41 variables seemed to be significantly different across the two groups, which is consistent with chance differences in covariates. We accounted also for these variables in the regression analysis.

## **6.2 Treatment effects on primary outcomes**

### **6.2.1 Willingness to facilitate bribery**

Figure 3 displays a simple comparison between the shares of Intermediaries willing to facilitate a bribe across our four treatment groups. About 55% of the Intermediaries who did not receive any treatment chose to facilitate the informal payment between the Firm and the Public Official. Receiving the training offer and/or the information about a majority of peers being trained did not seem to have any impact on the outcome of interest for the whole sample. However, the unconditional effects of training offer and information on willingness to facilitate bribery by cohort paint a different picture, as shown in Figures 3a and 3b.

First, it is worth noticing that corrupt behaviour in the baseline group seemed to be more prevalent among junior Intermediaries (Figure 3a), with 69% of first-year students

choosing to facilitate bribery as opposed to 44% of second to fifth-year students choosing to inform the Firm about the bribe requested by the Public Official (Figure 3b). This difference is statistically significant in the corresponding ITT (LATE) estimates in Table 3, columns 1-2 (Appendix Table A1).

Second, Figures 3a and 3b seem to corroborate our initial assumption that treatment effects may vary by cohort. To test whether the differences are statistically significant when we control for baseline characteristics, we take a closer look at both the ITT estimates of equation (1) and the corresponding plots of the conditional marginal effects of our treatments.

ITT estimates suggest the training offer effect on Intermediaries' willingness to facilitate bribery is generally small and insignificant amongst senior students in all our specifications, regardless of the presence of the informational treatment. There seems to be suggestive evidence in columns 1 and 2 that junior Intermediaries who received the training offer and no information were around 26 percentage points less likely to facilitate bribery compared to their control peers, but this is imprecisely estimated and the effect vanished in column 3, when all baseline controls are included (reducing the sample to 189 participants). Overall, the small sample and large standard errors make the training offer impact inconclusive.

However, being solely exposed to the information about the high incidence of training amongst peers brings about a large reduction of 37 percentage points (over 50 %) in the likelihood of facilitating a corrupt transaction among the junior cohort of Intermediaries (column 1) compared to that of the junior cohort of untrained and uninformed Intermediaries. The coefficient is statistically significant at 5% in Models 1 and 2 (10% in Model 3).

For ease of interpretation, these results are displayed in Figures 4a and 4b, which show the conditional marginal effects for each cohort with non-trained and not informed senior students as a counterfactual group. Besides illustrating the negative and large marginal effect of information on willingness to facilitate bribery among junior students who didn't receive the training offer, Figure 4b shows suggests an even larger negative and significant effect of information for these students when they receive the training offer (only in Model 3). The above ITT estimates are similar to the corresponding LATE estimates in Appendix Table A1.

Overall, the above results appear to be partly in line with our first theoretical hypothesis. While it is difficult to detect the reduction in unethical behaviour due to the training offer, because of low power and possibly a downward bias due to slight imbalances in covariates, we detect a large negative and statistically significant marginal effect for the information treatment on the willingness to facilitate bribery amongst untrained junior students.

### 6.2.2 Amount embezzled

We now turn to our second main outcome of interest, i.e., the amount embezzled by those Intermediaries who chose to facilitate a corrupt transaction between the Firm and the Public Official. Of the initial sample of 252 Intermediaries participating in the experiment, 138 (55%) were willing to inform the Firm about the bribe amount required by the Public Official. As shown in Figure 5, 62 out of 138 Intermediaries (45%) decided not to over-report, whereas the remaining students chose to embezzle the over-reported amount. In sum, nearly one fourth of the initial sample of students who played the role of Intermediaries in our game embezzled.<sup>29</sup> A potential explanation for a large share of students embezzling zero despite choosing to facilitate the bribery is a tension between their duty to do the best for their client and their professional ethics. “Advising” or informing the Firm about the bribe amount demanded by the Public Official seemed more legitimate than overreporting and embezzling.

Figure 6 displays a simple comparison of the average embezzled amounts across the four treatment groups for the entire sample. In the absence of both treatments, the average over-reported amount is about 5.3 UAH. Receiving the training offer and/or the information about a majority of peers being trained does not seem to have any significant impact on the outcome of interest. The unconditional effects of training offer and information on embezzlement by cohort (Figures 6a and 6b), show that training offer appears to have a negative effect among senior students only. A closer look into the corresponding ITT estimates in Table 4 reveals a negative effect of training offer on the amounts embezzled by senior students (significant at 10% only in Model 3).

The tables report no other significant treatment effects. The ITT estimates are similar with the corresponding LATE estimates in Table A2 in Appendix 2, with the latter displaying slightly larger negative coefficients of training and information for senior students (albeit still insignificant). The generally large confidence intervals in Figures 7a and 7b, where we display the conditional marginal effects of our treatments, are a result of the small sample size, which make the tests underpowered.<sup>30</sup>

To understand what drives the results we have obtained so far, we now analyse the psychological mechanisms that might have led to these different patterns of behaviour.

---

<sup>29</sup> In fact, of the 138 students who were willing to facilitate bribery, 76 over-reported. However, 8 students reported incorrect amounts to the Firm, thus were removed from the sample used for the analysis of our second outcome of interest.

<sup>30</sup> For 80% power and a significance level of 5%, we would need a sample of 352 participants to be able to detect a significant reduction associated with the integrity training offer of 0.625 UAH (from 5.625 to 5 UAH, as in model 1 in Table 4).

## 6.3 Mechanisms

### 6.3.2 Beliefs

As mentioned in section 5.2.2, we elicited Intermediaries' first order beliefs about other Intermediaries' behaviour in the end of the experiment, once all their choices were made. We collected data on Intermediaries' beliefs about the share of other Intermediaries in the game who were willing to facilitate a bribe, their average over-reported amount and the amount that an average Firm would be willing to pay at most. The aim was to understand how integrity training worked in interaction with the information framing training as the norm.

The first elicited belief in Figures 8 shows us that students' guesses of the overall share of Intermediaries willing to facilitate a bribe were quite close to the realized outcomes of the experiment, suggesting the effectiveness of our incentivized belief elicitation method (around 58% expected to facilitate compared to 55% facilitating in the control group overall). For junior students, the share believed to facilitate drops from 61% (without training or information about peers) to 48% with the training offer and information. The ITT (and LATE) estimates in Table A3 in Appendix 2 both the training, the information and their interaction coefficients are negative (albeit insignificant), suggesting the effects are going in the direction of a perceived reduction in bribery facilitation due to our treatments. We find a negative and significant (in Model 3) conditional marginal effect of information on junior training offer recipients' beliefs (Figure 9b). In other words, first year students who received the information and were offered the integrity training believed that a 20 percentage points lower share of Intermediaries in the game would facilitate corruption.<sup>31</sup> This is a strong match with the corresponding conditional marginal effect of information on the actual behaviour of trained first year students (Figure 4b), suggesting an alignment in own behaviour with the expected behaviour of their peers.

The second elicited belief shows both junior and senior students to have guessed less accurately the average amount embezzled by other Intermediaries, which was believed to be on average 14.5 UAH, i.e., compared to the actual average of 5 UAH. ITT (LATE) treatment effects in Appendix 2 Table A4 are negative, albeit insignificant. There is a negative conditional marginal effect of information on junior training-offer recipients' (Figure 9d). Receiving information and the integrity training offer made juniors believe that other Intermediaries in the game would on average embezzle between 3.5 and 4.3 UAH less, statistically significant in Model 1 (10%) and Model 2 (5%) (note a similar magnitude for senior students in Model 3).

---

<sup>31</sup> For Models 1-2, the p-values are 0.158-0.182.

Finally, we report effects on beliefs about the maximum amount that Firms would be willing to pay (Figures 9e-f; Appendix Table A5). While in our model and in the experiment, we do not disclose to Firms the treatment status of Intermediaries, participants may derive some implicit associations between the training and information, and firm behaviour. Intermediaries think on average Firms would pay maximum 22 UAH (close to the actual average of 20 UAH). Information about peers being trained significantly lowers this amount by about 4.6/6.2 UAH among junior students who did not/did receive the training offer (Figure 8f).

Overall, the direction and magnitude of the effects suggest that the information treatment impacted junior Intermediaries' perceptions of their peers' behaviour, leading them to think that having a more ethical conduct was typical in their reference group. The findings are consistent with our theoretical expectation that information triggers pressure to conform to the norm, which might explain the observed reduced willingness to facilitate bribery among more junior middlemen. The same does not hold for senior Intermediaries, suggesting that the absence of change in their ethical behaviour might be partly due to more rigid beliefs, and lower degree of social conformity.

### **6.3.3 Preferences**

As described in section 5.2.2, we collected survey measures of Intermediaries' moral preferences, as well as their general perceptions of the level of corruption in the Ukrainian society, through our baseline and endline surveys. We first collected data in early May 2021, right before the start of the integrity training. The endline survey was administered throughout September 2021, about one month after the experiment finished. The aim was to test whether integrity training and information worked by changing moral attitudes and preferences. A further reduction in the sample size at endline surveys limits the power of the tests below.

We report the results on the five main moral domains underpinning the Haidt's Moral Foundation Theory in Appendix 2 Figures A2 through A6 and Tables A6. Overall, the training appears to have had an insignificant impact on all dimensions of moral reasoning regardless of the cohort. The same holds for the information treatment, with the exception of the negative and statistically significant coefficient of Information for juniors on the In-group/Loyalty importance in moral decisions (Appendix Table A6; Figure 4A).

We also collected survey measures of students' perceptions of the risk of being held accountable and of the justifiability of corruption and cheating in certain contexts, which are known predictors of the likelihood of engaging in corrupt activities or not. To gauge responsibility assignment in business transaction scenarios like in our experiment, we also

asked respondents to choose which actors they think should be held accountable: whether the firm, the intermediary, the civil servants, none of them or all of them. This was part of the integrity training content, which emphasized the concept of personal and shared responsibility for acting ethically. We expected training to be change students' attitudes about corruption.

The corresponding results in Appendix 2 Figures A7a-j and Tables A7 are mixed. Information alone led all students' to perceive a lower risk to be held accountable in society (Table A7). However, training and information significant increased the perceived accountability (Figure A7c, table A7).

The most promising result is in terms of students' perceptions of shared accountability in the business scenario, where the training had a significant impact on senior students (see the coefficient on the training offer interacted with information in Table A7). Senior offered the training and information were 31 percentage points more likely to report that accountability is shared by all actors involved (significant at 10%). On the other hand, the information treatment in the absence of training lead senior students to disagree with equally shared accountability, which indicates this component of the training was important in resolving ethical dilemmas.

Finally, we do not find consistently significant effects in terms of justifiability of corrupt students and judges, and a few significant coefficients for the justifiability of corrupt hospital managers. Senior students who received the information treatment but not the training offer were more likely to justify a hospital manager's corrupt practice, whereas those that received both treatments were less likely to justify it.

Overall, while only exploratory, the above results suggest that the combination of delivery of integrity training and information about prevalent trained peers can be a promising tool to shift students' views on corruption and improve their moral attitudes. This is particularly true for the stated preferences of senior cohorts, even we could not detect an improvement in their behaviour in the experiment. Information regarding the prevalence of integrity training worked in improving junior students' behaviour in the experiment, possibly through a shift in their beliefs about peers' behaviour. Note that the sole presence of the information without the experience of integrity training seems to make individuals feel more skeptical and generally less optimistic about whether corruption can be indeed reduced in society.

## **7. Conclusion**

In this paper, we provided empirical evidence on the effectiveness of an innovative integrity training aimed at supporting future legal professionals in Ukraine to form a commitment to uphold ethical values and improve ethical conduct. The 12-hour training was

designed and delivered online with the support of the USAID New Justice Program, and was inspired by the content of a series of peer-reviewed open-source University modules on integrity and ethics developed by the United Nations Office on Drugs and Crime (UNODC). It consisted of a combination of lecture-style sessions and interactive workshops, including group works, role-playing activities and discussion boards as well as guest talks by national high-profile integrity champions, with the aim to instil fairness and honesty values in students' professional practice and belief in an ethical successful career.

To measure our primary outcome of interest, i.e., post-training corrupt behaviour, we conducted an online lab-in-the-field experiment where we randomly allocated offers to 242 Ukrainian undergraduate law students to receive the newly designed ethics training. In our novel experimental bribery game, law students played the role of intermediaries with the choice whether to facilitate a corrupt transaction between a firm and a public official at the expense of society, and whether/how much to embezzle from the transaction. Before making their decisions, integrity-trained and non-trained intermediaries were further randomly assigned to one of two social conditions: receiving information (or not) about the high incidence of integrity training amongst their group. The introduction of this second experimental variation allowed us to test the efficacy of the integrity training, alone and in conjunction with a social reinforcement mechanism, at motivating and building commitment in training participants to upholding ethical values. Through a set of surveys with questions about the beliefs of players about the behaviours of peers, and questions inspired by Haidt's and Joseph's (2004) Moral Foundation Theory, we also tested a series of secondary outcomes, including moral preferences and attitudes to corruption. We thus assessed the mechanisms that could explain whether the integrity training was effective at reducing Intermediaries' corrupt behaviour by changing solely their moral attitudes and preferences or by adjusting their subjective perceptions about the pervasiveness of the integrity training among their peers.

Our experimental results show that integrity training alone may have reduced dishonest behaviour (although we cannot capture significant effects despite seemingly large magnitudes), and the information framing training as the norm significantly and strongly reduced junior students' willingness to facilitate bribery irrespective of whether they were trained or not. Our survey results seem to suggest that the behaviour of junior Intermediaries changed in line with their beliefs about a reduced incidence of corruption among their peers, suggesting how relevant social conformity concerns are among junior cohorts. While social conformity seems to be less of a concern for more senior cohorts, we found evidence that the combination of training and information generated a significant improvement in older students' attitudes

towards shared responsibility and accountability for corruption, even though this was not captured into a corresponding improvement in their actual behaviour in the experiment.

Overall, we conclude that carefully designed ethics trainings for university, coupled with relatively cheap behavioural interventions such as information to help spread the norm of integrity, can be effective at improving ethical conduct among future legal professionals and members of society. Our results suggest that integrity training has the potential to increase the moral burden of unethical decisions across more senior professionals. Moreover, clear messages about the pervasiveness of integrity training among peers can update junior professionals' beliefs about the relevance of ethical conduct in their reference group, and thus gently encourage them to conform. The combination of both treatments is thus advisable.



## References

- Abbink, K., et al. (2018). *The Effect of Social Norms on Bribe Offers*. Journal of Law Economics and Organization 34(3).
- Abbink, K., & Hennig-Schmidt, H. (2006). *Neutral versus loaded instructions in a bribery experiment*. Experimental Economics, 9(2), 103–121.
- Abbink, K., Irlenbusch, B., & Renner, E. (2002). *An experimental bribery game*. Journal of Law, Economics, & Organization, 18(2), 428–454.
- Abed, G. and Davoodi, H. (2000). *Corruption, Structural Reforms, and Economic Performance in the Transition Economies*. IMF Working Paper.
- Akerlof, G. (1980). *A Theory of Social Custom of Which Unemployment May Be One Consequence*. Quarterly Journal of Economics, vol. 94, 749-7.
- Argandoña, A. (2004). *Private-to-private corruption*. Journal of Business Ethics 47(3).
- Asch, S. (1952). *Group forces in the modification and distortion of judgments*. Social Psychology, 450–501.
- Banerjee, R. (2016). *On the interpretation of bribery in a laboratory corruption game: moral frames and social norms*. Exp Econ (2016) 19:240–267.
- Banerjee, R. and Mitra, A. (2018). *On monetary and non-monetary interventions to combat corruption*. Journal of Economic Behavior & Organization. Volume 149, May 2018, Pages 332-355.
- Banuri, S., & Eckel, C. (2011). *The effects of short-term punishment institutions on bribery: US versus Pakistan*. Mimeo, University of Texas, Dallas.
- Barr, A. and Serra, D. (2010). *Corruption and culture: An experimental analysis*. Journal of Public Economics, vol. 94, issue 11-12, 862-869.
- Bayar, G. (2005). *The role of intermediaries in corruption*. Public Choice (2005) 122: 277–298.
- Bertrand, M, et al., (2007). *Obtaining a Driver's License in India: An Experimental Approach to Studying Corruption*. The Quarterly Journal of Economics, Volume 122, Issue 4, November 2007, Pages 1639-1676.
- Bicchieri, C, & Xiao, E. (2009). *Do the right thing—but only if others do so*. Journal of Behavioral Decision Making, 22, 191–208.
- Bicchieri, C. (2016). *Norms in the Wild. How to Diagnose, Measure, and Change Social Norms*. Oxford University Press, 2016, 264 pages, ISBN 978-0190622053.

- Charness, G. et al. (2007b). *Social Distance and Reciprocity: An Internet Experiment*. Journal of Economic Behavior & Organization 63(1):88-103.
- Cialdini, R.B. et al. (1990). *A Focus Theory of Normative Conduct: Recycling the Concept of Norms to Reduce Littering in Public Places*. Journal of Personality and Social Psychology 58(6):1015-1026.
- De Quidt, J. & Haushofer, J. & Roth, C. (2018). *Measuring and Bounding Experimenters Demand*. American Economic Review. American Economic Association, vol. 108(11), pages 3266-3302, November.
- Della Porta, D. and Vannucci, A. (1999). *Corrupt Exchanges: Actors, Resources, and Mechanisms of Political Corruption*. Published by Routledge.
- Denisova-Schmidt, E. & Prytula, Y. (2017). *Ukraine: Endemic Higher Education Corruption*. International Higher Education, (90), 16-18.
- Desplaces, D.E. (2007). *The Impact of Business Education on Moral Judgment Competence: An Empirical Study*. Journal of Business Ethics volume 74, pages 73–87.
- Drugov, M., Hamman, J. & Serra, D. (2014). *Intermediaries in corruption: an experiment*. Exp Econ 17, 78–99.
- Enke, B. (2020). *Moral Values and Voting*. Journal of Political Economy, vol. 128, no. 10.
- Gautschi, F.H. and Jones, T.M. (1998). *Enhancing the Ability of Business Students to Recognize Ethical Issues: An Empirical Assessment of the Effectiveness of a Course in Business Ethics*. Journal of Business Ethics 17(2):205-216.
- Haidt, J. et al. (2013). *Moral Foundations Theory: The Pragmatic Validity of Moral Pluralism*. Advances in Experimental Social Psychology. Volume 47, 55-130.
- Harris, D. et al. (2021). *Ghana Police Service Project. Strengthening using identity professionalism and accountability within the Ghana Police Service, using identity, norms and narratives (forthcoming)*.
- Hasker, K., & Okten, C. (2008). *Intermediaries and corruption*. Journal of Economic Behavior & Organization, 67(1), 103–115.
- IBA Anti-Corruption Committee, OECD & UNODC (2010). *Risks and threats of corruption and the legal profession*.
- Köbis, N. et al. (2015). *Who Doesn't? —The Impact of Descriptive Norms on corruption*. PLoS ONE 10(6).
- Köbis, N. et al. (2019). *Social norms of corruption in the field – Posters can help to reduce bribery in South Africa*. Published online by Cambridge University Press.

- Krupka, E., & Weber, R. A. (2009). *The focusing and informational effects of norms on pro-social behaviour*. Journal of Economic Psychology, 30(3), 307–320.
- Lambsdorff, J. (2013). *Corrupt intermediaries in international business transactions: between make, buy and reform*. Eur J Law Econ 35, 349–366.
- Lee-Jones, K. (2018). *Regulating Private Sector Corruption*. Berlin: Transparency International.
- Mayhew, B.W. and Murphy, P.R. (2009). *The Impact of Ethics Education on Reporting Behavior*. J Bus Ethics 86, 397–416.
- Meyer-Sahling, JH (2021). Civil service reform and anti-corruption: Does ethics training reduce corruption in the civil service? (forthcoming).
- OECD (2014). *Foreign Bribery Report*. 2 Dec.2014.
- OECD (2018). *Education for Integrity: teaching Anti-Corruption, Values and the Rule of Law*.
- OECD (2020). *Foreign Bribery and the Role of Intermediaries, Managers and Gender*.
- Paluck, E.L. (2016). *Norm perception as a vehicle for social change*. Social Issues and Policy Review, Vol. 10, No. 1, 2016, pp. 181—211.
- Ramanujam, N. et al. (2012). *Rule of Law and Economic Development: A Comparative Analysis of Approaches to Economic Development across the BRIC Countries*. McGill Faculty of Law, Montreal.
- Rose-Ackermann, S. (1978). *Corruption: A Study in Political Economy*. New York: Academic Press.
- Rothstein, B. (2000) *Trust, Social Dilemmas and Collective Memories*. Journal of Theoretical Politics, 12(4):477-501.
- Serra, D. (2012). *Combining top-down and bottom-up accountability: evidence from a bribery experiment*. Journal of Law, Economics, & Organization.
- Shaub, M.K. (1994). *An analysis of the association of traditional demographic variables with the moral reasoning of auditing students and auditors*. Journal of Accounting Education. Volume 12, Issue 1, Winter 1994, Pages 1-26.
- Sherif, M. (1936). *The psychology of social norms*. New York, NY: Harper Collins.
- Tankard, M.E. & Paluck, E.L. (2016). *Norm Perception as a Vehicle for Social Change* Social. Issues and Policy Review 10(1):181-211.
- Transparency International (2019). Corruption Perceptions Index. <https://www.transparency.org/en/cpi/2019/index/nzl>

UNODC (2013b). *An Anti-Corruption Ethics and Compliance Programme for Business: A Practical Guide*. United Nations Office at Vienna.

UNODC (2020). University module series: Anti-corruption.  
<https://www.unodc.org/e4j/en/tertiary/anti-corruption.html>

Vannucci, A. (2015). *Three paradigms for the analysis of corruption*. Labour & Law Issues, 1(2), 1–31.

Zizzo, D.J. (2008). *Experimenter Demand Effects in Economic Experiments*. Social Science Research Network Discussion Paper.

World Economic Forum (2018). *Global Future Council on Transparency and Anti-corruption*.  
<https://www.weforum.org/communities/gfc-on-transparency-and-anti-corruption>

## Tables and Figures

Figure 3. Willingness to facilitate bribery by treatments and by student cohort

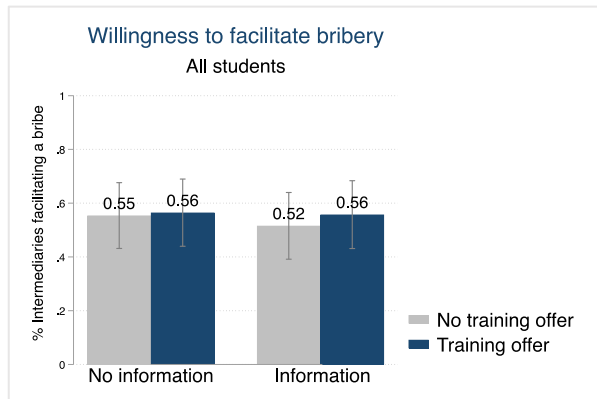


Figure 3a

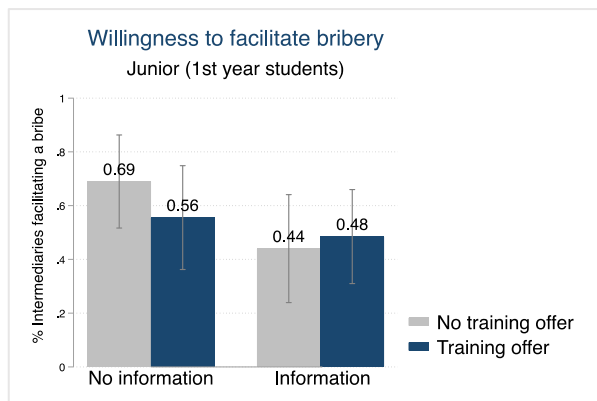
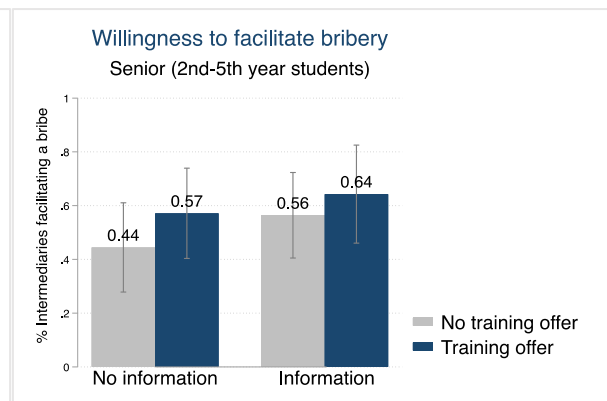


Figure 3b



Notes: The figures present the unconditional share of student Intermediaries who facilitated bribery in the experiment, by treatment (training offer or no offer, information about the prevalence of ethics-trained peers or no information) for the entire sample and separately for Junior (1<sup>st</sup> year students, 3a) and Senior (2-5<sup>th</sup> year students, 3b)

Figure 4. Willingness to facilitate bribery by treatments and by student cohort

Figure 4a

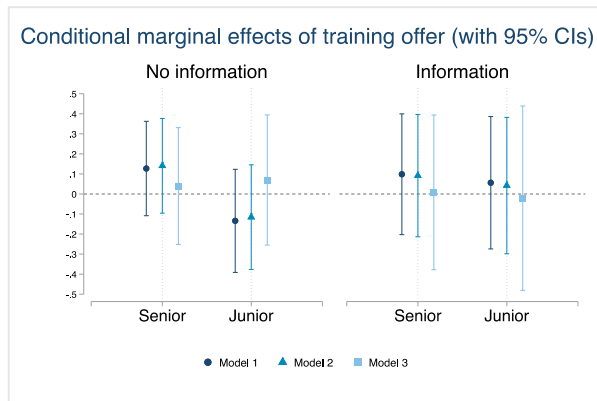
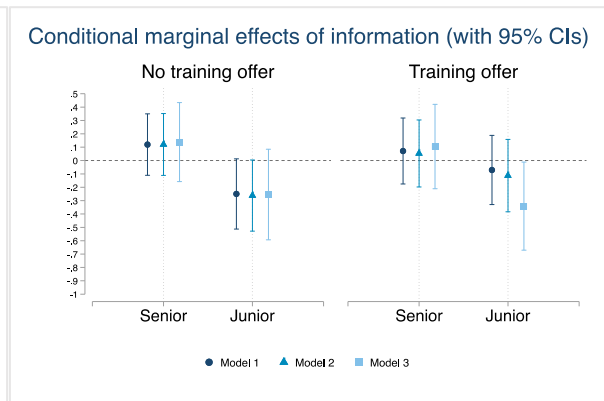
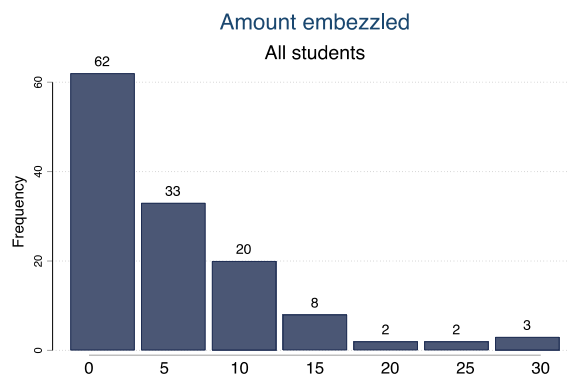


Figure 4b



Notes: The figures present the conditional marginal effects of the training offer and information on the willingness to facilitate bribery in the experiment, for Junior (1<sup>st</sup> year students, Figure 4a) and Senior (2-5<sup>th</sup> year students, Figure 4b), based on Table 3 estimates. Model 1 does not include any covariates. Model 2 includes enrolment covariates. Model 3 includes both enrolment and baseline covariates (see Section 4.3 for a complete list of covariates).

Figure 5 Amount embezzled distribution (conditional on facilitating bribery)



Notes: The figure present the distribution of the amount embezzled (in UAH; conditional on facilitating bribery in the experiment).

Figure 6 Amount embezzled distribution by treatments and by student cohort (unconditional)

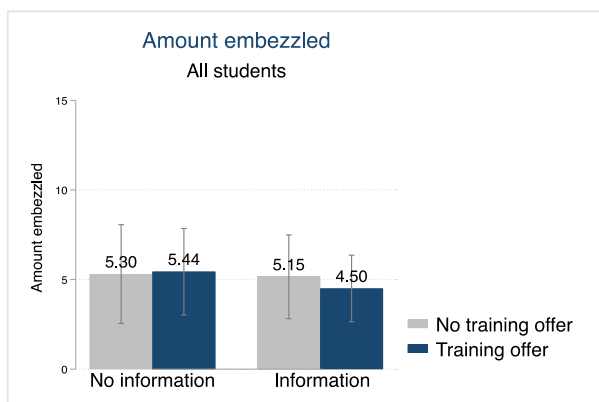
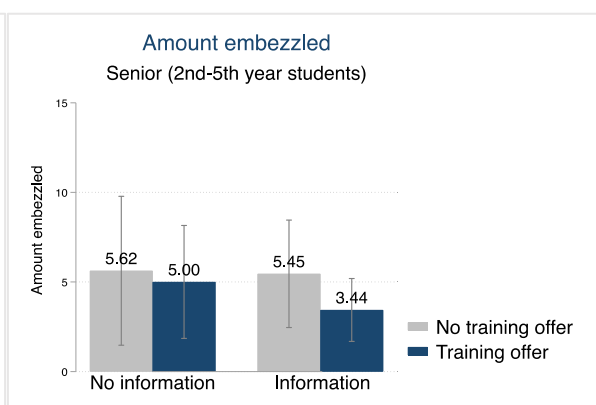
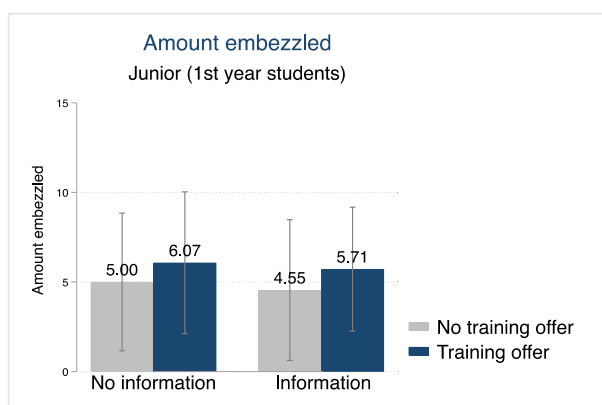


Figure 6a

Figure 6b



Notes: The figures present the average amount embezzled (in UAH) conditional on facilitating bribery in the experiment, by treatment (training offer or no offer, information about the prevalence of ethics-trained peers or no information) for the entire sample and separately for Junior (1<sup>st</sup> year students, Figure 3a) and Senior (2-5<sup>th</sup> year students)

Figure 7 Amount embezzled by treatment and by cohort; marginal effects

Figure 7a

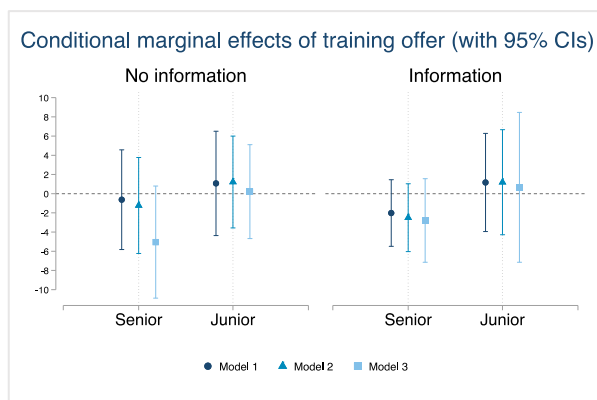
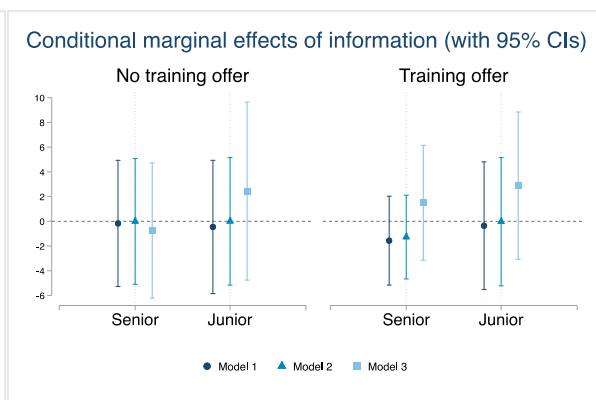


Figure 7b



Notes: The figures present the conditional marginal effects of the training offer and information on the amount embezzled (for Intermediaries who facilitated bribery in the experiment), for Junior (1<sup>st</sup> year students, Figure 7a) and Senior (2-5<sup>th</sup> year students, Figure 7b), based on Table 4 estimates. Model 1 does not include any covariates. Model 2 includes enrolment covariates. Model 3 includes both enrolment and baseline covariates (see Section 4.3 for a complete list of covariates).



## Figure 8 First order beliefs

Figure 8a

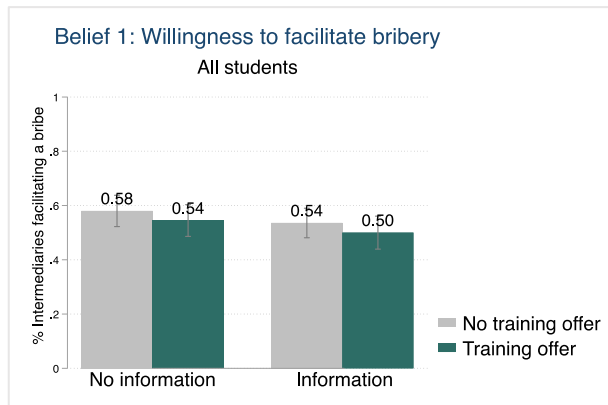


Figure 8b

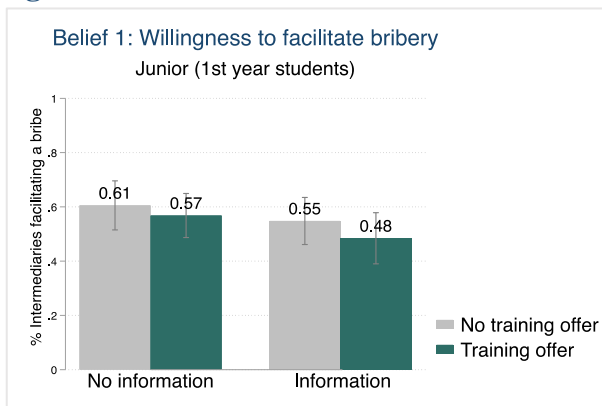
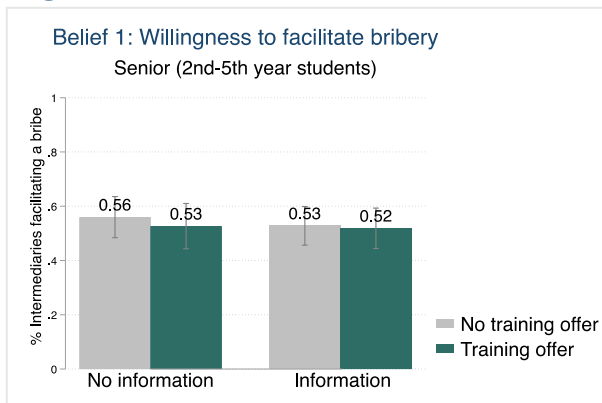
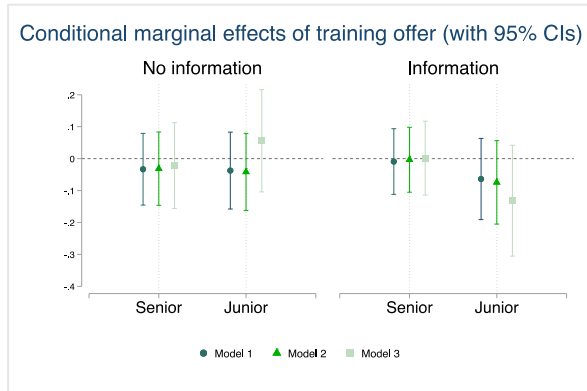


Figure 8c

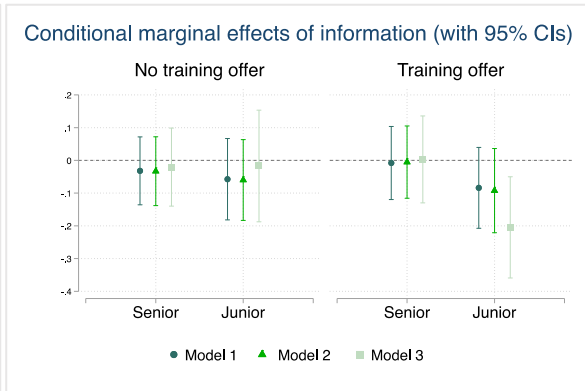


**Figure 9** First order beliefs; marginal effects

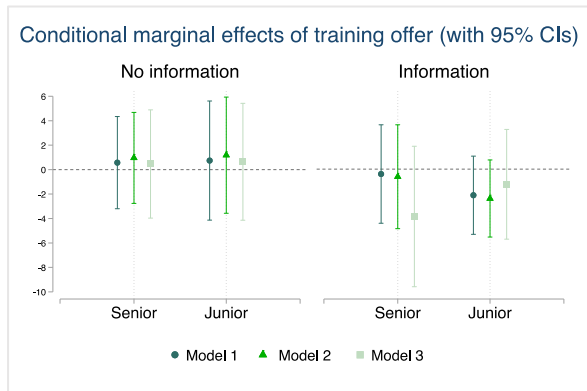
**Figure 9a** Willingness to facilitate bribery



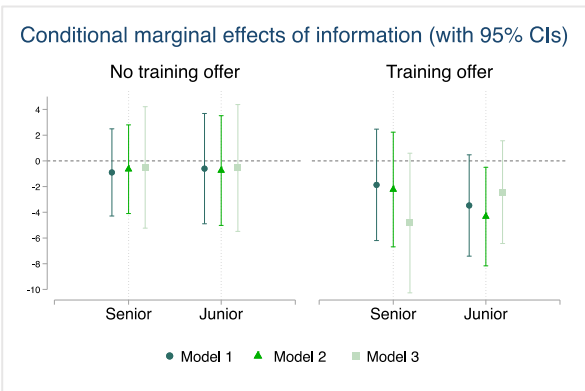
**Figure 9b** Willingness to facilitate bribery



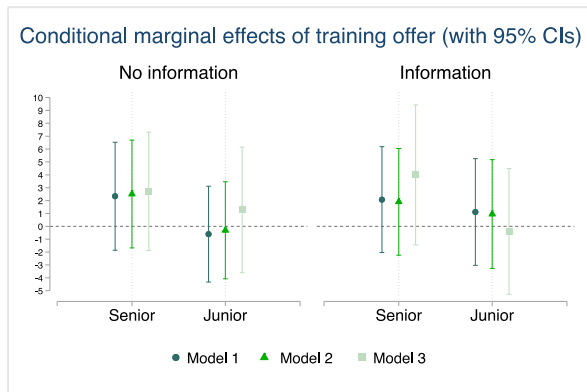
**Figure 9c** Embezzled amount



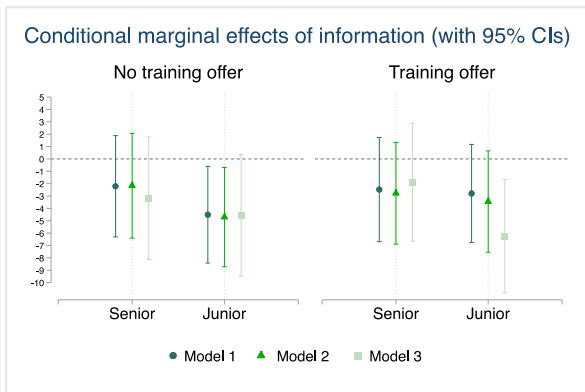
**Figure 9d** Embezzled amount



**Figure 9e** Firm willingness to pay



**Figure 9f** Firm willingness to pay



Notes: The figures show the conditional marginal effects of training offer by information and cohort and of information by training offer and cohort on the first-order belief about other Intermediaries' willingness to facilitate bribery (8a-b), on the first-order belief about other Intermediaries' embezzlements (8c-d) and on the first-order beliefs about maximum bribe amount firms are willing to pay. Model 1 does not include any covariates. Model 2 includes enrolment covariates. Model 3 includes both enrolment and baseline covariates (see Section 4.3 for a complete list of covariates).

Table 1. Balance of covariates by Integrity training offer and training treatment

	Comparison b/w students who received the training offer vs those who did not			Comparison b/w students who did some training vs those who did not, conditional on receiving the training offer		
	(1) Mean (Training offer=0)	(2) Mean (Training offer=1)	(3) P-value	(4) Mean (Training particip=0)	(5) Mean (Training particip=1)	(6) P-value
<i>Panel A: Enrolment covariates</i>						
Age	20.070	19.203	0.074*	19.143	19.221	0.906
Female	0.744	0.683	0.284	0.714	0.674	0.688
Year of study, 1-5	2.256	2.024	0.176	2.179	1.979	0.474
Want to win a prize	0.000	0.008	0.307	0.036	0.000	0.065*
Want to learn new skills	0.876	0.829	0.297	0.750	0.853	0.208
Interested in behavioural experiments	0.085	0.130	0.252	0.214	0.105	0.134
Already trained in ethics	0.364	0.382	0.772	0.393	0.379	0.895
Observations (Total=252)	129	123		28	95	
<i>Panel B: Baseline covariates</i>						
MFT Harm/Care Index, 1-6	4.816	4.651	0.066*	4.950	4.617	0.125
MFT Fairness/Reciprocity Index, 1-6	4.758	4.758	0.999	5.033	4.726	0.099*
MFT In-group/Loyalty Index, 1-6	4.241	4.261	0.827	4.350	4.251	0.643
MFT Authority/Respect Index, 1-6	3.741	3.652	0.400	3.780	3.637	0.533
MFT Purity/Sanctity Index, 1-6	4.102	3.885	0.052*	4.180	3.851	0.195
Level of corruption in Ukraine, 1-10	7.843	7.948	0.580	7.900	7.954	0.898
Level of corruption among state authorities, 1-4	2.963	3.052	0.188	3.100	3.046	0.716
Level of corruption among business executives, 1-4	2.611	2.742	0.123	2.900	2.724	0.369
Level of corruption among local authorities, 1-4	2.852	2.897	0.575	2.800	2.908	0.544
Level of corruption among the judiciary, 1-4	2.602	2.660	0.529	2.500	2.678	0.421
Level of corruption among civil service providers, 1-4	2.796	2.835	0.630	3.000	2.816	0.322
Level of corruption among journalists and media, 1-4	2.361	2.392	0.706	2.500	2.379	0.528
How often people pay bribes, 1-4	2.028	2.165	0.256	2.300	2.149	0.598
Risk to be held accountable for being corrupt, 1-10	5.194	4.722	0.078*	5.100	4.678	0.489
Foreign firm should be held accountable	0.009	0.041	0.140	0.000	0.046	0.494
Local official should be held accountable	0.111	0.155	0.360	0.000	0.172	0.156
Local middleman should be held accountable	0.009	0.031	0.265	0.200	0.011	0.001***
Everyone should be held accountable	0.870	0.773	0.068*	0.800	0.770	0.833
Is a corrupt student justifiable, 1-4	1.769	1.835	0.516	1.600	1.862	0.304
Is a corrupt judge justifiable, 1-4	1.130	1.124	0.923	1.500	1.080	0.006***
Is a corrupt hospital manager justifiable, 1-4	1.463	1.381	0.335	1.000	1.425	0.012**
Household income, 1-6	3.959	4.088	0.362	3.800	4.123	0.274
Currently employed	0.278	0.278	0.993	0.400	0.264	0.370
Current income, 1-6	2.600	2.077	0.097*	1.500	2.182	0.141
Paying tuition fees	0.546	0.515	0.661	0.700	0.494	0.222
Receiving a scholarship	0.389	0.423	0.625	0.300	0.437	0.412
Want to become a judge/prosecutor	0.259	0.289	0.639	0.300	0.287	0.934
Want to become a defense attorney	0.343	0.392	0.468	0.200	0.414	0.193
Want to become a corporate lawyer	0.167	0.082	0.071*	0.300	0.057	0.008***
Studying law b/c want to make money	0.046	0.072	0.433	0.100	0.069	0.723
Studying law b/c of parents' aspiration	0.019	0.010	0.627	0.000	0.011	0.737
Studying law b/c of prestige	0.111	0.134	0.619	0.200	0.126	0.523
Studying law b/c want to make a difference	0.389	0.423	0.625	0.400	0.425	0.880
Studying law b/c have the right skills	0.324	0.289	0.585	0.300	0.287	0.934
Observations (Total=205)	108	97		10	87	

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Notes: The table presents difference in means tests for baseline covariates at enrolment in the study (Panel A) and at the baseline survey (Panel B) between students allocated to receive and not receive the training offer (columns 1-3) and between students who participated in the training and those who did not (columns 4-6), given participation in the experiment. P-value for t-tests reported in columns 3 and 6.

Table 2. Balance of covariates by social norm treatment (all, training offer, no offer)

	Comparison b/w students who received the information about the majority trained vs those who did not			Comparison b/w students who received the information about the majority trained vs those who did not, conditional on receiving the training offer			Comparison b/w students who received the information about the majority trained vs those who did not, conditional on not receiving the training offer		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Mean (Info=0)	Mean (Info=1)	P-value	Mean (Info=0)	Mean (Info=1)	P-value	Mean (Info=0)	Mean (Info=1)	P-value
<i>Panel A: Enrolment covariates</i>									
Age	19.189	20.112	0.057*	19.177	19.230	0.925	19.200	20.953	0.025**
Female	0.677	0.752	0.190	0.613	0.754	0.094*	0.738	0.750	0.882
Year of study, 1-5	2.079	2.208	0.450	2.048	2.000	0.836	2.108	2.406	0.231
Want to win a prize	0.000	0.008	0.314	0.000	0.016	0.315	0.000	0.000	.
Want to learn new skills	0.819	0.888	0.122	0.790	0.869	0.251	0.846	0.906	0.304
Interested in behavioural experiments	0.150	0.064	0.028**	0.194	0.066	0.035**	0.108	0.062	0.362
Already trained in ethics	0.315	0.432	0.055*	0.323	0.443	0.173	0.308	0.422	0.181
Observations (Total=252)	127	125		62	61		65	64	
<i>Panel B: Baseline covariates</i>									
MFT Harm/Care Index, 1-6	4.726	4.751	0.786	4.602	4.701	0.454	4.833	4.797	0.768
MFT Fairness/Reciprocity Index, 1-6	4.769	4.746	0.782	4.769	4.747	0.846	4.769	4.745	0.844
MFT In-group/Loyalty Index, 1-6	4.250	4.251	0.993	4.235	4.288	0.681	4.263	4.216	0.724
MFT Authority/Respect Index, 1-6	3.658	3.741	0.433	3.637	3.667	0.831	3.677	3.812	0.394
MFT Purity/Sanctity Index, 1-6	3.974	4.026	0.639	3.865	3.904	0.802	4.067	4.141	0.642
Level of corruption in Ukraine, 1-10	7.802	7.990	0.325	7.878	8.021	0.576	7.737	7.961	0.429
Level of corruption among state authorities, 1-4	3.009	3.000	0.889	3.061	3.042	0.829	2.965	2.961	0.967
Level of corruption among business executives, 1-4	2.679	2.667	0.883	2.776	2.708	0.573	2.596	2.627	0.798
Level of corruption among local authorities, 1-4	2.925	2.818	0.184	2.939	2.854	0.435	2.912	2.784	0.277
Level of corruption among the judiciary, 1-4	2.670	2.586	0.361	2.612	2.708	0.476	2.719	2.471	0.048**
Level of corruption among civil service providers, 1-4	2.887	2.737	0.062*	2.898	2.771	0.260	2.877	2.706	0.134
Level of corruption among journalists and media, 1-4	2.406	2.343	0.442	2.408	2.375	0.776	2.404	2.314	0.430
How often people pay bribes, 1-4	2.057	2.131	0.536	2.041	2.292	0.147	2.070	1.980	0.595
Risk to be held accountable for being corrupt, 1-10	4.821	5.131	0.247	4.653	4.792	0.709	4.965	5.451	0.206
Foreign firm should be held accountable	0.019	0.030	0.598	0.041	0.042	0.983	0.000	0.020	0.293
Local official should be held accountable	0.132	0.131	0.987	0.163	0.146	0.815	0.105	0.118	0.840
Local middleman should be held accountable	0.019	0.020	0.945	0.020	0.042	0.550	0.018	0.000	0.347
Everyone should be held accountable	0.830	0.818	0.822	0.776	0.771	0.957	0.877	0.863	0.825
Is a corrupt student justifiable, 1-4	1.811	1.788	0.819	1.837	1.833	0.983	1.789	1.745	0.746
Is a corrupt judge justifiable, 1-4	1.132	1.121	0.859	1.122	1.125	0.978	1.140	1.118	0.777
Is a corrupt hospital manager justifiable, 1-4	1.425	1.424	0.997	1.449	1.312	0.188	1.404	1.529	0.336
Household income, 1-6	4.071	3.967	0.462	4.149	4.023	0.496	4.000	3.913	0.683
Currently employed	0.274	0.283	0.883	0.286	0.271	0.872	0.263	0.294	0.723
Current income, 1-6	2.552	2.045	0.112	2.286	1.833	0.179	2.800	2.300	0.366
Paying tuition fees	0.472	0.596	0.075*	0.490	0.542	0.614	0.456	0.647	0.047**
Receiving a scholarship	0.434	0.374	0.383	0.429	0.417	0.907	0.439	0.333	0.267
Want to become a judge/prosecutor	0.264	0.283	0.766	0.265	0.312	0.612	0.263	0.255	0.923
Want to become a defense attorney	0.368	0.364	0.950	0.429	0.354	0.458	0.316	0.373	0.539
Want to become a corporate lawyer	0.142	0.111	0.516	0.082	0.083	0.976	0.193	0.137	0.443
Studying law b/c want to make money	0.075	0.040	0.287	0.122	0.021	0.054*	0.035	0.059	0.562
Studying law b/c of parents' aspiration	0.009	0.020	0.523	0.020	0.000	0.325	0.000	0.039	0.134
Studying law b/c of prestige	0.142	0.101	0.378	0.163	0.104	0.398	0.123	0.098	0.686
Studying law b/c want to make a difference	0.387	0.424	0.587	0.367	0.479	0.270	0.404	0.373	0.745
Studying law b/c have the right skills	0.292	0.323	0.635	0.245	0.333	0.342	0.333	0.314	0.830
Observations (Total=205)	106	99		49	48		57	51	

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Notes: The table presents difference in means tests for baseline covariates at enrolment in the study (Panel A) and at the baseline survey (Panel B) between students allocated to receive information about a majority of peers being training, in the overall sample (columns 1-3) and for the subsample of students who received a training offer (columns 4-6) and those who did not (columns 7-9), given participation in the experiment. P-value for t-tests reported in columns 3, 6 and 9.

Table 3. Willingness to facilitate bribery, ITT estimates.

VARIABLES	<i>ITT estimates</i>		
	(1)	(2)	(3)
Training offer	0.127 (0.120)	0.141 (0.120)	0.039 (0.148)
Information	0.120 (0.117)	0.120 (0.117)	0.138 (0.150)
Junior	0.245** (0.121)	0.251** (0.122)	0.147 (0.157)
Training offer * Information	-0.048 (0.171)	-0.067 (0.173)	-0.033 (0.215)
Training offer * Junior	-0.261 (0.177)	-0.256 (0.178)	0.030 (0.220)
Information * Junior	-0.369** (0.177)	-0.383** (0.179)	-0.393* (0.230)
Training offer * Information * Junior	0.227 (0.254)	0.217 (0.257)	-0.053 (0.317)
Constant	0.444*** (0.084)	0.535*** (0.176)	0.956 (0.595)
Observations	252	252	189
R-squared	0.027	0.039	0.103
Controls (enrolment)	NO	YES	YES
Controls (baseline)	NO	NO	YES

Notes: The table presents the OLS estimates of the effects of the training offer (ITT) and the information treatment (explaining that a majority of peers received ethics training) on the Willingness to facilitate bribery in the experiment. Estimates from interacted model (1), allowing for heterogeneous treatment effects by Junior (1<sup>st</sup> year) and Senior (2-5<sup>th</sup> year) students. Controls (enrolment): gender, reason for enrolment in the program, previous integrity training participation. Controls (survey): household income, tuition fees, reason for studying law, the five moral foundation values indices, perceptions of corruption and accountability in Ukraine. Robust standard errors in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Table 4. Embezzled amount, ITT estimates.

VARIABLES	ITT estimates		
	(1)	(2)	(3)
Training offer	-0.625 (2.622)	-1.234 (2.524)	-5.040* (2.924)
Information	-0.170 (2.578)	-0.006 (2.569)	-0.744 (2.737)
Junior	-0.625 (2.834)	-0.954 (2.758)	-1.840 (2.981)
Training offer * Information	-1.392 (3.154)	-1.267 (3.090)	2.249 (3.417)
Training offer * Junior	1.696 (3.797)	2.453 (3.456)	5.252 (3.957)
Information * Junior	-0.284 (3.749)	0.005 (3.717)	3.182 (4.612)
Training offer * Information * Junior	1.489 (4.916)	1.239 (4.755)	-1.800 (5.630)
Constant	5.625*** (2.084)	4.656 (4.444)	6.697 (11.582)
Observations	130	130	98
R-squared	0.012	0.066	0.376
Controls (enrolment)	NO	YES	YES
Controls (baseline)	NO	NO	YES

Notes: The table presents the OLS estimates of the effects of the training offer (ITT) and the information treatment (explaining that a majority of peers received ethics training) on the amount embezzled (in UAH) by Intermediaries (conditional on facilitating the bribe) in the experiment. Estimates from interacted model (1), allowing for heterogeneous treatment effects by Junior (1<sup>st</sup> year) and Senior (2-5<sup>th</sup> year) students. Controls (enrolment): gender, reason for enrolment in the program, previous integrity training participation. Controls (survey): household income, tuition fees, reason for studying law, the five moral foundation values indices, perceptions of corruption and accountability in Ukraine. Robust standard errors in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

## APPENDIX 1: Proofs of theoretical results

**Proposition 1:** There exists a Perfect Bayesian Equilibrium described by the following strategy profile (and associated beliefs):

- 1) Conditional on informing, the Intermediary asks for the optimal bribe of:

$$b^*(m_I, MAB) = \frac{v(1 - \underline{p}) + MAB - m_I E \bar{m}_F + 2c\tilde{b}E \bar{m}_F}{2(1 + cE \bar{m}_F)}.$$

- 2) The Intermediary informs iff  $m_I \leq m_i^*$ , where  $m_i^*$  solves:

$$m_i^* = \frac{\left[ \frac{v(1 - \underline{p}) - b^*}{E \bar{m}_F} \right] (b^* - MAB) - c(b^* - \tilde{b})^2 + c\tilde{b}^2}{(b^* - MAB + E)}.$$

- 3) The Firm pays the bribe if:

$$m_F \leq \frac{v(1 - \underline{p}) - b}{E}$$

and does not otherwise.

**Proof:** We use backward induction to characterise the equilibrium. First consider the Firm's optimal strategy.

Following a history of  $b$ , the Firm will pay if and only if the expected utility from paying is greater than that from not:

$$Y_F + v - b - m_F E \geq Y_F + \underline{p}v,$$

$$m_F \leq \frac{v(1 - \underline{p}) - b}{E}.$$

Therefore, if  $m_F$  takes values between  $[0, \frac{v(1 - \underline{p}) - b}{E}]$  the Firm will pay the bribe; if  $m_F$  takes values between  $[\frac{v(1 - \underline{p}) - b}{E}, \overline{m_F}]$  it will not.

Given the Firm's strategy above, we now turn to the Intermediary's optimal strategy. Given the common uniform prior over  $m_F$ , the Intermediary believes that if he asks for a bribe  $b$  the probability that the Firm will pay is  $\frac{v(1 - \underline{p}) - b}{E \overline{m_F}}$ .

For a given  $b$ , the Intermediary will inform if and only if the expected utility of informing is greater than that of not informing:

$$\begin{aligned} & \left( \frac{v(1 - \underline{p}) - b}{E \overline{m_F}} \right) \left[ Y_I + (b - MAB) - m_I(b - MAB + E) - c(b - \tilde{b})^2 \right] \\ & + \left( 1 - \frac{v(1 - \underline{p}) - b}{E \overline{m_F}} \right) \left[ Y_I - m_I(b - MAB + E) - c(b - \tilde{b})^2 \right] \\ & \geq Y_I - c\tilde{b}^2, \\ & \frac{v(1 - \underline{p}) - b}{E \overline{m_F}} (b - MAB) - m_I(b - MAB + E) - c(b - \tilde{b})^2 + c\tilde{b}^2 \geq 0, \end{aligned}$$

$$\frac{\left[ \frac{v(1 - \underline{p}) - b}{E \overline{m_F}} (b - MAB) - c(b - \tilde{b})^2 + c\tilde{b}^2 \right]}{(b - MAB + E)} \geq m_I.$$

To find the Intermediary's optimal  $b$ , we identify the value of  $b$  that maximises the Intermediary's expected utility (conditional on informing):



$$\begin{aligned}
& \frac{\partial}{\partial b} \left[ \left( \frac{v(1-\underline{p})-b}{E \overline{m}_F} \right) \left[ Y_I + (b - MAB) - m_I(b - MAB + E) - c(b - \tilde{b})^2 \right] + \left( 1 - \frac{v(1-\underline{p})-b}{E \overline{m}_F} \right) \left[ Y_I - m_I(b - MAB + E) - c(b - \tilde{b})^2 \right] \right] = 0, \\
& -\frac{1}{E \overline{m}_F} \left[ Y_I + (b - MAB) - m_I(b - MAB + E) - c(b - \tilde{b})^2 \right] \\
& + \left( \frac{v(1-\underline{p})-b}{E \overline{m}_F} \right) [1 - m_I - 2c(b - \tilde{b})] \\
& + \frac{1}{E \overline{m}_F} \left[ Y_I - m_I(b - MAB + E) - c(b - \tilde{b})^2 \right] \\
& + \left( 1 - \frac{v(1-\underline{p})-b}{E \overline{m}_F} \right) [-m_I - 2c(b - \tilde{b})] = 0, \\
& -\frac{1}{E \overline{m}_F} (b - MAB) + \frac{v(1-\underline{p})-b}{E \overline{m}_F} - m_I - 2c(b - \tilde{b}) = 0, \\
& \frac{2b}{E \overline{m}_F} + 2bc = \frac{MAB}{E \overline{m}_F} + 2c\tilde{b} + \frac{v(1-\underline{p})}{E \overline{m}_F} - m_I, \\
& b^* = \frac{MAB + 2E \overline{m}_F c \tilde{b} + v(1-\underline{p}) - m_I E \overline{m}_F}{2(1 + E \overline{m}_F c)},
\end{aligned}$$

Returning to the inequality determining whether the Intermediary informs, we can then state that he will ask for bribe  $b^*(m_I, MAB)$  if the following inequality holds:

$$m_I \leq \frac{\left[ \frac{v(1-\underline{p})-b^*}{E \overline{m}_F} (b^* - MAB) - c(b^* - \tilde{b})^2 + c\tilde{b}^2 \right]}{(b^* - MAB + E)} \cdot \blacksquare$$

**Corollary 1a:** An increase in  $\overline{m}_I$  reduces the expected bribe asked for by the Intermediary (conditional on informing).

**Proof:** An increase in  $\overline{m}_I$  implies an increase in the  $m_I$  of a randomly drawn Intermediary.

Note that

$$\frac{\partial b^*}{\partial m_I} = -\frac{E \overline{m}_F}{2(1 + cE \overline{m}_F)} < 0.$$

Thus, the bribe asked for by a randomly drawn Intermediary will be strictly lower. ■

**Corollary 1b:** An increase in  $\tilde{b}$  increases the expected bribe asked for by the Intermediary (conditional on informing).

**Proof:** An increase in  $\tilde{b}$  implies an increase in a randomly drawn Intermediary's belief about the average bribe asked for by other Intermediaries in the population of interest. Note that

$$\frac{\partial b^*}{\partial \tilde{b}} = \frac{2cE \overline{m}_F}{2(1 + cE \overline{m}_F)} > 0.$$

Thus, the bribe asked for by a randomly drawn Intermediary will be strictly greater. This is in line with our assumption that the greater the difference between the Intermediary's actual bribe ask  $b$  and the belief about the average bribe asked for by other Intermediaries  $\tilde{b}$ , the larger the social conformity cost they will incur. If  $\tilde{b}$  increases,  $b$  will increase accordingly. ■

**Corollary 2a:** An increase in  $\overline{m}_I$  reduces the probability that the Intermediary will inform.

**Proof:** Based on our previous results, the Intermediary informs iff  $m_I \leq m_I^*$ . An increase in  $\overline{m}_I$  does not affect the incentives of any given  $m_I$ , thus  $m_I^*$  is independent of  $\overline{m}_I$ . An increase in  $\overline{m}_I$  reduces the probability mass of the Intermediary that satisfies the condition  $m_I \leq m_I^*$ , thus the probability of the Intermediary informing is lower. ■

**Corollary 2b:** An increase in  $\tilde{b}$  increases the probability that the Intermediary will inform.

**Proof:** Based on our previous results, the Intermediary informs iff  $m_I \leq m_I^*$ , where

$$m_I^* = \frac{\left[ \frac{v(1-\underline{p}) - b^*}{E \overline{m}_F} \right] (b^* - MAB) - c(b^* - \tilde{b})^2 + c\tilde{b}^2}{(b^* - MAB + E)}.$$

If  $m_I$  takes values between  $[0, m_I^*]$  the Intermediary will inform; if  $m_I$  takes values between  $(m_I^*, \overline{m}_I]$  it will not. Therefore, given the common uniform prior over  $m_I$ , the Intermediary's probability of informing is  $\frac{m_I^*}{\overline{m}_I}$ . Note that

$$\frac{\partial \frac{m_I^*}{\overline{m}_I}}{\partial \tilde{b}} = \frac{2cb^*}{\overline{m}_I(b^* - MAB + E)} > 0.$$

Thus, the probability that the Intermediary will inform will be strictly greater. ■

**Corollary 3a:** An increase in  $\overline{m}_I$  reduces the ex-ante probability of the corrupt transaction taking place. The reduction is larger the larger is  $E$  and the smaller are  $\underline{p}$  and  $v$ .

**Proof:** For the corrupt transaction to occur, the Intermediary must inform, and the firm must pay the bribe. We can calculate the probability that the Firm pays for a given  $m_I$  and  $m_F$  as follows:

$$\begin{aligned} \Pr(\text{pay}_F | m_F, m_I) &= \int_0^{m_F^*} f(m_F) dm_F (1) + \int_{m_F^*}^{\overline{m}_F} f(m_F) dm_F (0) = \int_0^{m_F^*} \frac{1}{\overline{m}_F} dm_F \\ &= \left[ \frac{1}{\overline{m}_F} m_F + C \right]_0^{m_F^*} = \frac{v(1-\underline{p}) - b(m_I)}{E \overline{m}_F} \\ &= \frac{v(1-\underline{p}) - \frac{v(1-\underline{p}) + MAB - E \overline{m}_F m_I + 2c\tilde{b}E \overline{m}_F}{2(1 + cE \overline{m}_F)}}{E \overline{m}_F}, \\ &= \frac{v(1-\underline{p})}{E \overline{m}_F} - \frac{v(1-\underline{p}) + MAB - E \overline{m}_F m_I + 2c\tilde{b}E \overline{m}_F}{E \overline{m}_F 2(1 + cE \overline{m}_F)}, \end{aligned}$$

$$\begin{aligned}
&= \frac{v(1-\underline{p})2(1+cE\overline{m}_F) - v(1-\underline{p}) - MAB + E\overline{m}_F m_I - 2c\tilde{b}E\overline{m}_F}{E\overline{m}_F 2(1+cE\overline{m}_F)}, \\
&= \frac{v(1-\underline{p})(1+2cE\overline{m}_F) - MAB - 2c\tilde{b}E\overline{m}_F}{E\overline{m}_F 2(1+cE\overline{m}_F)} + \frac{m_I}{2(1+cE\overline{m}_F)}.
\end{aligned}$$

Since we are interested in the ex-ante probability of the transaction occurring, we account for the  $m_I$  type's behaviour as follows:

$$\begin{aligned}
&\int_0^{m_I^*} \Pr(\text{pay}_F | m_F, m_I) f(m_I) dm_I \\
&= \int_0^{m_I^*} \left( \frac{v(1-\underline{p})(1+2cE\overline{m}_F) - MAB - 2c\tilde{b}E\overline{m}_F}{E\overline{m}_F 2(1+cE\overline{m}_F)} + \frac{m_I}{2(1+cE\overline{m}_F)} \right) \frac{1}{\overline{m}_I} dm_I, \\
&= \left[ \frac{v(1-\underline{p})(1+2cE\overline{m}_F) - MAB - 2c\tilde{b}E\overline{m}_F}{E\overline{m}_F 2(1+cE\overline{m}_F)} \frac{m_I}{\overline{m}_I} + \frac{m_I}{2(1+cE\overline{m}_F)} \frac{m_I}{\overline{m}_I} + C \right]_0^{m_I^*}, \\
&= \left( \frac{v(1-\underline{p})(1+2cE\overline{m}_F) - MAB - 2c\tilde{b}E\overline{m}_F}{E\overline{m}_F 2(1+cE\overline{m}_F)} \frac{m_I^*}{\overline{m}_I} + \frac{m_I^*}{2(1+cE\overline{m}_F)} \frac{m_I^*}{\overline{m}_I} + C \right) \\
&\quad - \left( \frac{v(1-\underline{p})(1+2cE\overline{m}_F) - MAB - 2c\tilde{b}E\overline{m}_F}{E\overline{m}_F 2(1+cE\overline{m}_F)} \left( \frac{0}{\overline{m}_I} \right) \right. \\
&\quad \left. + \frac{0}{2(1+cE\overline{m}_F)} \left( \frac{0}{\overline{m}_I} \right) + C \right),
\end{aligned}$$

$$= \left( \frac{v(1-\underline{p})(1+2cE\overline{m}_F) - MAB - 2c\tilde{b}E\overline{m}_F m_I^*}{E\overline{m}_F 2(1+cE\overline{m}_F)} \frac{m_I^*}{\overline{m}_I} + \frac{m_I^*}{2(1+cE\overline{m}_F)} \frac{m_I^*}{\overline{m}_I} \right) = \frac{\Psi}{\overline{m}_I},$$

$$\text{where } \Psi = \frac{m_I^*}{2(1+cE\overline{m}_F)} \left[ \frac{v(1-\underline{p})(1+2cE\overline{m}_F) - MAB - 2c\tilde{b}E\overline{m}_F}{E\overline{m}_F} + m_I^* \right].$$

Finally, the result follows directly from noting the following derivatives:

$$\begin{aligned} \frac{\partial}{\partial \overline{m}_I} \left[ \frac{\Psi}{\overline{m}_I} \right] &= -\frac{\Psi}{\overline{m}_I^2} < 0; \quad \frac{\partial^2}{\partial \overline{m}_I \partial E} \left[ \frac{\Psi}{\overline{m}_I} \right] = -\frac{\frac{\partial \Psi}{\partial E}}{\overline{m}_I^4} > 0; \quad \frac{\partial^2}{\partial \overline{m}_I \partial \underline{p}} \left[ \frac{\Psi}{\overline{m}_I} \right] = -\frac{\frac{\partial \Psi}{\partial \underline{p}}}{\overline{m}_I^4} < 0; \quad \frac{\partial^2}{\partial \overline{m}_I \partial v} \left[ \frac{\Psi}{\overline{m}_I} \right] = \\ &-\frac{\frac{\partial \Psi}{\partial v}}{\overline{m}_I^4} < 0. \quad \blacksquare \end{aligned}$$

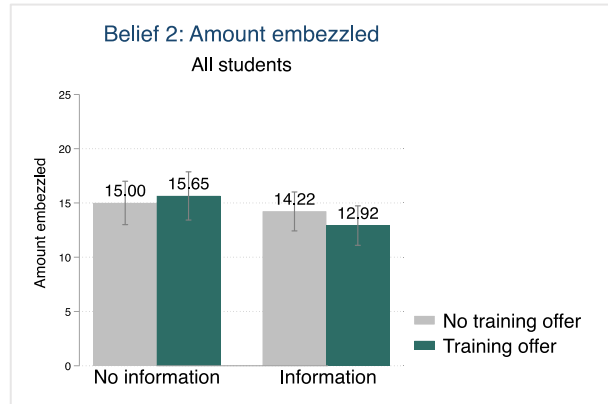
**Corollary 3b:** An increase in  $\tilde{b}$  reduces the ex-ante probability of the corrupt transaction taking place.

**Proof:** For the corrupt transaction to occur, the Intermediary must inform, and the firm must pay the bribe. We calculate the probability that the Firm pays for a given  $m_I$  and  $m_F$  as before. The result follows directly from noting the following derivative:

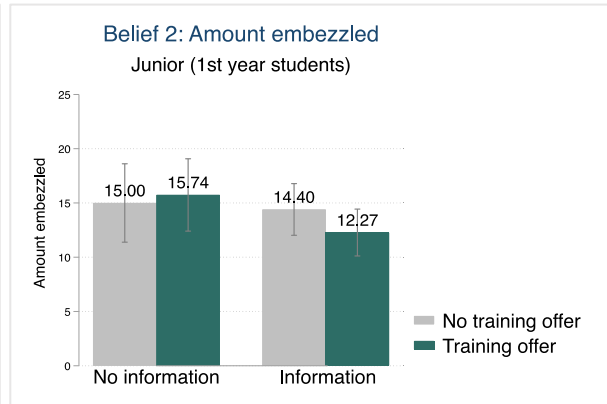
$$\frac{\partial}{\partial \tilde{b}} \left[ \frac{\Psi}{\overline{m}_I} \right] = -\frac{2cE\overline{m}_F}{\overline{m}_I} < 0. \quad \blacksquare$$

## APPENDIX 2: FIGURES & TABLES

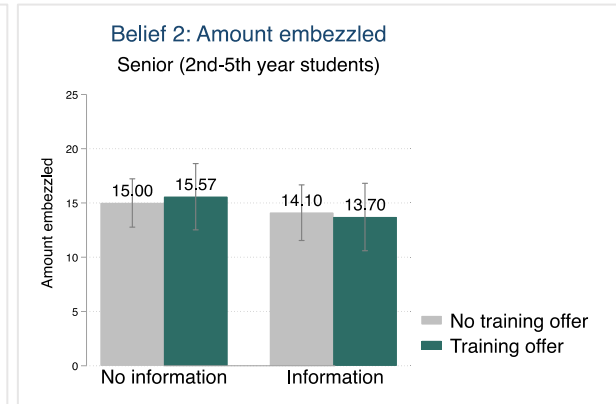
**Figure A1a**



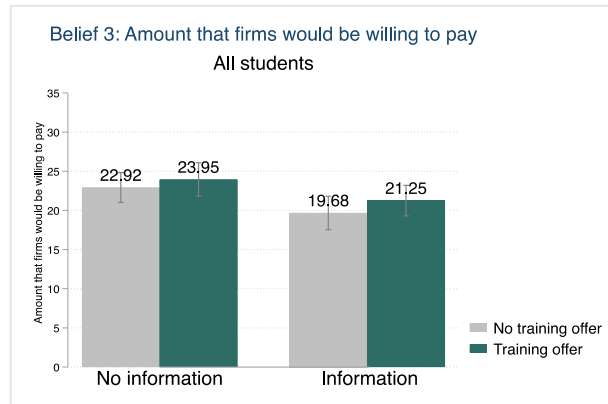
**Figure A1b**



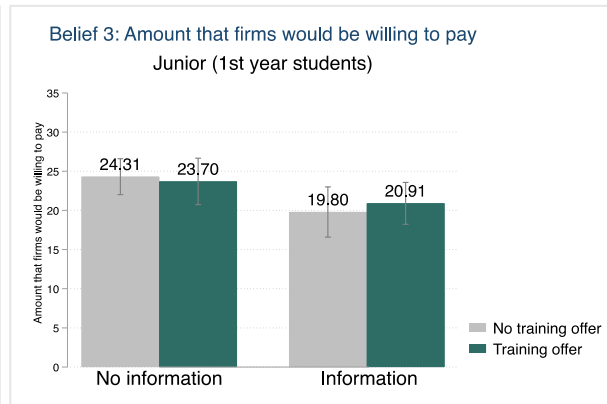
**Figure A2c**



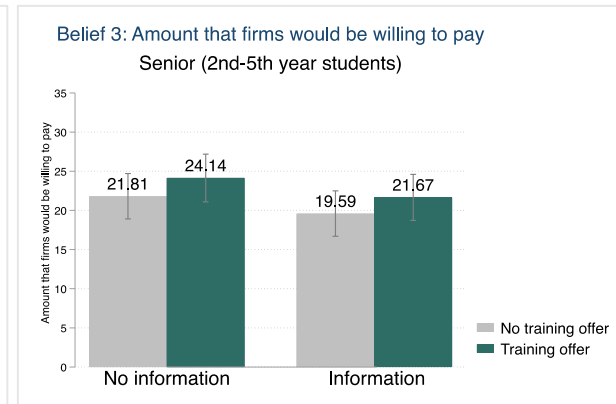
**Figure A1d**



**Figure A1e**

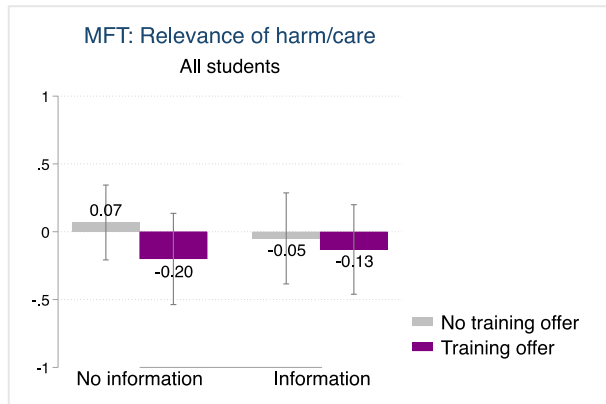


**Figure A1f**

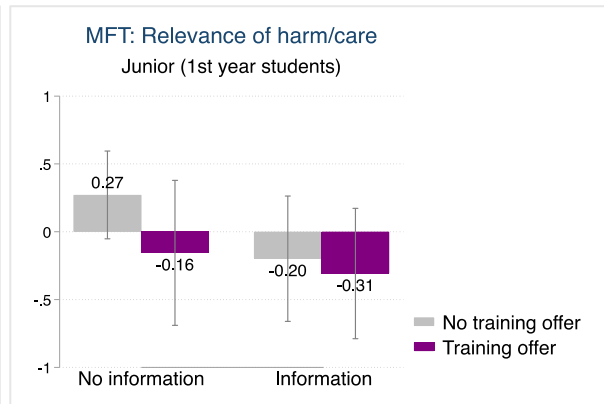


Notes: The figures show the unconditional means and 95% confidence intervals of the first-order belief about other Intermediaries' willingness to facilitate bribery (A1a-c), embezzled amount (A1d-f) and firms' willingness to pay (A1g-i) by training offer and information, for the whole sample (A1a,d,g), for the most junior cohort (A1b,e,h) and for the older cohort (A1c,f,i). The figures show the unconditional means and 95% confidence intervals of the first-order belief about Firms' maximum payable amount, by training offer and information, for the whole sample (Figure 8), for the most junior cohort (Figure 8a) and for the older cohort (Figure 8b).

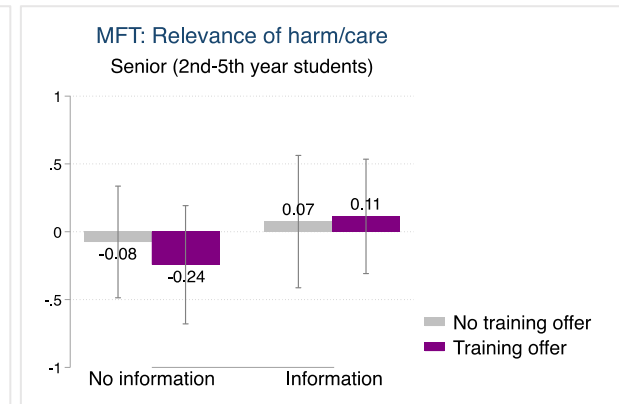
**Figure A2a Moral Foundation Theory: Harm**



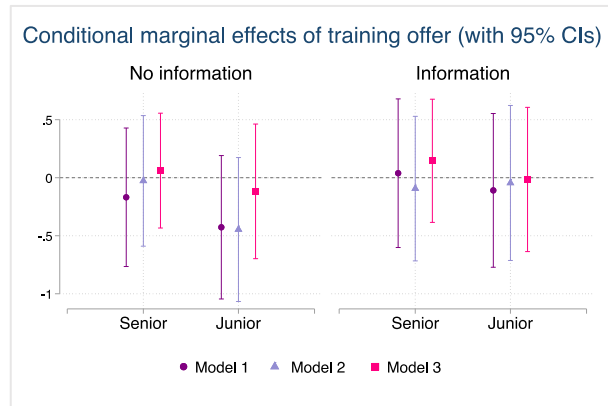
**Figure A2b**



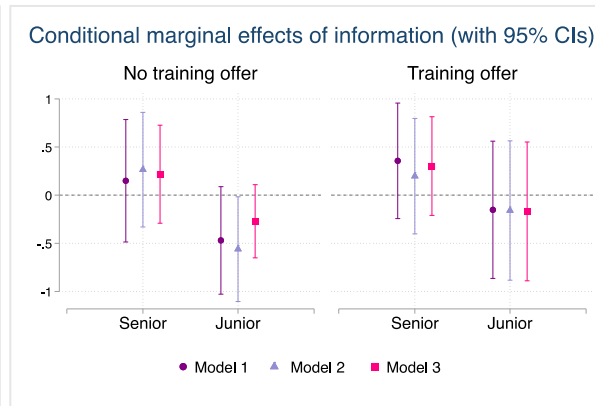
**Figure A2c**



**Figure A2d**



**Figure A2e**



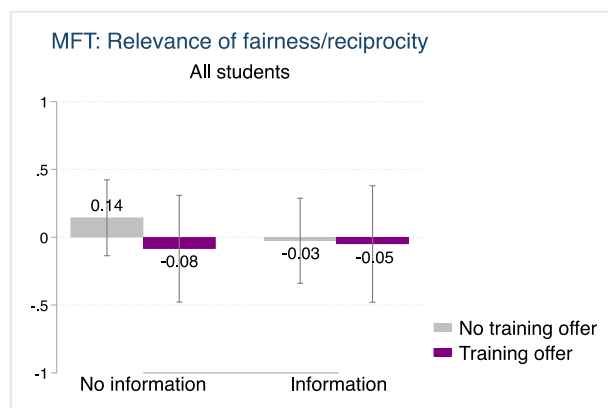
Notes: The figures show the unconditional means and 95% confidence intervals of the Harm/Care moral foundation index, by training offer and information, for the whole sample (A2a), for the most junior cohort (A2b) and for the older cohort (A2c). The index is calculated as a normal average of the six underlying variables. Each index is expressed in standard deviations from the standardized Control mean (equal to 0). Appendix 3 reports the individual questions constituting each index. Figures A2d-e show the conditional marginal effects of training offer by information and cohort (A2d), and of information by training offer and cohort (A2e), on the Harm/Care moral foundation index. Model 1 does not include any covariates. Model 2 includes only enrolment covariates. Model 3 includes both enrolment and baseline covariates (see Table 2 for a complete list of covariates).

**Figure A3a. Moral Foundation Theory fairness**

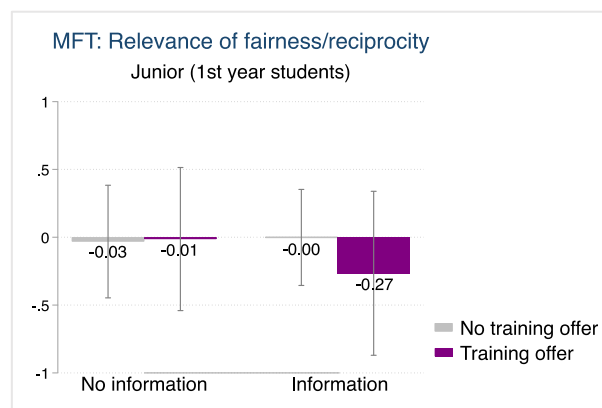
**Figure A3b**

**Figure A3c**

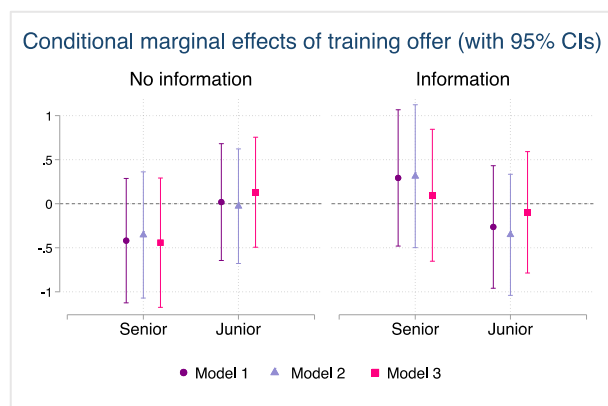
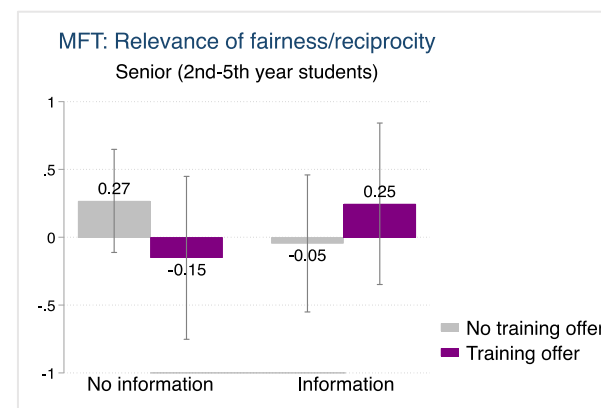




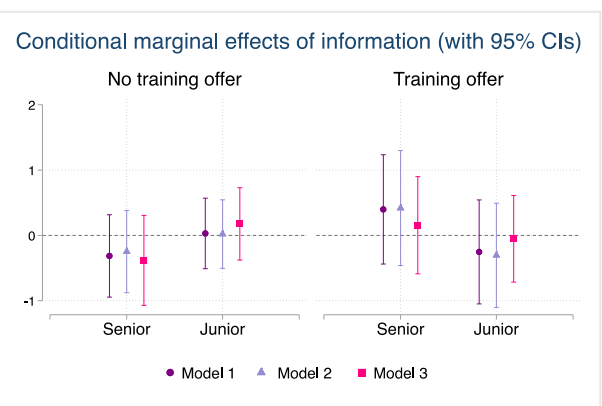
**Figure A3d**



**Figure A3e**



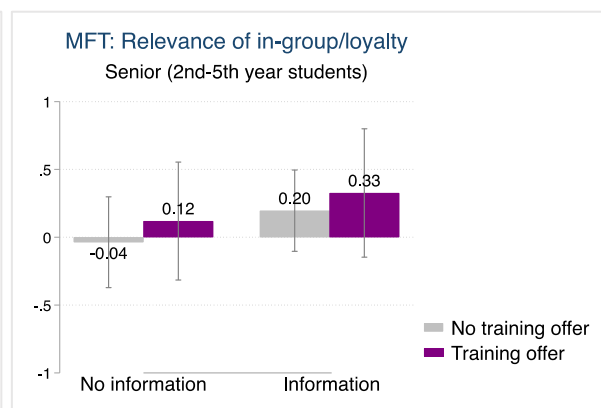
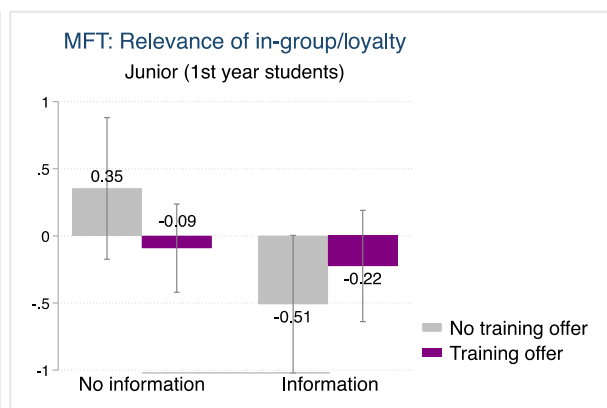
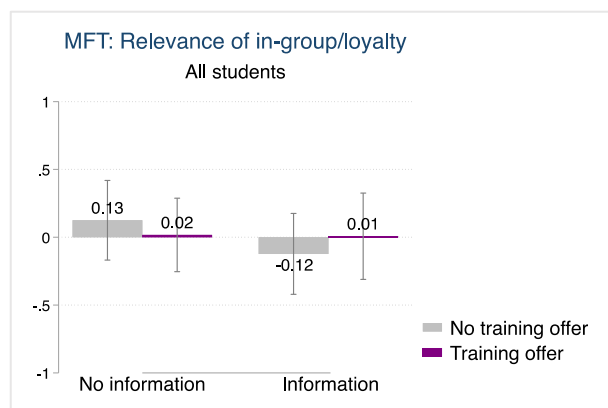
**Figure A4a. Moral Foundation Theory: in group**



**Figure A4b**

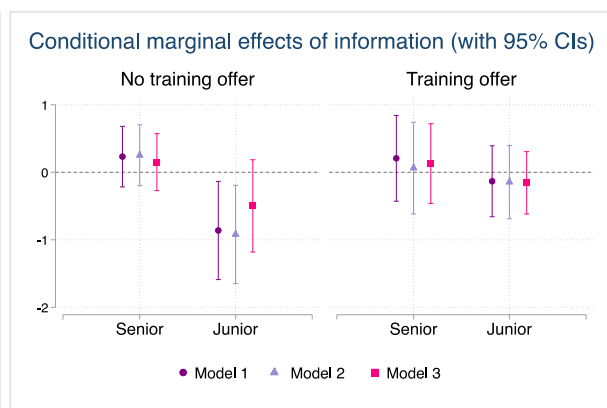
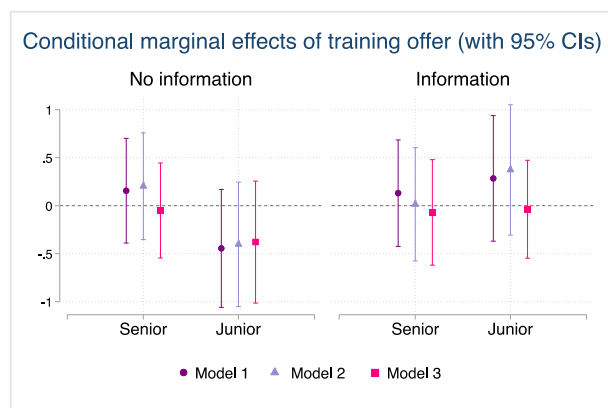
**Figure A4c**

Notes: The figures show the unconditional means and 95% confidence intervals of the Fairness/Reciprocity moral foundation index, by training offer and information, for the whole sample (A2a), for the most junior cohort (A2b) and for the older cohort (A2c). The index is calculated as a normal average of the six underlying variables. Each index is expressed in standard deviations from the standardized Control mean (equal to 0). Appendix 3 reports the individual questions constituting each index. Figures A2d-e show the conditional marginal effects of training offer by information and cohort (A2d), and of information by training offer and cohort (A2e), on the Harm/Care moral foundation index. Model 1 does not include any covariates. Model 2 includes only enrolment covariates. Model 3 includes both enrolment and baseline covariates (see Table 2 for a complete list of covariates).



**Figure A4d**

**Figure A4e**

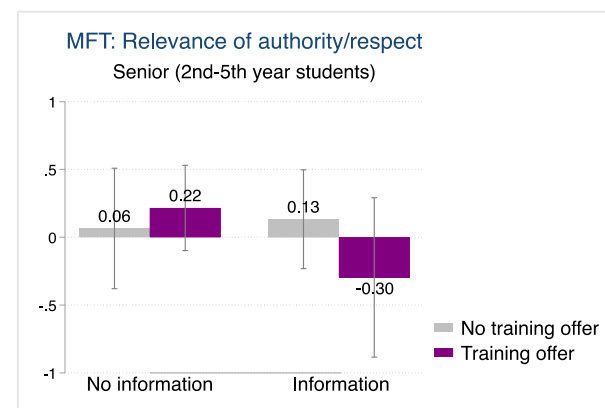
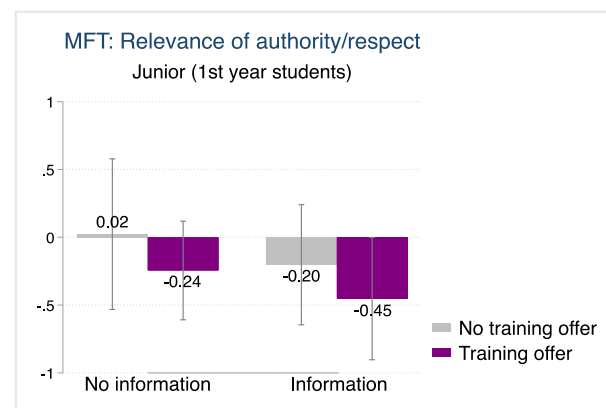
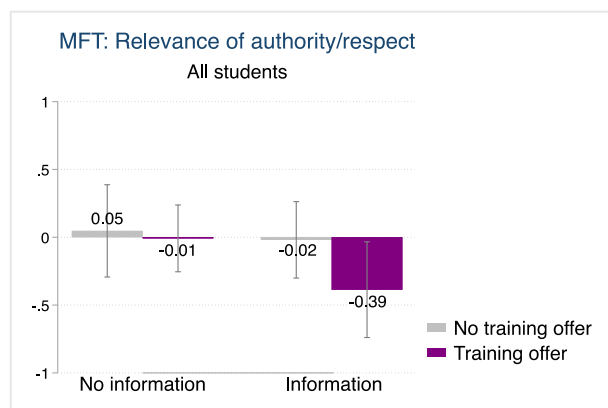


Notes: The figures show the unconditional means and 95% confidence intervals of the In-group/Loyalty moral foundation index, by training offer and information, for the whole sample (A4a), for the most junior cohort (A4b) and for the older cohort (A4c). The index is calculated as a normal average of the six underlying variables. Each index is expressed in standard deviations from the standardized Control mean (equal to 0). Appendix 3 reports the individual questions constituting each index. Figures A4d-e show the conditional marginal effects of training offer by information and cohort (A4d), and of information by training offer and cohort (A4e), on the Harm/Care moral foundation index. Model 1 does not include any covariates. Model 2 includes only enrolment covariates. Model 3 includes both enrolment and baseline covariates (see Table 2 for a complete list of covariates).

**Figure A5a. Moral Foundation Theory: Authority**

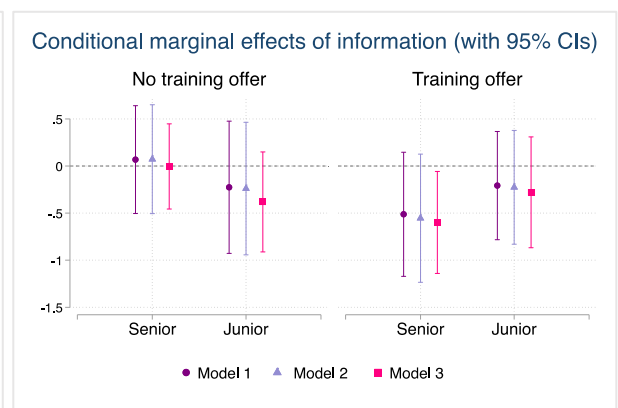
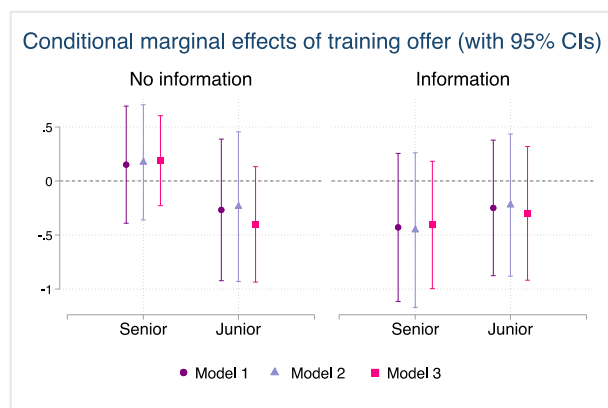
**Figure A5b**

**Figure A5c**



**Figure A5d**

**Figure A5e**

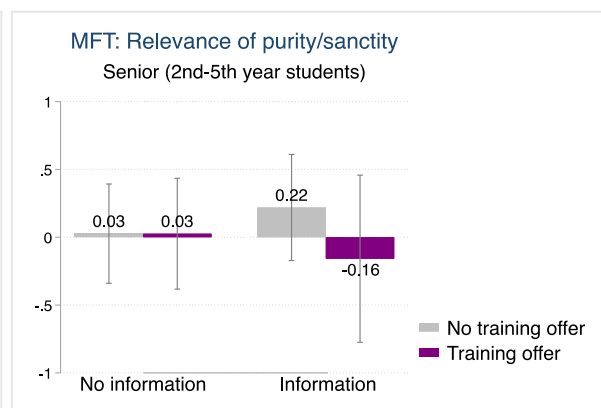
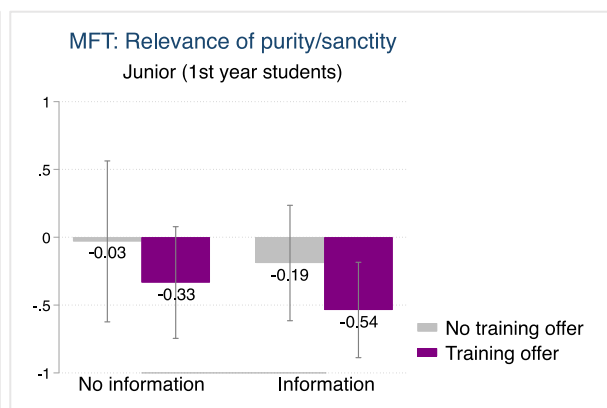
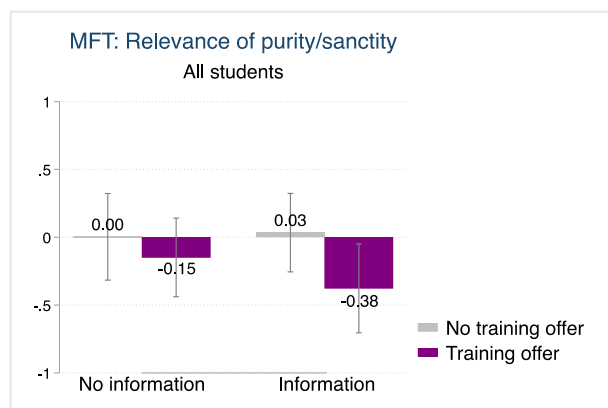


Notes: The figures show the unconditional means and 95% confidence intervals of the Authority/Respect moral foundation index, by training offer and information, for the whole sample (A5a), for the most junior cohort (A5b) and for the older cohort (A5c). The index is calculated as a normal average of the six underlying variables. Each index is expressed in standard deviations from the standardized Control mean (equal to 0). Appendix 3 reports the individual questions constituting each index. Figures A5d-e show the conditional marginal effects of training offer by information and cohort (A5d), and of information by training offer and cohort (A5e), on the Harm/Care moral foundation index. Model 1 does not include any covariates. Model 2 includes only enrolment covariates. Model 3 includes both enrolment and baseline covariates (see Table 2 for a complete list of covariates).

**Figure A6a Moral Foundation Theory: Purity**

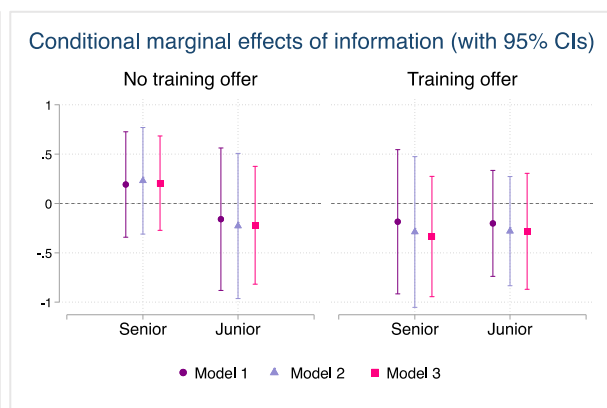
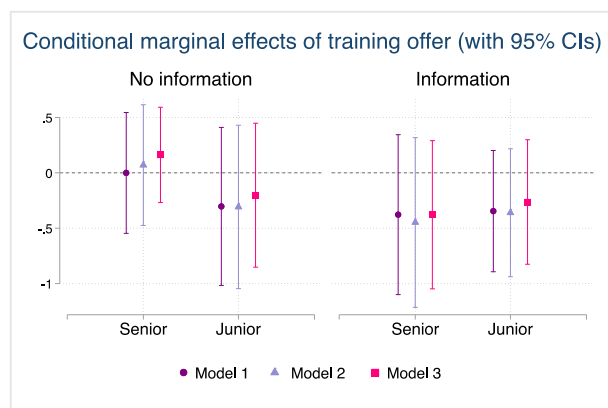
**Figure A6b**

**Figure A6c**



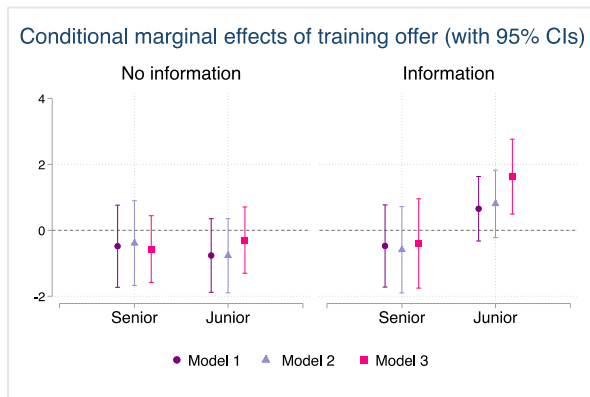
**Figure A6d**

**Figure A6e**

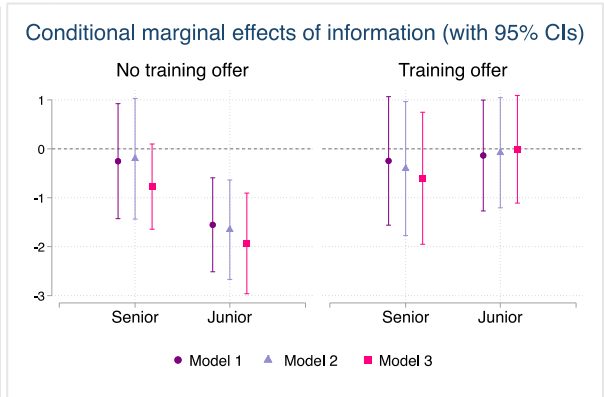


Notes: The figures show the unconditional means and 95% confidence intervals of the Purity/Sanctity moral foundation index, by training offer and information, for the whole sample (A6a), for the most junior cohort (A6b) and for the older cohort (A6c). The index is calculated as a normal average of the six underlying variables. Each index is expressed in standard deviations from the standardized Control mean (equal to 0). Appendix 3 reports the individual questions constituting each index. Figures A6d-e show the conditional marginal effects of training offer by information and cohort (A6d), and of information by training offer and cohort (A6e), on the Harm/Care moral foundation index. Model 1 does not include any covariates. Model 2 includes only enrolment covariates. Model 3 includes both enrolment and baseline covariates (see Table 2 for a complete list of covariates).

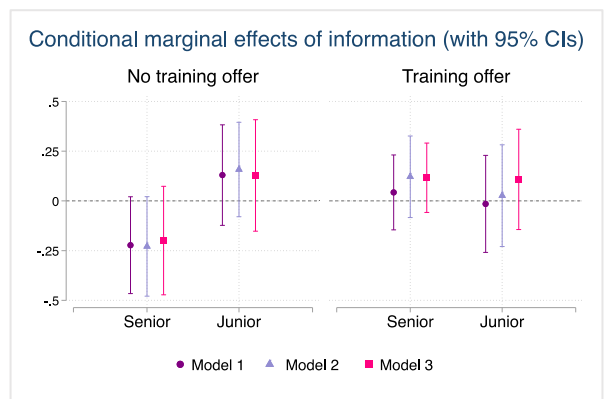
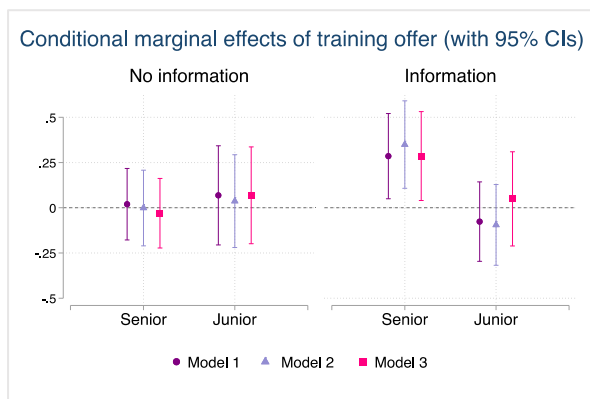
**Figure A7a. Corrupt Student Justifiable**



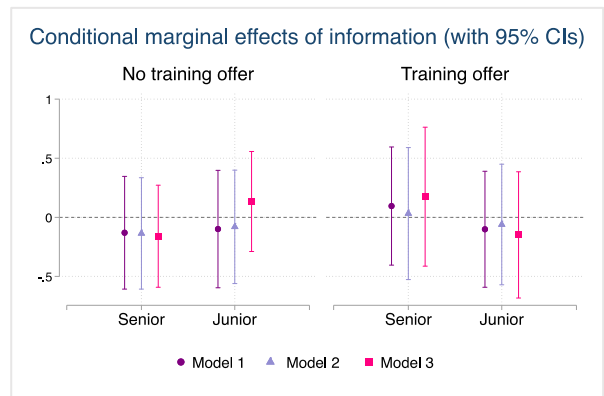
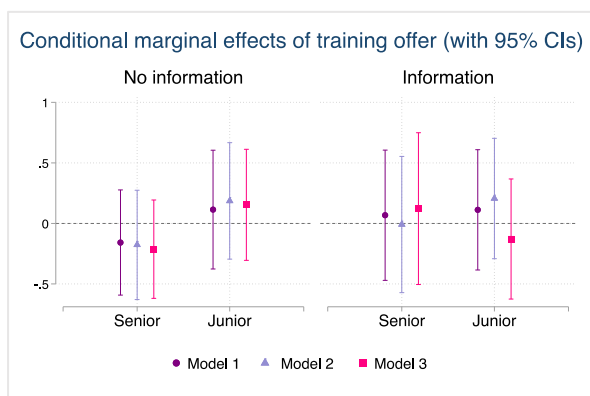
**Figure A7b**



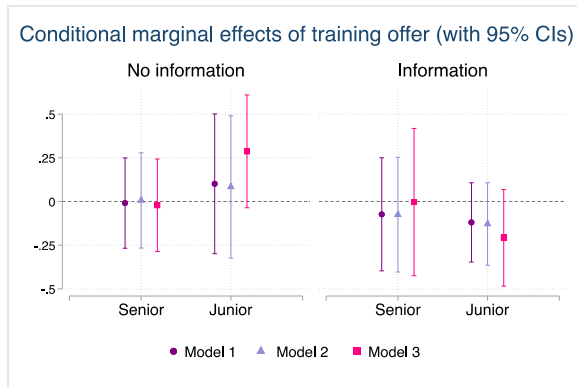
**Figure A7c. Accountability Risk Perception Figure A7d**



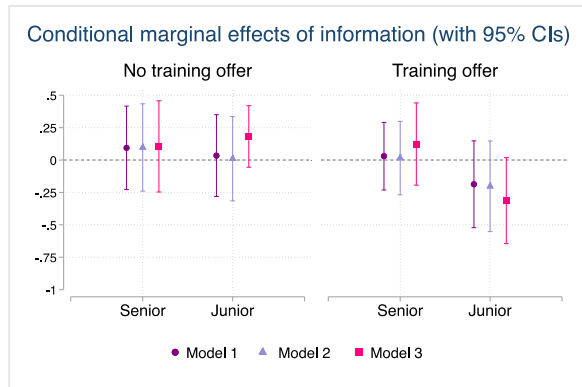
**Figure A7e. Shared Responsibility Perception Figure A7f**



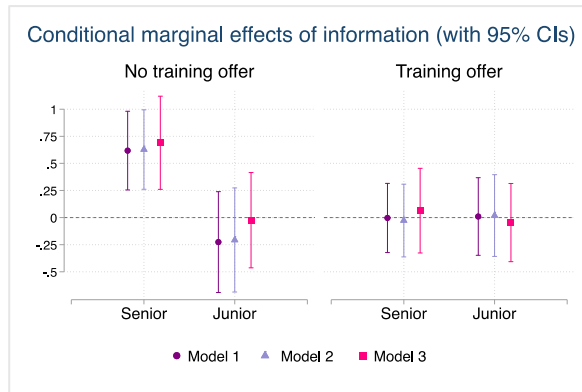
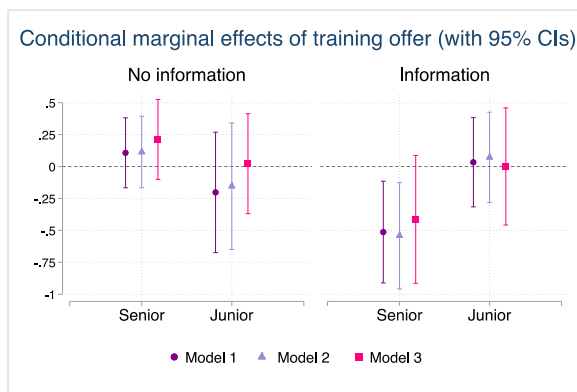
**Figure A7g. Judge corruption justifiable**



**Figure A7h**



**Figure A7i Hospital Manager corruption Justifiable Figure A7j**



Notes: The figures show the conditional marginal effects of training offer by information and cohort (left), and of information by training offer and cohort (right), on: the perception of justifiability of corrupt students (A7a-b); on the perception of the accountability risk (A7c-d), the perception of shared responsibility (A7e-f); on the perception of justifiability of corrupt judges (A7g-h); on the perception of justifiability of corrupt hospital managers (A7i-j). Model 1 does not include any covariates. Model 2 includes only enrolment covariates. Model 3 includes both enrolment and baseline covariates (see Table 2 for a complete list of covariates).

**Table A1. Willingness to facilitate bribery. LATE estimates**

VARIABLES	<i>LATE estimates</i>		
	(1)	(2)	(3)
Training	0.171 (0.161)	0.189 (0.160)	0.045 (0.152)
Information	0.120 (0.115)	0.121 (0.114)	0.138 (0.133)
Junior	0.245** (0.119)	0.252** (0.119)	0.146 (0.141)
Training * Information	-0.055 (0.239)	-0.081 (0.242)	-0.039 (0.217)
Training * Junior	-0.328 (0.222)	-0.326 (0.222)	0.031 (0.214)
Information * Junior	-0.369** (0.174)	-0.383** (0.175)	-0.392* (0.206)
Training * Information * Junior	0.267 (0.327)	0.258 (0.328)	-0.055 (0.314)
Constant	0.444*** (0.083)	0.519*** (0.174)	0.954* (0.545)
Observations	252	252	189
R-squared	0.009	0.022	0.103
Controls (enrolment)	NO	YES	YES
Controls (baseline)	NO	NO	YES

Notes: The table displays IV regression estimates corresponding to Table 3, where the dependent variable is the Intermediaries' willingness to facilitate bribery, which is a dummy equal to 1 if Intermediaries reported to be willing to inform the Firm about the minimum acceptable bribe required by the Public Official. The coefficient of the "Training" variable is the local average treatment effect (training=1 for students who did the training, and 0 otherwise). The instrument is the initial random assignment of students into treatment vs control groups. Estimates are expressed in percentage points. "Information" is an indicator equal to 1 for students who received the information treatment, and 0 otherwise. "Junior" is an indicator equal to 1 for first-year students, and 0 for second to fifth-year students. Robust standard errors are reported in parentheses. Enrolment controls include gender (female = 1), willingness to win a prize, willingness to learn new skills, interest in behavioural experiments and if already trained in ethics. Baseline covariates include five moral foundation indexes, level of corruption among the judiciary and civil service providers, risk to be held accountable, accountability of local middleman and everyone else involved in a corrupt transaction, justifiability of a corrupt student, judge and hospital manager, if want to become a corporate lawyer, if studying law because want to make money or because want to make a difference, perception of how often people pay bribes, if paying tuition fees, household income.

**Table A2. Embezzled amount. LATE estimates.**

VARIABLES	<i>LATE estimates</i>		
	(1)	(2)	(3)
Training	-0.893 (3.612)	-1.782 (3.411)	n/a
Information	-0.170 (2.497)	-0.017 (2.459)	n/a
Junior	-0.625 (2.745)	-0.974 (2.621)	n/a
Training * Information	-1.590 (4.185)	-1.314 (4.058)	n/a
Training * Junior	2.047 (4.610)	3.142 (4.157)	n/a
Information * Junior	-0.284 (3.632)	0.045 (3.529)	n/a
Training * Information * Junior	2.254 (6.320)	1.674 (5.904)	n/a
Constant	5.625*** (2.019)	4.811 (4.303)	n/a
Observations	130	130	n/a
R-squared	0.026	0.080	n/a
Controls (enrolment)	NO	YES	YES
Controls (baseline)	NO	NO	YES

Notes: The table displays IV regression estimates corresponding to OLS estimates in Table 4 where the dependent variable is the Intermediaries' embezzlements. The coefficient of the "Training" variable is the local average treatment effect and it is an indicator equal to 1 for students who did the training, and 0 otherwise. The instrument is the initial random assignment of students into treatment vs control groups. Estimates are expressed in percentage points. "Information" is an indicator equal to 1 for students who received the information treatment, and 0 otherwise. "Junior" is an indicator equal to 1 for first-year students, and 0 for second to fifth-year students. Robust standard errors are reported in parentheses. Enrolment controls include gender (female = 1), willingness to win a prize, willingness to learn new skills, interest in behavioural experiments and if already trained in ethics. Baseline covariates include five moral foundation indexes, level of corruption among the judiciary and civil service providers, risk to be held accountable, accountability of local middleman and everyone else involved in a corrupt transaction, justifiability of a corrupt student, judge and hospital manager, if want to become a corporate lawyer, if studying law because want to make money or because want to make a difference, perception of how often people pay bribes, if paying tuition fees, household income.



**Table A3. First order beliefs about the willingness to facilitate bribery, LATE estimates**

VARIABLES	<i>LATE estimates</i>		
	(1)	(2)	(3)
Training	-0.045 (0.076)	-0.042 (0.076)	-0.024 (0.070)
Information	-0.032 (0.052)	-0.033 (0.052)	-0.019 (0.054)
Junior	0.046 (0.059)	0.049 (0.056)	0.019 (0.067)
Training * Information	0.031 (0.107)	0.036 (0.107)	0.025 (0.087)
Training * Junior	0.001 (0.104)	-0.007 (0.104)	0.082 (0.102)
Information * Junior	-0.025 (0.081)	-0.027 (0.080)	0.000 (0.094)
Training * Information * Junior	-0.065 (0.150)	-0.076 (0.149)	-0.228 (0.141)
Constant	0.560*** (0.038)	0.509*** (0.090)	0.648*** (0.250)
Observations	252	252	189
R-squared	0.020	0.029	0.165
Controls (enrolment)	NO	YES	YES
Controls (baseline)	NO	NO	YES

Notes: Table 5a displays OLS estimates and Table 5b displays the corresponding IV regression estimates where the dependent variable is the Intermediaries' first-order belief about other Intermediaries' willingness to facilitate bribery. Panel A: The coefficient of the "Training offer" variable is the intent-to-treat estimate (training offer = 1 for students who received the training offer, and 0 otherwise). Panel B: The coefficient of the "Training" variable is the local average treatment effect (training = 1 for students who did the training, and 0 otherwise). The instrument is the initial random assignment of students into treatment vs control groups. Estimates are expressed in percentage points. "Information" is an indicator equal to 1 for students who received the information treatment, and 0 otherwise. "Junior" is an indicator equal to 1 for first-year students, and 0 for second to fifth-year students. Robust standard errors are reported in parentheses. Enrolment controls include gender (female = 1), willingness to win a prize, willingness to learn new skills, interest in behavioural experiments and if already trained in ethics. Baseline covariates include five moral foundation indexes, level of corruption among the judiciary and civil service providers, risk to be held accountable, accountability of local middleman and everyone else involved in a corrupt transaction, justifiability of a corrupt student, judge and hospital manager, if want to become a corporate lawyer, if studying law because want to make money or because want to make a difference, perception of how often people pay bribes, if paying tuition fees, household income.

**Table A4 First order beliefs about the embezzled amount, ITT and LATE estimates**

VARIABLES	<i>LATE estimates</i>		
	(1)	(2)	(3)
Training	0.769 (2.538)	1.293 (2.478)	0.457 (2.297)
Information	-0.897 (1.695)	-0.657 (1.703)	-0.597 (2.123)
Junior	0.000 (2.108)	0.216 (2.071)	-1.176 (2.097)
Training * Information	-1.368 (3.914)	-2.227 (4.050)	-4.748 (3.733)
Training * Junior	0.100 (3.836)	0.107 (3.796)	0.106 (3.217)
Information * Junior	0.297 (2.733)	-0.099 (2.752)	-0.026 (3.081)
Training * Information * Junior	-2.102 (5.233)	-2.014 (5.313)	2.851 (4.707)
Constant	15.000*** (1.111)	18.973*** (3.944)	10.231 (7.663)
Observations	251	251	188
R-squared	0.018	0.043	0.167
Controls (enrolment)	NO	YES	YES
Controls (baseline)	NO	NO	YES

---

VARIABLES	<i>ITT estimates</i>		
	(1)	(2)	(3)
Training offer	0.571 (1.915)	0.959 (1.888)	0.461 (2.243)
Information	-0.897 (1.723)	-0.649 (1.751)	-0.510 (2.391)
Junior	0.000 (2.143)	0.222 (2.119)	-1.141 (2.336)
Training offer * Information	-0.970 (2.795)	-1.578 (2.889)	-4.322 (3.735)
Training offer * Junior	0.169 (3.130)	0.222 (3.116)	0.182 (3.326)
Information * Junior	0.297 (2.778)	-0.103 (2.811)	-0.040 (3.433)
Training offer * Information * Junior	-1.898 (4.070)	-1.999 (4.134)	2.440 (4.772)
Constant	15.000*** (1.129)	18.882*** (4.067)	9.199 (8.558)
Observations	251	251	188
R-squared	0.018	0.047	0.158
Controls (enrolment)	NO	YES	YES
Controls (baseline)	NO	NO	YES

Notes: The table displays OLS estimates and corresponding IV regression estimates where the dependent variable is the Intermediaries' first-order belief about other Intermediaries' embezzlements. Panel A: The coefficient of the "Training offer" variable is the intent-to-treat estimate (training offer= 1 for students who received the training offer, and 0 otherwise). Panel B: The coefficient of the "Training" variable is the local average treatment effect (training= 1 for students who did the training, and 0 otherwise). The instrument is the initial random assignment of students into treatment vs control groups. Estimates are expressed in percentage points. "Information" is an indicator equal to 1 for students who received the information treatment, and 0 otherwise. "Junior" is an indicator equal to 1 for first-year students, and 0 for second to fifth-year students. Robust standard errors are reported in parentheses. See enrolment and baseline controls in Table A1 notes.

**Table A5. First order beliefs about firm's willingness to pay, ITT and LATE estimates**

VARIABLES	<i>ITT estimates</i>		
	(1)	(2)	(3)
Training offer	2.337 (2.131)	2.510 (2.125)	2.710 (2.330)
Information	-2.211 (2.079)	-2.164 (2.151)	-3.173 (2.505)
Junior	2.505 (1.869)	2.615 (1.961)	0.424 (2.546)
Training offer * Information	-0.265 (2.984)	-0.610 (2.971)	1.281 (3.454)
Training offer * Junior	-2.944 (2.848)	-2.819 (2.909)	-1.435 (3.550)
Information * Junior	-2.299 (2.874)	-2.543 (3.017)	-1.389 (3.626)
Training offer * Information * Junior	1.981 (4.111)	1.871 (4.187)	-2.951 (4.820)
Constant	21.806*** (1.469)	22.849*** (3.280)	12.132 (8.150)
Observations	249	249	187
R-squared	0.046	0.055	0.245
Controls (enrolment)	NO	YES	YES
Controls (baseline)	NO	NO	YES

VARIABLES	<i>LATE estimates</i>		
	(1)	(2)	(3)
Training	3.146 (2.811)	3.355 (2.784)	3.136 (2.381)
Information	-2.211 (2.046)	-2.160 (2.097)	-3.159 (2.222)
Junior	2.505 (1.839)	2.621 (1.919)	0.399 (2.271)
Training * Information	-0.038 (4.170)	-0.488 (4.170)	1.302 (3.468)
Training * Junior	-3.859 (3.558)	-3.764 (3.590)	-1.512 (3.418)
Information * Junior	-2.299 (2.874)	-2.543 (3.017)	-1.389 (3.626)
Training * Information * Junior	2.106 (5.356)	2.018 (5.382)	-3.361 (4.785)
Constant	21.806*** (1.445)	22.503*** (3.234)	11.099 (7.451)
Observations	249	249	187
R-squared	0.043	0.053	0.243
Controls (enrolment)	NO	YES	YES
Controls (baseline)	NO	NO	YES

Notes: The table displays OLS estimates and corresponding IV regression estimates where the dependent variable is the Intermediaries' first-order belief about Firms' maximum payable amount. Panel A: The coefficient of the "Training offer" variable is the intent-to-treat estimate (training offer= 1 for students who received the training offer, and 0 otherwise). Panel B: The coefficient of the "Training" variable is the local average treatment effect (training= 1 for students who did the training, and 0 otherwise). The instrument is the initial random assignment of students into treatment vs control groups. Estimates are expressed in percentage points. "Information" is an indicator equal to 1 for students who received the information treatment, and 0 otherwise. "Junior" is an indicator equal to 1 for first-year students, and 0 for second to fifth-year students. Robust standard errors are reported in parentheses. See enrolment and baseline controls in Table A1 notes.

**Table A6. Moral Foundation Theory components, ITT and LATE estimates**

VARIABLES	ITT estimates				
	Harm	Fairness	In-group	Authority	Purity
Training offer	0.040 (0.238)	-0.443 (0.371)	-0.045 (0.247)	0.153 (0.213)	0.153 (0.210)
Information	0.217 (0.270)	-0.391 (0.351)	0.207 (0.212)	-0.073 (0.230)	0.216 (0.248)
Junior	0.375 (0.243)	-0.567 (0.344)	0.191 (0.317)	0.231 (0.290)	0.090 (0.292)
Training offer * Information	0.065 (0.343)	0.536 (0.526)	-0.097 (0.378)	-0.493 (0.368)	-0.588 (0.414)
Training offer * Junior	-0.183 (0.389)	0.579 (0.506)	-0.346 (0.408)	-0.505 (0.373)	-0.399 (0.399)
Information * Junior	-0.477 (0.345)	0.588 (0.444)	-0.737* (0.405)	-0.261 (0.363)	-0.493 (0.399)
Training offer * Information * Junior	0.031 (0.562)	-0.762 (0.690)	0.459 (0.578)	0.594 (0.537)	0.600 (0.588)
Constant	0.143 (0.860)	0.668 (1.112)	0.256 (0.675)	0.724 (0.698)	0.251 (0.787)
Observations	147	147	147	147	147
R-squared	0.482	0.384	0.384	0.575	0.511
Controls (enrolment)	YES	YES	YES	YES	YES
Controls (baseline)	YES	YES	YES	YES	YES

VARIABLES	LATE estimates				
	Harm	Fairness	In-group	Authority	Purity
Training	0.046 (0.234)	-0.485 (0.361)	-0.056 (0.241)	0.160 (0.207)	0.159 (0.205)
Information	0.218 (0.236)	-0.384 (0.307)	0.198 (0.186)	-0.085 (0.201)	0.203 (0.216)
Junior	0.375* (0.211)	-0.554* (0.299)	0.184 (0.276)	0.217 (0.252)	0.076 (0.254)
Training * Information	0.067 (0.325)	0.584 (0.500)	-0.092 (0.359)	-0.522 (0.347)	-0.624 (0.391)
Training * Junior	-0.195 (0.367)	0.617 (0.475)	-0.363 (0.385)	-0.533 (0.350)	-0.420 (0.376)
Information * Junior	-0.478 (0.299)	0.576 (0.385)	-0.729** (0.352)	-0.251 (0.316)	-0.481 (0.346)
Training * Information * Junior	0.032 (0.522)	-0.807 (0.642)	0.480 (0.539)	0.629 (0.499)	0.637 (0.548)
Constant	0.146 (0.756)	0.574 (0.981)	0.270 (0.593)	0.772 (0.609)	0.302 (0.694)
Observations	147	147	147	147	147
R-squared	0.481	0.384	0.378	0.577	0.508
Controls (enrolment)	YES	YES	YES	YES	YES
Controls (baseline)	YES	YES	YES	YES	YES

Notes: The table displays OLS and corresponding IV regression estimates where the dependent variables are Moral Foundation Theory indexes which capture the importance placed by Intermediaries on different moral considerations in making decisions. Panel A: The coefficient of the “Training offer” variable is the intent-to-treat estimate (treatment offer = 1 for students who received the training offer, and 0 otherwise). Panel B: The coefficient of the “Training” variable is the local average treatment effect (training= 1 for students who did the training, and 0 otherwise). The instrument is the initial random assignment of students into treatment vs control groups. “Information” is an indicator equal to 1 for students who received the information treatment, and 0 otherwise. “Junior” is an indicator equal to 1 for first-year students, and 0 for second to fifth-year students. Robust standard errors are reported in parentheses. See enrolment and baseline controls in Table A1 notes.

**Table A7. Perceptions and attitudes about corruption. ITT and LATE estimates**

VARIABLES	ITT estimates				
	Accountability risk	Everyone should be held accountable	Justifiability of corrupt student	Justifiability of corrupt judge	Justifiability of corrupt hospital manager
Training offer	-0.570 (0.511)	-0.030 (0.097)	-0.213 (0.205)	-0.021 (0.134)	0.212 (0.158)
Information	-0.772* (0.439)	-0.200 (0.138)	-0.160 (0.218)	0.105 (0.178)	0.690*** (0.217)
Young	0.222 (0.558)	-0.154 (0.132)	-0.188 (0.226)	-0.106 (0.136)	0.270 (0.184)
Training offer * Information	0.171 (0.838)	0.316* (0.160)	0.335 (0.385)	0.018 (0.246)	-0.626** (0.302)
Training offer * Young	0.272 (0.705)	0.099 (0.172)	0.366 (0.317)	0.308 (0.204)	-0.190 (0.253)
Information * Young	-1.163* (0.671)	0.327 (0.198)	0.294 (0.314)	0.077 (0.215)	-0.715** (0.315)
Training offer * Information * Young	1.755 (1.112)	-0.336 (0.242)	-0.617 (0.505)	-0.513* (0.297)	0.605 (0.423)
Constant	5.056** (2.445)	1.151** (0.448)	-0.169 (0.806)	-0.460 (0.665)	0.314 (0.868)
Observations	147	147	147	147	147
R-squared	0.485	0.309	0.382	0.353	0.261
Controls (enrolment)	YES	YES	YES	YES	YES
Controls (baseline)	YES	YES	YES	YES	YES

VARIABLES	LATE estimates				
	Accountability risk	Everyone should be held accountable	Justifiability of corrupt student	Justifiability of corrupt judge	Justifiability of corrupt hospital manager
Training	-0.655 (0.493)	-0.026 (0.096)	-0.230 (0.204)	-0.020 (0.130)	0.224 (0.154)
Information	-0.798** (0.389)	-0.192 (0.121)	-0.153 (0.189)	0.112 (0.154)	0.680*** (0.190)
Junior	0.211 (0.490)	-0.148 (0.117)	-0.179 (0.196)	-0.101 (0.119)	0.259 (0.161)
Training * Information	0.239 (0.781)	0.331** (0.153)	0.359 (0.365)	0.012 (0.232)	-0.669** (0.286)
Training * Junior	0.306 (0.661)	0.103 (0.163)	0.390 (0.301)	0.326* (0.191)	-0.202 (0.238)
Information * Junior	-1.116* (0.590)	0.320* (0.173)	0.284 (0.271)	0.068 (0.187)	-0.703** (0.274)
Training * Information * Junior	1.815* (1.028)	-0.356 (0.228)	-0.653 (0.473)	-0.536* (0.277)	0.644 (0.397)
Constant	5.006** (2.168)	1.110*** (0.405)	-0.196 (0.711)	-0.454 (0.583)	0.383 (0.783)
Observations	147	147	147	147	147
R-squared	0.490	0.295	0.382	0.356	0.248
Controls (enrolment)	YES	YES	YES	YES	YES
Controls (baseline)	YES	YES	YES	YES	YES

Notes: The table displays OLS and corresponding IV regression estimates where the dependent variables are Intermediaries' perceptions about corruption. Panel A: The coefficient of the "Training offer" variable is the intent-to-treat estimate (treatment offer = 1 for students who received the training offer, and 0 otherwise). Panel B: The coefficient of the "Training" variable is the local average treatment effect (training= 1 for students who did the training, and 0 otherwise). The instrument is the initial random assignment of students into treatment vs control groups. "Information" is an indicator equal to 1 for students who received the information treatment, and 0 otherwise. "Junior" is an indicator equal to 1 for first-year students, and 0 for second to fifth-year students. Robust standard errors are reported in parentheses. Enrolment controls include gender (female = 1), willingness to win a prize, willingness to learn new skills, interest in behavioural experiments and if already trained in ethics. Baseline covariates include five moral foundation indexes, level of corruption among the judiciary and civil service providers, risk to be held accountable, accountability of local middleman and everyone else involved in a corrupt transaction, justifiability of a corrupt student, judge and hospital manager, if want to become a corporate lawyer, if studying law because want to make money or because want to make a difference, perception of how often people pay bribes, if paying tuition fees, household income.

### APPENDIX 3: BASELINE & ENDLINE QUESTIONNAIRE

#### Survey Information

Thank you for participating. Your participation is voluntary and you may withdraw at anytime. The survey has three sections: 1) your views on different social issues; 2) your views on corruption in the Ukrainian society; 3) some questions about yourself. The survey will take approximately 20 minutes to complete. If you complete the questionnaire, you will receive a gift worth 100 UAH as a shopping voucher.

Data collected will not be shared with anyone. To protect your identity, you have been assigned a numerical identifier and your answers to this survey will be linked to your number and not to your name. Data will be stored using the assigned number and will thus be de-identified. The **de-identified data** will be analysed by the researchers and will be stored afterwards in the School of Economics at University of East Anglia (UEA), United Kingdom or in a journal repository upon publication, where it may be downloaded by other researchers for reanalysis.

You have signed a general consent form to participate in this research. You will shortly be asked to sign a specific consent form for this survey. Your participation will be recorded in the School of Economics, UEA.

You will receive the gift within three weeks of completing the survey. Furthermore, if you complete this questionnaire and ALL surveys and quizzes during this study, you will be entered in a draw for a chance to win one of three prizes worth 1400 UAH.

If you have any concerns about this survey, please contact Dr Oana Borcan at [o.borcan@uea.ac.uk](mailto:o.borcan@uea.ac.uk), who will endeavour to respond within 10 working days. If you are still unhappy and wish to make a formal complaint, please email the chair of the Ethics Committee at the School of Economics, UEA, Dr *David Hugh-Jones* ([D.Hugh-Jones@uea.ac.uk](mailto:D.Hugh-Jones@uea.ac.uk)).

### **Consent Form**

I confirm that I have read and understood the “Survey Information” above. I understand that the data generated during the experiment will be entirely anonymous, so that my name will not be linked to the data that is generated. The anonymous data will be analysed by the researchers and subsequently stored at the University of East Anglia, where it may be downloaded by other researchers. I understand that my participation is voluntary and that I am free to withdraw at any time but I will receive a gift worth 100 UAH only if I complete the survey in full.

- ☐ YES, I agree to take part in this survey.
- ☐ NO, I do not agree to take part in this survey.

Participant numeric identifier: ...

Date: ...

### **1.0 General views on social issues**

Question	Coding Category
----------	-----------------

**Part 1. When you decide whether something is right or wrong, to what extent are the following considerations relevant to your thinking? Please rate each statement below:**

Q1. Whether or not someone suffered emotionally	<p>1 Not at all relevant (This consideration has nothing to do with my judgments of right and wrong)</p> <p>2 Not very relevant</p> <p>3 Slightly relevant</p> <p>4 Somewhat relevant</p> <p>5 Very relevant</p> <p>6 Extremely relevant (This is one of the most important factors when I judge right and wrong)</p>
Q2. Whether or not some people were treated differently than others	
Q3. Whether or not someone's action showed love for his or her country	
Q4. Whether or not someone showed a lack of respect for authority	
Q5. Whether or not someone violated standards of purity and decency	
Q6. Whether or not someone was good at math	
Q7. Whether or not someone cared for someone weak or vulnerable	
Q8. Whether or not someone acted unfairly	
Q9. Whether or not someone did something to	



betray his or her group	
Q10. Whether or not someone conformed to the traditions of society	
Q11. Whether or not someone did something disgusting	
Q12. Whether or not someone was cruel	
Q13. Whether or not someone was denied his or her rights	
Q14. Whether or not someone showed a lack of loyalty	
Q15. Whether or not an action caused chaos or disorder	
Q16. Whether or not someone acted in a way that God would approve of	
<b>Part 2. Please read the following sentences and indicate your agreement or disagreement:</b>	
Q17. Compassion for those who are suffering is the most crucial virtue.	1 Strongly disagree 2 Moderately disagree 3 Slightly disagree 4 Slightly agree 5 Moderately agree 6 Strongly agree
Q18. When the government makes laws, the number one principle should be ensuring that	

everyone is treated fairly.	
Q19. I am proud of my country's history.	
Q20. Respect for authority is something all children need to learn.	
Q21. People should not do things that are disgusting, even if no one is harmed.	
Q22. It is better to do good than to do bad.	
Q23. One of the worst things a person could do is hurt a defenseless animal.	
Q24. Justice is the most important requirement for a society.	
Q25. People should be loyal to their family members, even when they have done something wrong.	
Q26. Men and women each have different roles to play in society.	
Q27. I would call some acts wrong on the grounds that they are unnatural.	
Q28. It can never be right to kill a human being.	
Q29. I think it's morally wrong that rich children inherit a lot of money while poor children inherit nothing.	
Q30. It is more important to be a team player	

than to express oneself.	
<b>2.0 Corruption in Ukraine</b>	
Q31. Now I would like you to tell us your views on corruption – when people pay a bribe, give a gift or do a favor to other people in order to get the things they need done or the services they need. How would you place your views on corruption in your country on a 10-point scale where “1” means “there is no corruption in my country” and “10” means there is abundant corruption in my country”. If you think there is an intermediate level of corruption, choose the appropriate number in between.	1 There is no corruption in my country 2 3 4 5 6 7 8 9 10 There is abundant corruption in my country
<p><b>Among the following groups of people, how many people do you believe are involved in corruption? Tell me for each group if you believe it is none of them, few of them, or all of them?</b></p>	
Q32. State authorities	1 None of them 2 Few of them 3 All of them
Q33. Business executives	
Q34. Local authorities	
Q35. The judiciary	
Q36. Civil service providers (police, civil	

servants, doctors, teachers)	
Q37. Journalists and media	
Q38. We want to know about your experience with local officials and service providers, like police officers, lawyers, doctors, teachers and civil servants in your community. How often do you think ordinary people like yourself or people from your neighbourhood have to pay a bribe, give a gift, or do a favor to these people in order to get the service you need? Does it happen never, rarely, frequently or always?	1 Never 2 Rarely 3 Frequently 4 Always
Q39. Can you tell me how strongly you agree or disagree with the following statement: “on the whole, women are less corrupt than men”?	1 Strongly agree 2 Agree 3 Disagree 4 Strongly disagree 0 Hard to say
Q40. How high is the risk in this country to be held accountable for giving or receiving a bribe, gift, favor in return for public service? To indicate your opinion, use a 10-point scale, where “1” means “no risk at all” and “10” means “very high risk”.	1 No risk at all 2 3 4 5 6 7 8 9 10 Very high risk
Q41. When a foreign firm pays a bribe, offers a gift, or does a favor to local officials in order to get some business or service they need, who do you think should be held accountable?	1 The foreign firm 2 The local officials 3 The local middlemen who facilitate the payment, gift, or favor.

	4 All of the above 5 None of the above
<b>In your opinion, can the situations below be justified?</b>	
Q42. Is it justifiable that student cheats on their exam because most of their colleagues are cheating?	1 Never 2 Rarely 3 Frequently 4 Always
Q43. Is it justifiable that a judge who is about to retire accepts a bribe from a defendant?	1 Never 2 Rarely 3 Frequently 4 Always
Q44. Is it justifiable that a public hospital manager purchases the products of a pharmaceutical company without a bid for tender, after attending a conference sponsored by the pharmaceutical company?	1 Never 2 Rarely 3 Frequently 4 Always
<b>3.0 Respondent profile</b>	
Q45. Household income? Please tell us about the approximate household income of your primary family? Select one of the categories below (Put into bins that are reasonable for Ukraine).	1 We need to save money for food 2 We have enough money for food, but we need to save or borrow money for buying clothes and shoes 3 We have enough money for food and necessary clothing and shoes, but we need to save or borrow money for other purchases like a good suit, a mobile phone, or a vacuum cleaner 4 We have enough money for food, clothing, shoes, and other purchases, but we need to save or borrow money for purchasing more

	<p>expensive things (e.g., appliances)</p> <p>5 We have enough money for food, clothes, shoes, and expensive purchases, but we need to save or borrow money for purchases like a car or an apartment</p> <p>6 We can buy anything at any time</p> <p>7 Difficult to answer</p>
Q46. Do you currently have any employment?	<p>0 No</p> <p>1 Yes</p>
Q46a. If your answer to Q46 was “Yes”, what is your current income? Select one of the categories below.	<p>Up to 3000,0</p> <p>3000,1–8000,0</p> <p>8000,1–12000,0</p> <p>12000,1-17000</p> <p>17000,1-20000</p> <p>20000,1 and more</p> <p>Prefer not to say</p>
Q47. Are you paying tuition fees for your university studies?	<p>0 No</p> <p>1 Yes</p>
Q48. Are you receiving a scholarship for these studies?	<p>0 No</p> <p>1 Yes</p>
Q49. What job do you aspire to have?	<p>1 Judge or prosecutor</p> <p>2 Defense attorney</p> <p>3 Corporate lawyer</p> <p>4 Other</p>
Q49a. If answered “Other” in Q49, can you tell us your choice?	[text]
Q50. What is the main reason you chose a degree in Law?	<p>1 I want to make money</p> <p>2 It was my parents’ aspiration for me</p> <p>3 It is a career that has prestige and power in</p>

	society 4 I believe I can make a difference in this justice system 5 I have the talents and skills to pursue this career. 6 Other
Q50a. If answered “Other” in Q50, can you tell us your choice?	[text]
Q51. In the past year, how often have you cheated (or plagiarized) in university exams?	1 Never 2 A few times 3 Many times 4 Always
Q52. In the past year, how often have you made payments, given gifts or favours to obtain to improve your school or university marks?	1 Never 2 A few times 3 Many times 4 Always
Q53. In the past 4 weeks, have you had to make a payment, give a gift or a favour to any public servant (for example teachers, doctors or the police) to obtain a service that should be free.	1 No 2 Yes, a few times 3 Yes, many times
Q54. In the past year, how often have you witnessed a colleague or a university teacher behave unethically?	1 No 2 Yes, a few times 3 Yes, many times
Q55. In the past year, have you reported unethical behaviour of a colleague or a university teacher?	1 Never 2 A few times 3 Many times

#### APPENDIX 4: EXPERIMENTAL INSTRUCTIONS & BELIEF ELICITATION

## **General information**

Thank you for participating. Your participation is voluntary, and you may withdraw at any time without penalty. The activity will take approximately 25 minutes to complete. If you decide to participate in this activity, you will receive a gift of 50 UAH as mobile top-up. You will also have the opportunity to receive an additional gift depending on your choices and chance, to compensate you for your time and effort. You will receive detailed instructions that will explain your choices and how those choices will affect your final earnings.

Data collected will not be shared with anyone. No participant will know the identity of other participants. To protect participants, you have been assigned a numerical identifier and your decisions in this experiment will be linked to your number and not to your name. Data will be stored using the assigned number and will thus be de-identified. The de-identified data will be analysed by the researchers and will be stored afterwards in the School of Economics at University of East Anglia (UEA), United Kingdom or in a journal repository upon publication, where it may be downloaded by other researchers for reanalysis.

You have signed a general consent form to participate in this research. You will shortly be asked to sign a consent form for this activity. You will receive the gifts in the form of a mobile top-up within 3 weeks of completing the activity. Your participation will be recorded in the School of Economics, UEA.

We have a strict “no deception policy” and thus everything in these instructions is true and accurate. If you have any questions about this or wish to know more about the research behind this activity, please contact Dr Oana Borcan at [o.borcan@uea.ac.uk](mailto:o.borcan@uea.ac.uk).

If you have any complaints or concerns about this research, please email the chair of the Ethics Committee at the School of Economics, UEA, Dr David Hugh-Jones ([D.Hugh-Jones@uea.ac.uk](mailto:D.Hugh-Jones@uea.ac.uk))



**Consent form**

I confirm that I have read and understood the “General information” sheet dated ... which I may keep for my records. I agree to take part in this experiment by undertaking a number of computer-based tasks. I understand that the data generated during the experiment will be entirely anonymous, so that my name will not be linked to the data that is generated. The anonymous data will be analysed by the researchers and subsequently stored at the University of East Anglia, where it may be downloaded by other researchers. I understand that my participation is voluntary and that I am free to withdraw at any time.

Participant numeric identifier: ...

Date: ...

**General instructions**

You will be playing a role in a simple activity with other participants.

This activity involves four players, each playing a different role. Your role will be either a Firm, an Intermediary, a Public Official or a Member of Society. You will be matched with three other participants, and roles will be anonymously and randomly assigned. At no point will you learn the identity of the other members from your group.

The activity is meant to mimic the procurement process of public contracts. Each of the four players in your game will have a budget of 70 UAH to start. The Public Official and the Member of Society do not make any decisions in the game, but their final payoffs are impacted by the decisions of the Firm and the Intermediary.

The Firm wants to win a contract from the Public Official that is worth 50 UAH to the Firm. The Intermediary will choose whether to help the Firm win the contract by informing the Firm of a piece of confidential information. If the Firm receives the confidential information from the Intermediary, the Firm decides whether or not to act upon this information.

The game proceeds as follows:

First, the Intermediary learns a piece of confidential information from the Public Official. This piece of confidential information is the amount the Public Official must receive as a payment to award the public contract to the Firm with a 100% chance. Without this payment, the Firm will win the contract with a 5% chance. The amount the Public Official must receive as a payment is determined randomly. A random number generator chooses one of the following amounts randomly and each amount has an equal chance of being chosen: 5 UAH, 10 UAH, 15 UAH, 20 UAH, 25 UAH, 30 UAH, 35 UAH, 40 UAH.

Second, the Intermediary decides whether or not to inform the Firm of this confidential information. The choice here is to Inform or Not Inform. Important Note: The Intermediary can inform the Firm of a number equal to or higher than the amount required by the Public Official. For example, if the Intermediary learns that the Public Official requires a payment of 5 and the Intermediary chooses to Inform the Firm, the Intermediary can choose 5, or a number greater than 5 (but not smaller) from the following set: 10 UAH, 15 UAH, 20 UAH, 25 UAH, 30 UAH, 35 UAH, 40 UAH. We call the “5” the True Payment Amount and for example the “10” the Informed Payment Amount. If the Intermediary chooses to inform the Firm of 10 and the Firm chooses to Pay, then the Intermediary passes the 5 to the Public Official and can keep the remaining difference 10-5.

Third, the Firm's action depends on the Intermediary's action. If the Intermediary informs the Firm about the confidential information, then the Firm can act on that information and Pay the Public Official or Not Pay. If the Firm Pays, the Firm wins the contract for sure. If the Firm does Not Pay, the Firm will win the contract with a 5% chance. Moreover, the decision to Pay has a negative effect on the Member of Society's payoff: if the Firm decides to Pay, then Society loses 35 UAH (half) of their endowment. Important Note: There are no partial payments. If the Firm decides to Pay the Public Official, the Firm must transfer the full Informed Payment Amount reported by the Intermediary. If the Intermediary does Not Inform the Firm, then the Firm can only choose to Not Pay and there is a 5% chance of winning the contract. The final amount of the gift you receive will be rounded to the next integer up.

### **Specific instructions**

#### **Intermediary**

#### **Your role**

You have been assigned to the role of Intermediary in today's activity.

To begin with, you have 70 UAH as initial budget, like all the other players participating in the activity.

You will shortly receive a piece of confidential information, that is the True Payment Amount which the Public Official must receive to award the public contract worth 50 UAH to the Firm.

The experiment begins with your decision as Intermediary: you have to decide whether you want to inform the Firm or not. If you want to inform, you will have to choose what amount you would like to report.

### **Possible scenarios**

If you choose not to inform the Firm, there will not be a deal between the two of you and the Firm will win the public contract with a 5% chance. If that is the case, earnings will be as follows:

- You: 70 UAH
- The Firm: 70 UAH plus a 5% chance of an additional 50 UAH
- The Public Official: 70 UAH
- The Member of Society: 70 UAH

If you choose to inform the Firm, earnings will depend both on the Firm's and your decisions. If the Firm decides to pay the Informed Payment Amount, the deal is done: the Firm has to pay the full amount and will win the public contract with a 100% chance. The Public Official will receive their True Payment Amount and you will keep the difference between the Informed Payment Amount and the True Payment Amount. The Member of Society will lose half of their initial endowment, i.e. 35 UAH. In other words, if you decide to inform the Firm, and they accept to pay the Informed Payment Amount, earnings will be as follows:

- You:  $70 \text{ UAH} + \text{Informed Payment Amount} - \text{True Payment Amount}$
- The Firm:  $70 \text{ UAH} - \text{Informed Payment Amount} + 50 \text{ UAH}$
- The Public Official:  $70 \text{ UAH} + \text{True Payment Amount}$
- The Member of Society:  $70 \text{ UAH} - 35 \text{ UAH}$

If the Firm refuses to pay the Informed Payment Amount, there will not be a deal and the Firm will win the public contract with a 5% chance. If that is the case, earnings will be as follows:

- You: 70UAH
- The Firm: 70UAH plus a 5% chance of an additional 50UAH
- The Public Official: 70UAH
- The Member of Society: 70UAH

### **Example**

Please select a value of your choice for both the True and the Informed Payment Amount to see how your final earnings will change accordingly.

Remember that you can inform the Firm of a number equal to or higher than the True Payment Amount.

- True Payment Amount (dropdown menu with all values)
- Informed Payment Amount (dropdown menu with all values)

Your final earning are: (formula that calculates final payoff)

### **Questions to check your comprehension**

The following questions will help you understand the consequences associated with the different options you choose in this experiment.

- 1) What are your monetary earnings if you decide not to inform the Firm? (70)
- 2) The Intermediary can inform the Firm of a number equal to or higher than the True Payment Amount. (TRUE)
- 3) Let's assume that the Public Official's True Payment Amount is 15 UAH, that you choose to report to the Firm 30 UAH as Informed Payment Amount, and that the Firm accepts to pay it. What are the resulting monetary earnings for the Member of Society? (35)

**Now make your decision...**

We will now reveal the piece of confidential information. We will then match your decision to those of the Firm you have been paired with to calculate the earnings you are entitled to. Don't forget that your decisions here are binding and you cannot change your mind once you have made your choice.

(Descriptive social norm variation)

Just to let you know, you are part of a group in which 75% of Intermediaries have just received an Integrity, Ethics and Anti-Corruption training / No information

The True Payment Amount which the Public Official must receive to serve the Firm is (random number).

Would you like to inform the Firm about this confidential information? Please select one of the two options below:

- Yes
- No

(If Yes)

Please select the Informed Payment Amount that you want to report to the Firm:  
5UAH, 10UAH, 15UAH, 20UAH, 25UAH, 30UAH, 35UAH, 40UAH.

**We want to hear from you**

In this section, we will ask you some questions about your opinion of what the other Intermediaries in the game have decided to do. You have an opportunity to earn additional bonuses if you answer the following 5 questions. The closer your guesses are to the actual decisions of the other players, the higher your chance to earn a bonus. Note that only one question will be picked at random to calculate your additional bonus.

1. We have asked all the Intermediaries to decide whether they want to inform the Firm. Guess what share of all Intermediaries who took part in this game decided to “Inform”? Remember, the closer your guess is to the true percentage, the higher your chance to earn a bonus.

Slider with 0-100% in increments of 10%

Your bonus will be calculated as follows:

If the difference between your answer and the true share of Intermediaries who “Informed” is:	Larger than 70%	Between 51 % and 70%	Between 30% and 50%	Between 10 and 30%	Between 1% and 10%	Exactly 0%
You earn 40 UAH with probability:	10%	30%	50%	70%	90%	100%

2. We have asked all the Intermediaries to guess what share of Intermediaries who took part in this game they think they decided to “Inform”. Guess what the average Intermediary answered to this question. Remember, the closer your guess is to the true percentage, the higher your chance to earn a bonus.

Slider with 0-100% in increments of 10%

Your bonus will be calculated as follows:

If the difference between your answer and the true share of Intermediaries who “Informed” is:	Larger than 70%	Between 51 % and 70%	Between 30% and 50%	Between 10 and 30%	Between 1% and 10%	Exactly 0%

You earn 40 UAH with probability:	10%	30%	50%	70%	90%	100%
-----------------------------------	-----	-----	-----	-----	-----	------

3. All Intermediaries who chose to inform were asked how much they wanted to inform. Guess how large was the amount overreported on average? (Example: if the True Payment Amount is 20 UAH and the Intermediary informed 30 UAH, the amount overreported is  $30 - 20 = 10$  UAH). Remember, the closer your guess is to the true percentage, the higher your chance to earn a bonus.

0 UAH, 5 UAH, 10 UAH, 15 UAH, 20 UAH, 25 UAH, 30 UAH, 35 UAH.

Your bonus will be calculated as follows:

If the difference between your answer and the true average amount overreported is:	Larger than 30 UAH	Between 26 and 30 UAH	Between 16 and 25 UAH	Between 6 and 15 UAH	Between 1 and 5 UAH	Exactly 0
You earn 40 UAH with probability	10%	30%	50%	70%	90%	100%

4. We asked all the Intermediaries to guess how much other Intermediaries overreported on average. Guess what the average Intermediary answered to this question? Remember, the closer your guess is to the true percentage, the higher your chance to earn a bonus.

0 UAH, 5 UAH, 10 UAH, 15 UAH, 20 UAH, 25 UAH, 30 UAH, 35 UAH.

Your bonus will be calculated as follows:

If the difference between your answer and the true average	Larger than 30 UAH	Between 26 and 30 UAH	Between 16 and 25 UAH	Between 6 and 15 UAH	Between 1 and 5 UAH	Exactly 0
--	--------------------	-----------------------	-----------------------	----------------------	---------------------	-----------



amount overreported is:						
You earn 40 UAH with probability	10%	30%	50%	70%	90%	100%

5. We have asked all the Firms to decide whether they want to pay the amount informed by the Intermediary. Guess how much the average Firm was willing to pay at most? Remember, the closer your guess is to the true percentage, the higher your chance to earn a bonus.

0 UAH, 5 UAH, 10 UAH, 15 UAH, 20 UAH, 25 UAH, 30 UAH, 35 UAH, 40 UAH.

Your bonus will be calculated as follows:

If the difference between your answer and the true average amount overreported is:	Larger than 30 UAH	Between 26 and 30 UAH	Between 16 and 25 UAH	Between 6 and 15 UAH	Between 1 and 5 UAH	Exactly 0
You earn 40 UAH with probability:	10%	30%	50%	70%	90%	100%

**Thank you for your participation!**

At the end of the game, you will be randomly matched with a Firm, a Public Officer and a Member of Society and your respective choices will be enacted. We will let you know the gift value you have earned, and you will receive your gift by email in the next 14 days.

## **Firm**

### **Your role**

You have been assigned to the role of Firm in today's activity.

To begin with, you have 70 UAH as initial budget, like all the other players participating in the activity.

The decision situation begins with the Intermediary's choice of whether to Inform or Not Inform you about the amount that the Public Official needs to receive in order to award you a contract worth 50 UAH.

### **Possible scenarios...**

On one hand, if the Intermediary chooses not to inform, there is no possible deal between you and the Intermediary, and you will win the public contract with a 5% chance. If that is the case, earnings will be as follows:

- You: 70 UAH plus a 5% chance of an additional 50 UAH
- The Intermediary: 70 UAH
- The Public Official: 70 UAH
- The Member of Society: 70 UAH

On the other hand, if the Intermediary chooses to inform, you have then two options: 1) you can accept to pay the Intermediary's Informed Payment Amount; or 2) you can refuse to make the payment.

If you choose to refuse to pay the Informed Payment Amount, there will not be a deal between you and the Intermediary and you will win the public contract with a 5% chance. If that is the case, earnings will be as follows:

- You: 70 UAH plus a 5% chance of an additional 50 UAH
- The Intermediary: 70 UAH
- The Public Official: 70 UAH

- The Member of Society: 70 UAH

If you decide to accept to pay the Informed Payment Amount, it means that the deal is done: you have to pay the full amount informed by the Intermediary and will win the public contract with a 100% chance. The Public Official will receive his True Payment Amount and the Intermediary will keep the difference between the Informed Payment Amount and the True Payment Amount. The Member of Society will lose half of their initial endowment, that is 35 UAH. In other words, if you decide to accept to pay the Intermediary, earnings will be as follows:

- You:  $70 \text{ UAH} - \text{Informed Payment Amount} + 50 \text{ UAH}$
- The Intermediary:  $70 \text{ UAH} + \text{Informed Payment Amount} - \text{True Payment Amount}$
- The Public Official:  $70 \text{ UAH} + \text{True Payment Amount}$
- The Member of Society:  $70 \text{ UAH} - 35 \text{ UAH}$

### **Example**

Please select a value of your choice for both the True and the Informed Payment Amount to see how your final earnings will change accordingly.

Remember that the Intermediary can inform you about a number equal to or higher than the True Payment Amount.

- True Payment Amount (dropdown menu with all values)
- Informed Payment Amount (dropdown menu with all values)

Your final earning are (formula that calculates final payoff)

### **Questions to check your comprehension**

The following questions will help you understand the consequences associated with the different options you choose in this experiment.

1. What are your monetary earnings if the Intermediary decides not to inform you? (70 UAH plus a 5% chance of an additional 50 UAH)
2. The Intermediary can inform the Firm of a number equal to or higher than the True Payment Amount. (TRUE)
3. Let's assume that the Public Official's True Payment Amount is 15 UAH, that the Intermediary chooses to inform you that the Informed Payment Amount is 30 UAH, and that you accept to pay it. What are the resulting monetary earnings for the Member of Society? (35)

**Now make your decision...**

We would now like to ask you whether you would accept or refuse to pay any possible amount that the Intermediary might report to you. We will then match your decisions to those of the Intermediary you have been paired with to calculate the gift you are entitled to.

Your decisions here are binding and you cannot change your mind once you have made your choice. We will not allow inconsistencies in the decisions, i.e. cannot reject 10 UAH but accept 15 UAH.

Please tick the appropriate buttons below to let us know whether you would pay or not the Informed Payment Amount, for all possible amounts:

Informed Payment Amount	Your decision	
5 UAH	Pay	Not Pay
10 UAH	Pay	Not Pay
15 UAH	Pay	Not Pay
20 UAH	Pay	Not Pay
25 UAH	Pay	Not Pay
30 UAH	Pay	Not Pay
35 UAH	Pay	Not Pay
40 UAH	Pay	Not Pay

**Thank you for your participation!**

At the end of the game, you will be randomly matched with an Intermediary, a Public Officer and a Member of Society and your respective choices will be enacted. We will let you know the gift value you have earned, and you will receive your gift by email in the next 14 days.

### **Public Officer**

#### **Your role**

You have been assigned to the role of Public Officer in today's activity.

To begin with, you have 70 UAH as initial budget, like all the other players participating in the activity.

The True Payment Amount that you must receive to award the public contract to the Firm with a 100% chance is (random number).

#### **Thank you for your participation!**

At the end of the game, you will be randomly matched with a Firm, an Intermediary and a Member of Society and your respective choices will be enacted. We will let you know the gift value you have earned and you will receive your gift by email in the next 14 days.

### **Member of Society**

#### **Your role**

You have been assigned to the role of Member of Society in today's activity.

To begin with, you have 70 UAH as initial budget, like all the other players participating in the activity.

#### **Thank you for your participation!**

At the end of the game, you will be randomly matched with a Firm, an Intermediary and a Public Official and your respective choices will be enacted. We will let you know the gift value you have earned, and you will receive your gift by email in the next 14 days.