

Determinants of Students' Willingness to Engage in Corruption in an Academic Setting: an Empirical Study

Martín Julián ¹ 🕞 • Tomas Bonavia ¹ 🕞

Published online: 12 February 2020 © Springer Nature B.V. 2020

Abstract

Corruption in higher education has raised concern among governments, citizens, and the education community worldwide. However, few papers have sought to explore the students' willingness to engage in corrupt practices at the university level. The present study aimed to examine the influence of different corrupt behaviours and perceived corruption among peers on the corrupt intention of university students. 120 undergraduate students participated in a quasi-experimental design divided in 3 treatments (control, lowcorruption acceptance, high-corruption acceptance) to rate their willingness to engage in favouritism and embezzlement behaviours. Results pointed out that students were more prone to committing a non-monetary behaviour favouritism— than a monetary behaviour -embezzlement-. Furthermore, there were not significant differences between the groups of control and high-corruption acceptance; while only the group of low-corruption acceptance showed significant lower rates when compared to the control and the highcorruption acceptance's group. Practical recommendations need to address students' perceptions of different corrupt practices, focusing on designing ethical training programmes aimed to raise awareness on the negative consequences of non-monetary activities. Future research directions could generate empirical support to prove if students are able to recognize the underlying mechanisms of subtle corrupt practices.

Keywords Unethical behaviour · Types of corruption · Perceived corruption · Gender · Quasi-experimental design · Higher education

Martín Julián roju@alumni.uv.es

Tomas Bonavia tomas.bonavia@uv.es

Faculty of Psychology, University of Valencia, 21 Blasco Ibáñez Avenue, 46010 Valencia, Spain



Introduction

Corruption is one of the most serious and complex problems faced by nations, societies, and organizations today (Köbis et al. 2016). Corruption in higher education is a growing concern among governments, citizens, and the education community (Du Plessis 2014; Denisova-Schmidt 2017). Research has shown that corruption is widespread among the educational sector, from primary school to university throughout the world (Transparency International 2013). Corruption undermines the educational system because it reinforces anti-meritocratic values, reduces students' participation in their daily decisions, and decreases expectations of economic and social development (Chapman and Lindner 2016). In fact, early research has shown that academic dishonesty at the university level is linked to future levels of corruption in a country (Teixeira 2013). As the role of universities is to shape future citizens, it is important to eliminate corrupt mechanisms in such institutions (Heyneman 2011).

Scientific literature on university corruption differs from academic dishonesty literature (see, e.g., Macfarlane et al. 2014). Academic dishonesty typically refers to 'multiple forms of academic deviance including but not limited to test cheating, plagiarism, and inappropriate collaboration' (Kisamore et al. 2007, p. 382). On the other hand, corruption has many different meanings based on the theoretical framework in which the phenomenon is analysed. A broad definition of corruption is 'the abuse of entrusted power for private gain' (Transparency International 2009, p. 9). Specifically, educational corruption is 'the systematic use of public office for private benefit whose impact is significant on access, quality or equity in education' (Hallak and Poisson 2002, p. 17). University corruption ranges from paying a bribe for admittance into an academic programme to assigning public positions through favouritism (Hallak and Poisson 2007).

Although perceived corruption among peers has been widely studied in earlier research (Liu and Peng 2015; Shaw et al. 2015), the influence of different corrupt behaviours on students' corrupt intention has hardly been analysed (Gama et al. 2013). In addition, most research on corruption in educational settings has focused on cross-national evidence (Chapman and Lindner 2016). Therefore, the present study aims to expand the literature on corruption – concretely, at the university level – by analysing other common sources of corruption such as favouritism and embezzlement and the impact of perceived corruption among peers on students' corrupt intention.

The Role of Peers in Corruption

Perceived corruption among peers has become the most robust area of corruption research, especially in behavioural economics (Abbink and Serra 2012). There are few psychosocial models that explain corrupt behaviour, despite its social relevance and psychological consequences (Julián and Bonavia 2017). The main results of past research have shown that the more a person perceives that their peers are highly corrupt, the more they will be inclined to commit a corrupt act (Dong et al. 2012).

The role of peers in corruption has also been studied in the educational sector with similar results (Liu and Peng 2015; Shaw et al. 2015). Relying on a survey conducted in Ukraine with 1588 undergraduates, a previous study (Shaw et al. 2015) showed that perceptions of corruption among peers were linked to an increase in the willingness of offering a bribe. Other authors (Čábelková and Hanousek 2004) reached the same conclusion. The authors of a



study conducted with 1527 Portuguese university students (Gama et al. 2013) asked participants about their classmates' perceptions of corruption, specifically for subtypes of fraud. They found that the vast majority of the students recognized the existence of fraudulent practices in their classrooms and showed a great tolerance towards such practices. In the same vein, a study with 1541 Chinese students concluded that perception of corruption was strongly linked to the likelihood of committing bribery in the future (Liu and Peng 2015). Overall, perceived corruption among peers reduces the perceived costs of being caught, increases one's ethical rethinking about their own beliefs about dishonesty, generates social distrust, destroys intrinsic honesty, distorts perceptions of descriptive norms, and provides incentives to carry out illegal or unethical actions (Cialdini et al. 1990; Gino et al. 2009).

Scientific literature on social norms (Reno et al. 1993; Cialdini and Goldstein 2004) has shown that there are two types of norms: injunctive norms (which are related to the permissibility of a behaviour), and descriptive norms (which are related to the engagement of others in a behaviour). Corrupt activities are normally condemned, so injunctive norms can foster negative feelings or thoughts in a corruption scenario. However, as previous studies have demonstrated (Köbis et al. 2015), descriptive norms tend to serve as a rationalization for those willing to ignore their feelings when facing a corruption dilemma. In short, thinking that the majority of people engage in a corrupt behaviour paves the way to behaving in the same manner. Therefore, the following hypotheses will be tested in this study:

H1: Students' willingness to engage in corrupt practices will be higher in the high-corruption acceptance group in comparison with the control group.

H2: Students' willingness to engage in corrupt practices will be lower in the low-corruption acceptance group in comparison with the control group.

Typology of Corrupt Practices

Students, administrators, private suppliers, or the teaching staff can be involved in corrupt activities at the university level (Hallak and Poisson 2007; Denisova-Schmidt 2017). Considering the range of corrupt practices in the educational arena, it is clear that not only the teaching staff can exert their authority to achieve personal gains; students can also take advantage of certain situations if they believe that it will allow them to obtain better academic opportunities or jobs in the future (Shaw et al. 2015). In other words, students may offer bribes to bypass official selection processes or obtain better grades. Still, corruption is not restricted to student-teaching staff exchanges; administrators may also be perpetrators of practices such as embezzlement or charging students for free services (Rumyantseva 2005). Regarding students engaging in corrupt practices, Rumyantseva (2005) notes three possible exchanges at the university level: students-teaching staff, students-administrators, and students-other staff members. Corrupt activities between students and members of the teaching staff can occur in the classroom, during application processes, or during exams, and can be undertaken both by students and teaching staff. Student-administrator exchanges are characterized by privileged treatment given to a student in return for money or any other kind of bribery. Exchanges between students and other staff members are similar to student-administrator interactions, but they relate to services offered by the university (e.g., the library).

Empirical research thus far has largely ignored variations in corruption (Bussell 2015) and has mainly focused on one example of corrupt practices: bribery (see, e.g., Abbink and Serra



2012). Although there are many corrupt acts in everyday life, favouritism and embezzlement are some of the most common types of corruption in higher education (Dridi 2013; Transparency International 2013). Favouritism is 'a mechanism of power abuse implying privatization and a highly biased distribution of state resources', whereas embezzlement is 'the theft of public resources by public officials' (Hallak and Poisson 2007, p. 57).

Favouritism often occurs in universities where public allocation of jobs is at stake (Du Plessis 2014; Denisova-Schmidt 2017). This is particularly important because cheating on behalf of one's member group (e.g. a member of one's research group) has a negative effect on out-group members, and is considered unacceptable because it alters fair competition for resources (Harris et al. 2015). When facing the public allocation of a job, favouritism results in overlooking job candidates who are more qualified than the chosen one (Cadsby et al. 2016). It becomes difficult to recognize the moral characteristics of the act, because favouritism is usually considered a social norm rather than a violation of the norms (Harris et al. 2015). Moreover, if people deal with non-monetary goods, they will tend to rationalize their behaviour and act dishonestly (Ariely 2008).

By contrast, embezzlement entails a misappropriation of funds and usually involves only one agent who abuses entrusted power for personal benefits (Köbis et al. 2016). Research has shown that financial practices – such as embezzlement – deter people from being dishonest (Ariely 2008). Embezzlement can be perceived as a money exchange, highlighting the monetary characteristics of the decision, which leads people to behave honestly (Hallak and Poisson 2007; Ariely 2008; Du Plessis 2014). Considering the aforementioned differences between favouritism and embezzlement, the following hypothesis will be tested:

H3: Students' willingness to engage in favouritism will be higher than students' willingness to engage in embezzlement.

Gender Role

Scientific literature regarding women's role in corruption is ambiguous (Chaudhuri 2012). According to many authors (Swamy et al. 2001; Alatas et al. 2009; Torgler and Valev 2010; Rivas 2013), women are less tolerant than men to different kinds of corrupt behaviours. On the other hand, several studies were unable to find gender differences in corruption (Sung 2003; Alhassan-Alolo 2007). A plausible explanation from cultural psychology conjectures that masculine societies reward material success, ambitiousness, and competitiveness (Hofstede 1997). These variables can influence people's tendency to engage in corrupt behaviour (Lee and Guven 2013). Some scholars consider that women are less corrupt than men because of risk perception, meaning that women perceive more risk than men in corrupt situations (Schulze and Frank 2003; Djawadi and Fahr 2013). It has also been suggested that women react more strongly to risky situations (Frank et al. 2011). Furthermore, women tend to interpret risk as a threat rather than a challenge (Croson and Gneezy 2009), maybe as a result of a male-oriented culture that reinforces values like competitiveness and material success (Hofstede 1997). As a result of previous literature, the last hypothesis is the following:

H4: Male students' willingness to engage in corrupt behaviour will be higher than that of female students.



Spanish University Context

The current situation of the Spanish university system is largely characterised by a strong competitiveness among universities (Rincón and Barrutia 2017). According to the Ministry of Education, Culture and Sports, there are 84 universities in Spain: 50 of which are public and 34 of which are private (MECD 2016). Academic dishonesty has been studied in Spanish universities (see, e.g., Comas-Forgas and Sureda-Negre 2016; Cebrián-Robles et al. 2018), though individual predictors of Spanish university corruption have not been analysed yet. Furthermore, nearly two-thirds of Spanish citizens rated corruption as a major problem in their country (Transparency International 2016).

In the present study, we examined a highly representative university of the Spanish public higher education system. In addition, given the aforementioned context and the city in which the study was carried out, the priority selection criterion was access for conducting such a study. We opted for a public Spanish university that has around 55,000 students and 3300 academic staff members. This university offers degrees in a wide range of academic fields: arts and humanities, engineering, health sciences, sciences, and social sciences. Students have access to different undergraduate degrees, as well as master's and PhD programmes.

The present study contributes to empirical research on corruption in various ways: first, analysing different types of corrupt behaviour has been highlighted as a main recommendation for the advancement of corruption research (Johnsøn and Mason 2013; Sabic-El-Rayess and Mansur 2016). As previous research outlined (Köbis et al. 2016), the 'lumping together of various distinct forms of corrupt behaviours undermines scientific progress and hinders the understanding of the causes of corruption because the prospective processes involved in different forms of corruption vary substantially' (p. 71). Second, the use of university students and realistic scenarios of corruption in higher education makes it possible to gain external validity in the conclusions (Collins et al. 2009). With regard to hypothetical scenarios, this methodology allows researchers to gain accuracy in assessing corruption, and it is useful for obtaining information about the subjective scale participants use when they answer questions about corruption (Rettinger and Kramer 2009). Third, there are few empirical research pieces focused on analysing corruption at the university level using experimental designs to determine causality, so the results of this study will help unravel the underlying mechanisms of students' decision-making when facing a corrupt offer. Finally, it is worth noting that the present results generate empirical support on gender literature regarding corruption. There is a broad debate in this area, so this study may help identify possible differences between men and women when they consider whether to engage in corrupt behaviour.

Method

Participants and Design

The participants in this study were 120 undergraduate students from a Spanish public university who answered the questionnaires voluntarily. The age of the participants ranged from 18 to 51 years (M = 22.03 years, SD = 4.79). Regarding sex, 24.2% were men, and 75.8% were women. A non-probability sampling technique – convenience sampling – was chosen to collect data from participants. Although this sampling technique does not allow a proper generalization to the entire population, available data from the university database



revealed that both age (M = 23.03 years) and sex (men = 37%, women = 63%) were similar to the present sample. In addition, because the current matter of study concerns undergraduates, this sample seems highly appropriate for drawing significant conclusions.

The present paper consisted of a 3 (group: control, low-corruption acceptance, high-corruption acceptance) by 2 (corrupt behaviour: favouritism, embezzlement) mixed factorial design. Each group (control, low-corruption acceptance, high-corruption acceptance) was composed of 40 students. The composition of participants in each quasi-experimental group was comparable in regard to the collected socio-demographic characteristics, both in age (control: M = 22.57 years; low-corruption acceptance: M = 21.07 years) and sex (control: men = 32.50%, women = 67.50%; low-corruption acceptance: men = 25%, women = 75%; high-corruption acceptance: men = 15%, women = 85%).

The between-subjects factor was group, whereas corrupt behaviour was the within-subjects factor. Mixed factorial designs provide high control over extraneous participant variables while controlling the main effects of independent variables (Price 2012).

Instruments

Based on previous research (Bai et al. 2014; Leonard et al. 2017; Ghanem and Mozahem 2019), two hypothetical scenarios were used to measure the behavioural intention in corrupt activities. Asking participants about specific corrupt practices is useful for obtaining data on the subjective scale individuals use when answering questions about corruption.

Type of Corrupt Behaviour Two hypothetical scenarios were used to capture favouritism and embezzlement (see description below). An expert panel of members from the university at which the present study was conducted helped develop scenarios of corrupt activities. Assessment standards focused on rating the clarity, readability, and realism of the scenarios, which were revised according to the panel's suggestions. Once participants had read each scenario, they answered five questions. The response scale ranged from 1 to 5, as recommended by previous research on Likert scales (Abad et al. 2011). Originally, both the hypothetical scenarios and the questions were written in Spanish.

Scenario 1 (favouritism): You recently finished your university degree and you are collaborating with a professor on a research project. One day, your professor tells you that there will be a public job in the project you are working on. Your professor tells you that they have thought of you for that job because you work really well. They ask you not to talk about this issue with your teammates while going through the formal selection process, but you will be chosen in the end.

Scenario 2 (embezzlement): After a few months of collaborating with a professor on a research project, the opportunity arises to attend a conference in the USA for 2 days in the summer. Although the conference hardly focuses on your research interests, your professor proposes spending public teaching funds to pay the expenses for both of you during the two days of the conference, plus a stay lasting 5 more days.

Perceived Corruption In the case of the group of low-corruption acceptance (hereinafter, low-corruption), each scenario contained a final statement: 'Previously, in an identical situation, the



majority of people did not accept this offer'. Alternatively, students who were assigned to the group of high-corruption acceptance (hereinafter, high-corruption) read another final statement in every single scenario: 'Previously, in an identical situation, the majority of people accepted this offer'. Students assigned to the control group did not receive any information or statement about corruption among peers.

Corrupt Intention Once participants had read each scenario, they answered one question: 'If this situation happened to you in real life, how likely is it that you would accept this proposal?' The response scale ranged from 1 (I would not accept it at all) to 5 (I would certainly accept it). Different scholars have demonstrated that corrupt intention is a valid instrument to study corruption through a single question (Dong et al. 2012; León et al. 2013). Moreover, the present study followed the assessment methodology provided by Transparency International (Transparency International 2016) when evaluating the perceived frequency of corruption among citizens. Although quantifying corruption is difficult, perceptions of corrupt practices are easier to capture (Heyneman et al. 2008).

Procedure and Data Analyses

The quasi-experimental design took place in a Spanish public university. Prior to implementation, the present study was approved by the Ethics Commission on Experimental Research of this university, which is subjected to the guidelines agreed in the Helsinki Declaration. Recruitment took place in the university campus of Social Sciences. Students were asked to participate voluntarily in a study about their university experiences. Before entering the room, those who were willing to participate were informed about the instructions for the study, asked again if they wished to participate in the quasi-experiment in order to obtain verbal consent, and given paper-and-pencil application forms. They were also informed that they could leave the quasi-experiment at any time they needed. Participants' anonymity and confidentiality were fully ensured. Students were not remunerated, but were instead offered a summary of the results to encourage their participation.

Students rated their willingness to engage in the following corrupt practices (scenarios): favouritism and embezzlement. The order of the scenarios was randomized by a random integer set generator (Haahr 2017). Sets of generated numbers were distributed equally among the three groups to counterbalance the quasi-experimental design. Counterbalancing provides a reliable solution to the problem of order effects (Price 2012). Once they read every scenario, the students were told to choose the alternative that best described their opinion, so there were not correct or incorrect answers.

To determine possible differences among groups and corrupt practices, the data were analysed by carrying out a set of Analysis of Variance (ANOVA). Analyses of assumptions of sphericity and homogeneity of variance were also performed. Data were analysed using statistical software *SPSS 24*.

Results

Assumptions of sphericity and homogeneity of variance were checked. Mauchly's test showed that the assumption of sphericity was not violated, $\chi 2$ (5) = 8.52, p = .130. Levene's test



indicated that the assumption of homogeneity of variance was not violated, as it can be observed in the variables of favouritism [F(2,117) = 2.27, p = .108], and embezzlement [F(2,117) = 0.13, p = .874].

As Table 1 shows, students' ratings differ across the control, non-corrupt peers, and corrupt peers groups $[F(2,117)=3.14,\ p<.05,\ \omega^2=.034]$. Pair-wise comparisons revealed that students assigned to the control group were more likely to commit a corrupt behaviour than students assigned to low-corruption (p<.05), and students assigned to low-corruption were less inclined to commit a corrupt behaviour than those in the high-corruption group (p<.05). Differences between control and high-corruption were not significant (p=.940). These results show that the first hypothesis could not be supported, but the second hypothesis could be supported.

Repeated measures ANOVA (see Table 2) shows that students were more prone to engage in favouritism than embezzlement $[F(1,119) = 34.92, p < .001, \omega^2 = .098]$. This result confirms the third hypothesis.

Regarding gender, there were no significant differences between men and women in favouritism $[F(1,118) = 0.15, p = .694, \omega^2 = .001]$, nor embezzlement $[F(1,118) = 2.99, p = .086, \omega^2 = .016]$. These results reject the fourth hypothesis.

In addition, a repeated measures ANOVA was carried out to check a possible interaction between the type of behaviour and the group (see Table 3). A significant effect of the type of corrupt behaviour was found $[F(1,117) = 36.75, p < .001, \omega^2 = .105]$. Then, pair-samples t-tests showed that students were less likely to commit an embezzlement behaviour than a favouritism behaviour in the low-corruption group (t(39) = 4.97, p < .001, d = .79), and the same results appear in the high-corruption group (t(39) = 4.87, p < .001, d = .77). However, there were no significant differences between favouritism and embezzlement in the control group (t(39) = 0.621, p = .538, d = .099).

Discussion

The present study aimed to examine the influence of different corrupt behaviours and perceived corruption among peers on the corrupt intention of university students. According to previous research (Johnsøn and Mason 2013), corrupt intention should be evaluated through its different forms. To this end, university students were asked to rate their willingness to engage in two types of corrupt practices in a Spanish public university: favouritism and embezzlement (Hallak and Poisson 2007). They were also assigned to three different groups depending on the experimental condition: control, low-corruption acceptance, and high-corruption acceptance. Additionally, a university sample was recruited in order to study

Table 1 Descriptive Statistics for Control and Experimental Groups for Both Types of Corrupt Behaviour

			CI (95%)	
Group	M	SE	Lower bound	Upper bound
Control	3.72	.118	3.49	3.95
Non-corrupt peers	3.36	.118	3.13	3.60
Corrupt peers	3.73	.118	3.50	3.97

Response scale ranges from 1 to 5 in all measures



	*1		
Gender	Behaviour	M	SD
Men	Favouritism	3.83	1.14
	Embezzlement	3.30	1.62
Women	Favouritism	3.74	1.04
	Embezzlement	2.75	1.44
Total	Favouritism	3.77	1.07
	Embezzlement	2.89	1.50

Table 2 Descriptive Statistics for the Type of Corrupt Behaviour and Gender

university corruption in accordance with the current objectives. Seeking greater external validity and coherence between sample and variables, vignettes were constructed intentionally to recreate a realistic and credible environment for the students (Denisova-Schmidt 2017). It is worth noting that knowing more about typologies of educational corruption and quantifying the corruption or the perception of it is a salient and evolving research area in education (Sabic-El-Rayess and Mansur 2016).

First, students in the high-corruption and control groups did not show significant differences in their ratings of their willingness to engage in an embezzlement and in a favouritism behaviour, so the first hypothesis could not be proved. Although previous research (Köbis et al. 2015) has demonstrated that 'perceiving that corruption is widespread crucially influences the decision to engage in corrupt behaviour', it has been shown that a highly corrupt setting does not differ from the control condition if the corrupt behaviour is seen as a common practice (Köbis et al. 2015). In addition, students assigned to the control group were more likely to engage in corruption than students assigned to the low-corruption group, supporting the second hypothesis. Previous research has demonstrated that informing people of a low frequency of corruption reduces corrupt behaviour (Köbis et al. 2015). People may calculate their chances of being caught and their expected success when considering carrying out an advantageous corrupt activity; these considerations may be strongly derived from perceived descriptive norms (Köbis et al. 2016).

Our results also confirmed the third hypothesis: students were more likely to engage in a favouritism behaviour than in an embezzlement behaviour. A possible explanation could be that students' willingness to engage in an embezzlement behaviour may be influenced by the monetary characteristics of this act, which could lead to behavioural restraints (Ariely 2008). It is worth remembering that people may be more likely to behave honestly if they face a money exchange. Moreover, considering that favouritism may be seen as a descriptive norm in itself (Harris et al. 2015), students may not be able to conceive of an act of favouritism as a dishonest behaviour. However, they could be creating rationalizations to justify their acts and reduce anticipated guilt and shame (Köbis et al. 2016). Surprisingly, our analyses of the interactions

Table 3 Descriptive statistics for interaction between group and type of corrupt behaviour

Behaviour	Group	М	SD
Favouritism	Control	3.65	1.09
	Low-corruption	3.62	1.12
	High-corruption	4.02	0.94
Embezzlement	Control	3.50	1.43
	Low-corruption	2.25	1.49
	High-corruption	2.92	1.34



showed that students assigned to the control group did not significantly differ in their willingness to participate in favouritism and embezzlement acts. The lack of explicit descriptive norms (as it was introduced in high- and low-corruption groups) may explain this result, which means that students did not have enough information about their peers' actual behaviour and they relied on their own past experiences, expected costs, and probability of realizing a successful transaction (Köbis et al. 2015).

Regarding the role of gender on corrupt intention, the fourth hypothesis was not supported. Our analyses of favouritism and embezzlement indicates that there are no important differences between men and women in corrupt intention. According to earlier literature (Sung 2003; Alhassan-Alolo 2007), differences between men and women are not important in terms of magnitude because there are other factors influencing corrupt intention such as living in a liberal democracy (Sung 2003) or living in less-developed countries with patriarchal social structures (Alhassan-Alolo 2007). Therefore, differences in corrupt intention between men and women may depend on their cultural context (Chaudhuri 2012). Moreover, the present study may help shed light on the relationship between gender and corruption, but the current sample is not sufficient to draw general conclusions on this topic.

The present research is not free of limitations. First, the use of hypothetical scenarios improves the realism of situations and allowed the researchers to manipulate and control independent variables, and it fosters both internal and external validity (Aguinis and Bradley 2014). However, scenarios are highly specific to a context, and results must be generalized with caution. As has been stated by other authors (Bussell 2015), 'measurement strategies may simply reflect the difficulty of collecting data on corruption, but this does not change the fact that any effort to compare across analyses will be stymied by differences in measurement' (p. 24). Second, the study focused only on professional transgressions, according to the classifications of prior research (Du Plessis 2014), and only students answered questions about corrupt acts. Corruption in higher education not only involves students, but also professors, administrators, governments, and other stakeholders. Future research must take these different perspectives into account to create a broader perspective from which to assess this phenomenon. The hidden nature of corruption in higher education has kept academics from advancing corruption research, but quasi-experimental research (as in the present study) can help generate more research on the topic by re-creating the environment in which corrupt decisions are made (Abbink and Serra 2012). Future research could empirically determine whether students are able to recognize the underlying mechanisms of non-monetary corrupt practices such as favouritism. Furthermore, the weakness of convenience sampling is that an unidentified proportion of the entire population was not sampled. This may have led to an inaccurate representation of the full population, indicating that the present results cannot be generalized to the entire population.

Regarding practical implications, the present study shows that anti-corruption measures should consider reminding people that most of their peers do not behave in a corrupt way (in the case that this is true) in order to deter them from committing corrupt practices. This may be due to the effect of descriptive norms –people's perception of whether a behaviour is commonly widespread (or not) among their peers. Applying legal mechanisms of punishment is not sufficient to prevent people from taking part in corrupt activities (Ayal et al. 2015). Thus, modifying people's perceptions of their peers entails a great challenge to tackle corruption. There is more than one way to eradicate corruption in higher education, and anti-corruption measures must include a combination of technical and political responses (Chapman and Lindner 2016). Codes of conduct have been proposed in recent literature to combat corruption



in higher education (Transparency International 2013). In this line, practical recommendations need to address students' perceptions of different corrupt practices, focusing on designing ethical training programmes aimed to raise awareness on the negative consequences of non-monetary activities. According to some authors (Ayal et al. 2015), 'successful public policies should raise moral barriers by reminding people of their own ethical code, encouraging social monitoring and responsible norms, increasing self-awareness and prompting moral commitment' (p. 741). Nevertheless, such reminders must be short, intuitive, and easy to understand in order to be effective. Reminders and prompts could be useful in reducing corrupt practices, 'especially in contexts in which people do not have first-hand experience and/or falsely believe that a high proportion engages in corruption' (Köbis et al. 2015, p. 11). Overall, institutional corruption must be treated differently from individual corruption. Essentially, while combating institutional corruption relies on enforcing legislation (Heyneman 2014), fighting against individual corruption relies on the enforcement of professional codes of conduct and indepth training about what constitutes corruption in daily university activities (Cárdenas 2012).

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

References

- Abad, F., Olea, J., Ponsoda, V., & García, C. (2011). *Medición en ciencias sociales y de la salud*. Madrid: Síntesis.
- Abbink, K., & Serra, D. (2012). Anticorruption policies: Lessons from the lab. *New advances in experimental research on corruption*, 15, 77–115. https://doi.org/10.1108/S0193-2306(2012)0000015006.
- Aguinis, H., & Bradley, K. (2014). Best practice recommendations for designing and implementing experimental vignette methodology studies. *Organizational Research Methods*, 17(4), 351–371. https://doi.org/10.1177 /1094428114547952.
- Alatas, V., Cameron, L., Chaudhuri, A., Erkal, N., & Gangadharan, L. (2009). Gender and corruption: Insights from an experimental analysis. Southern Economic Journal, 75(3), 663–680.
- Alhassan-Alolo, N. (2007). Gender and corruption: Testing the new consensus. Public Administration and Development, 27, 227–237. https://doi.org/10.1002/pad.455.
- Ariely, D. (2008). Predictably irrational: The hidden forces that shape our decisions. New York: Harper Collins Publishers. https://doi.org/10.5465/AMP.2009.37008011.
- Ayal, S., Gino, F., Barkan, R., & Ariely, D. (2015). Three principles to REVISE people's unethical behavior. Perspectives on Psychological Science, 10(6), 738–741. https://doi.org/10.1177/1745691615598512.
- Bai, B., Liu, X., & Kou, Y. (2014). Belief in a just world lowers perceived intention of corruption: The mediating role of perceived punishment. *PLoS One*, *9*(5), 6. https://doi.org/10.1371/journal.pone.0097075.
- Bussell, J. (2015). Typologies of corruption: A pragmatic approach. In S. Rose-Ackerman & P. Lagunes (Eds.), Greed, corruption, and the modern state: Essays in political economy (pp. 21–45). Cheltenham: Edward Elgar Publishing. https://doi.org/10.4337/9781784714703.00007.
- Čábelková, I., & Hanousek, J. (2004). The power of negative thinking: Corruption, perception and willingness to bribe in Ukraine. *Applied Economics*, 36(4), 383–397. https://doi.org/10.1080/00036840410001674303.
- Cadsby, C. B., Du, N., & Song, F. (2016). In-group favoritism and moral decision-making. *Journal of Economic Behavior & Organization*, 128, 59–71. https://doi.org/10.1016/j.jebo.2016.05.008.
- Cárdenas, S. (2012). La corrupción en sistemas educativos: una revisión de prácticas, causas, efectos y recomendaciones. *Revista Electrónica de Investigación Educativa*, 14(2), 52–72.
- Cebrián-Robles, V., Raposo-Rivas, M., Cebrián-de-la-Serna, M., & Sarmiento-Campos, J. A. (2018). Percepción sobre el plagio académico de estudiantes universitarios españoles. *Educación XX1*, 21(2), 105–129. https://doi.org/10.5944/educXX1.20062.
- Chapman, D., & Lindner, S. (2016). Degrees of integrity: The threat of corruption in higher education. *Studies in Higher Education*, 41(2), 247–268. https://doi.org/10.1080/03075079.2014.927854.



Chaudhuri, A. (2012). Gender and corruption: A survey of the experimental evidence. In D. Serra & L. Wantchekon (Eds.), New Advances in Experimental Research on Corruption (Vol. 15, pp. 13–49). Emerald Group Publishing Ltd. 10.1108/S0193-2306(2012)0000015004.

- Cialdini, R., & Goldstein, N. J. (2004). Social influence: Compliance and conformity. Annual Review of Psychology, 55, 591–621. https://doi.org/10.1146/annurev.psych.55.090902.142015.
- Cialdini, R., Reno, R., & Kallgren, C. (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. https://doi.org/10.1037/0022-3514.58.6.1015.
- Collins, J., Uhlenbruck, K., & Rodriguez, P. (2009). Why firms engage in corruption: A top management perspective. *Journal of Business Ethics*, 87(1), 89–108. https://doi.org/10.1007/s10551-008-9872-3.
- Comas-Forgas, R., & Sureda-Negre, J. (2016). Prevalence and ability to recognize academic plagiarism among university students in economics. *Profesionales de la información*, 25(4), 616–622. https://doi.org/10.3145/epi.2016.jul.11.
- Croson, R., & Gneezy, U. (2009). Gender differences in preferences. *Journal of Economic Literature*, 47(2), 448–474. https://doi.org/10.1257/jel.47.2.448.
- Denisova-Schmidt, E. (2017). The challenges of academic integrity in higher education: Current trends and prospects. Chestnut Hill: The Boston College Center for international higher education (CIHE). https://www.bc.edu/content/dam/files/research_sites/cihe/pubs/CIHEperspective/perspectives no 5 June 13%2C 2017 no cropsFINAL.Pdf.
- Djawadi, B., & Fahr, R. (2013). The impact of risk perception and risk attitudes on corrupt behavior: Evidence from a petty corruption experiment. IZA Discussion Paper Series. http://ftp.iza.org/dp7383.pdf
- Dong, B., Dulleck, U., & Torgler, B. (2012). Conditional corruption. *Journal of Economic Psychology*, 33(3), 609–627. https://doi.org/10.1016/j.joep.2011.12.001.
- Dridi, M. (2013). Corruption within education sector: A typology of consequences. *International Journal of Research in Commerce, Economics & Management*, 11(3), 122–126.
- Du Plessis, P. (2014). Corruption in education Stealing the future. *Mediterranean Journal of Social Sciences*, 5(23), 1308–1316. https://doi.org/10.5901/mjss.2014.v5n23p1308.
- Frank, B., Lambsdorff, J., & Boehm, F. (2011). Gender and corruption: Lessons from laboratory corruption experiments. *European Journal of Development Research*, 23(1), 59–71. https://doi.org/10.1057/ejdr.2010.47.
- Gama, P., Almeida, F., Seixas, A., Peixoto, P., & Esteves, D. (2013). Ethics and academic fraud among higher education engineering students in Portugal. In *Proceedings - 2013* 1st international conference of the Portuguese Society for Engineering Education, CISPEE 2013. Porto. https://doi.org/10.1109/ CISPEE.2013.6701983.
- Ghanem, C. M., & Mozahem, N. A. (2019). A study of cheating beliefs, engagement, and perception The case of business and engineering students. *Journal of Academic Ethics*, 17, 1–22. https://doi.org/10.1007/s10805-019-9325-x.
- Gino, F., Ayal, S., & Ariely, D. (2009). Contagion and differentiation in unethical behavior: The effect of one bad apple on the barrel. *Psychological Science*, 20(3), 393–398. https://doi.org/10.1111/j.1467-9280.2009.02306.x.
- Haahr, M. (2017). Random integer set generator. True Random Number Service. https://www.random. org/integer-sets/
- Hallak, J., & Poisson, M. (2002). Ethics and corruption in education. In Forum on Education. Paris: International Institute for Educational Planning.
- Hallak, J., & Poisson, M. (2007). Corrupt schools, corrupt universities: What can be done? Paris: International Institute for Educational Planning.
- Harris, D., Herrmann, B., Kontoleon, A., & Newton, J. (2015). Is it a norm to favour your own group? Experimental Economics, 18(3), 491–521. https://doi.org/10.1007/s10683-014-9417-9.
- Heyneman, S. (2011). The corruption of ethics in higher education. *International Higher Education*, 62, 8–9. https://doi.org/10.6017/ihe.2011.62.8530.
- Heyneman, S. (2014). How corruption puts higher education at risk. *International Higher Education*, 75, 1–6. https://doi.org/10.6017/ihe.2014.75.5425.
- Heyneman, S., Anderson, K., & Nuraliyeva, N. (2008). The cost of corruption in higher education. *Comparative Education Review*, 52(1), 1–25. https://doi.org/10.1086/524367.
- Hofstede, G. (1997). Cultures and organizations: Software of the mind. New York: McGraw Hill.
- Johnsøn, J., & Mason, P. (2013). The proxy challenge: Why bespoke proxy indicators can help solve the anticorruption measurement problem. U4 brief. Bergen.
- Julián, M., & Bonavia, T. (2017). Aproximaciones Psicosociales a la Corrupción: Una Revisión Teórica. Revista Colombiana de Psicología, 26(2), 231–243. https://doi.org/10.15446/rcp.v26n2.59353.



- Kisamore, J., Stone, T., & Jawahar, I. (2007). Academic integrity: The relationship between individual and situational factors on misconduct contemplations. *Journal of Business Ethics*, 75(4), 381–394. https://doi. org/10.1007/s10551-006-9260-9.
- Köbis, N., Van Prooijen, J.-W., Righetti, F., & Van Lange, P. (2015). "Who doesn't?" the impact of descriptive norms on corruption. *PLoS One*, 10(6), 1–14. https://doi.org/10.1371/journal.pone.0131830.
- Köbis, N., Van Prooijen, J.-W., Righetti, F., & Van Lange, P. (2016). Prospection in individual and interpersonal corruption dilemmas. Review of General Psychology, 20(1), 71–85. https://doi.org/10.1037/gpr0000069.
- Lee, W. S., & Guven, C. (2013). Engaging in corruption: The influence of cultural values and contagion effects at the microlevel. *Journal of Economic Psychology*, 39, 287–300. https://doi.org/10.1016/j.joep.2013.09.006.
- León, C. J., Araña, J. E., & de León, J. (2013). Correcting for scale perception Bias in measuring corruption: An application to Chile and Spain. Social Indicators Research, 114(3), 977–995. https://doi.org/10.1007/s11205-012-0185-7.
- Leonard, L. N. K., Riemenschneider, C. K., & Manly, T. S. (2017). Ethical behavioral intention in an academic setting: Models and predictors. *Journal of Academic Ethics*, 15(2), 141–166. https://doi.org/10.1007/s10805-017-9273-2.
- Liu, Q., & Peng, Y. (2015). Determinants of willingness to bribe: Micro evidence from the educational sector in China. *Jahrbucher fur Nationalokonomie und Statistik*, 235(2), 168–183.
- Macfarlane, B., Zhang, J., & Pun, A. (2014). Academic integrity: A review of the literature. Studies in Higher Education, 39(2), 339–358. https://doi.org/10.1080/03075079.2012.709495.
- MECD. (2016). Datos y cifras del sistema universitario español. Curso 2015/2016 (Ministerio de Educación, Cultura y Deporte No. M-14388–2015) (p. 169). Retrieved from http://www.mecd.gob.es/dms/mecd/servicios-al-ciudadano-mecd/estadisticas/educacion/universitaria/datos-cifras/datos-y-cifras-SUE-2015-16-web-.pdf
- Price, P. (2012). Research methods in psychology. Minnesota: University of Minnesota Libraries Publishing.Reno, R., Cialdini, R., & Kallgren, C. (1993). The transsituational influence of social norms. Journal of Personality and Social Psychology, 64(1), 104–112.
- Rettinger, D., & Kramer, Y. (2009). Situational and personal causes of student cheating. Research in Higher Education, 50, 293–313. https://doi.org/10.1007/s11162-008-9116-5.
- Rincón, V., & Barrutia, J. (2017). International demand for Spanish university education: An analysis in the context of the European higher education area. *European Journal of Education*, 52(1), 104–117. https://doi. org/10.1111/ejed.12198.
- Rivas, M. (2013). An experiment on corruption and gender. Bulletin of Economic Research, 65(1), 10–42. https://doi.org/10.1111/j.1467-8586.2012.00450.x.
- Rumyantseva, N. (2005). Taxonomy of corruption in higher education. *Peabody Journal of Education*, 80(1), 81–92. https://doi.org/10.1207/S15327930pje8001 5.
- Sabic-El-Rayess, A., & Mansur, N. (2016). Favor reciprocation theory in education: New corruption typology. *International Journal of Educational Development*, 50, 20–32. https://doi.org/10.1016/j. ijedudev.2016.04.005.
- Schulze, G., & Frank, B. (2003). Deterrence versus intrinsic motivation: Experimental evidence on the determinants of corruptibility. *Economics of Governance*, 4(2), 143–160. https://doi.org/10.1007/s101010200059.
- Shaw, P., Katsaiti, M., & Pecoraro, B. (2015). On the determinants of educational corruption: The case of Ukraine. Contemporary Economic Policy, 33(4), 698–713. https://doi.org/10.1111/coep.12097.
- Sung, H.-E. (2003). Fairer sex or fairer system? Gender and corruption revisited. Social Forces, 82(2), 703–723.
 Swamy, A., Knack, S., Lee, Y., & Azfar, O. (2001). Gender and corruption. Journal of Development Economics, 64(1), 25–55. https://doi.org/10.1016/S0304-3878(00)00123-1.
- Teixeira, A. A. C. (2013). Sanding the wheels of growth: Cheating by economics and business students and "real world" corruption. *Journal of Academic Ethics*, 11(4), 269–274. https://doi.org/10.1007/s10805-013-9192-9.
- Torgler, B., & Valey, N. (2010). Gender and public attitudes toward corruption and tax evasion. *Contemporary Economic Policy*, 28(4), 554–568. https://doi.org/10.1111/j.1465-7287.2009.00188.x.
- Transparency International. (2009). The anti-corruption plain language guide. *Transparency International*. www. transparency.org
- Transparency International. (2013). Global corruption report: Education. Oxon: Routledge.
- Transparency International. (2016). People and corruption: Europe and Central Asia (global corruption barometer). Berlin.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

