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To cite this article: Igor Chirikov, Evgeniia Shmeleva & Prashant Loyalka (2019): The role of faculty in reducing academic dishonesty among engineering students, *Studies in Higher Education*, DOI: [10.1080/03075079.2019.1616169](https://doi.org/10.1080/03075079.2019.1616169)

To link to this article: <https://doi.org/10.1080/03075079.2019.1616169>



Published online: 16 May 2019.



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The role of faculty in reducing academic dishonesty among engineering students

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ABSTRACT

University faculty are frequently tasked with promoting academic honesty among students. However, there is little reliable evidence about whether faculty actions can prevent academic dishonesty. The purpose of this study is to examine whether more severe punishments from faculty can reduce academic dishonesty among students. We analyze nationally representative, longitudinal and matched data on engineering undergraduates and faculty from 33 universities in Russia, and document extremely high and increasing rates of dishonest academic attitudes among students, especially among the higher achieving students. In the first two years of study the proportion of students tolerant to academic dishonesty increases by 5 percentage points. We then show that despite the tide of increasing academic dishonesty among students, more severe punishments from faculty significantly and substantially improve student attitudes towards academic dishonesty. Taken together, the findings emphasize the importance of strengthening the role of faculty in promoting academic honesty among students.

KEYWORDS

Dishonesty; cheating; faculty; engineering students; Russia

1. Introduction

Dishonesty is pervasive and has large, negative consequences for societies worldwide (European Commission 2014a; Pascual-Ezama et al. 2015; Gächter and Schulz 2016). Dishonesty underlies a number of negative social behaviors including corruption (Olken and Pande 2012), tax evasion (Cummings et al. 2009; Transparency International 2014), bribery (European Commission 2014b), doping (World Anti-Doping Agency 2015), and plagiarism (All European Academies 2017). Through its various manifestations, dishonesty lowers economic growth by discouraging investment and consumption (Kerschbamer, Neururer, and Sutter 2016; Rose-Ackerman and Palifka 2016). It also exacerbates social and economic inequality by siphoning wealth from lower and middle classes to the rich (Tanzi 1998).

The level of dishonesty in a society depends, in part, upon the strength of its social institutions, and a major social institution through which policymakers have sought to curb dishonesty is the university (Cummings et al. 2009; Gächter and Schulz 2016). Universities have historically been entrusted with the mission of helping future generations of economic, political and social actors acquire moral and civic competencies including honesty (King and Mayhew 2002; Reisz 2014; 'The Poznan Declaration' 2014; ABET 2017; AACU 2018). At a practical, day-to-day level, the promotion of honesty at

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universities involves helping students avoid various forms of academic dishonesty such as plagiarism and cheating (McCabe, Butterfield, and Treviño 2012).

Evidence suggests that university administrators are able to curb dishonesty – in the form of academic dishonesty – through various means. The enforcement of policies on academic integrity such as honor codes, for example, has been shown to reduce academic dishonesty among students (McCabe, Treviño, and Butterfield 2002). Smaller class sizes and the increased clarity and relevance of instruction are also associated with decreases in academic dishonesty (Houston 1977; Maramark and Mindi Barth Maline 1993; Austin et al. 2006; Murdock, Miller, and Goetzinger 2007).

Perhaps the main way in which university administrators can curb academic dishonesty, however, is through the punishments that faculty apply towards academically dishonest behavior (McCabe, Butterfield, and Treviño 2012). Unfortunately, only a handful of studies explore the role of faculty punitive actions in preventing academic dishonesty (e.g. Michaels and Miethel 1989; McCabe, Treviño, and Butterfield 2002; Broeckelman-Post 2008; Yu et al. 2017). Moreover, these studies face a number of limitations. Most notably, the studies rely on weak or invalid measures of faculty punitive actions towards dishonesty and/or student attitudes and behaviors towards dishonesty. The studies also rely on non-representative, convenience sampling and therefore do not provide generalizable evidence on the role of faculty punitive actions in preventing academic dishonesty.

Given these limitations in the literature, the overall goal of this study is to explore how severe faculty punitive actions against dishonesty affect dishonesty among students. We have three specific objectives. First, we use longitudinal data to explore how student attitudes towards dishonesty change during the course of university studies and how this change varies by student characteristics. Second, we examine how the severity of faculty punitive actions towards academic dishonesty varies by faculty and institutional characteristics. Third, we analyze the influence of faculty punitive actions on student attitudes towards academic dishonesty, controlling for student, faculty, and institutional characteristics.

To fulfill these objectives, we analyze three survey datasets collected in Russia. Russia is an important case study because the country is characterized by a very high level of corruption (Transparency International 2017) that stretches into politics (Kellner 2017), international trade (Ledeneva 2006), and everyday social and economic life (Levin and Satarov 2000; Weill 2011). In fact, it is crucial to reveal factors that curb dishonesty in highly corrupted states such as Russia to prevent the spread of academic dishonesty and corruption both domestically and worldwide. The first dataset includes nationally representative (randomly selected) longitudinal data on 1,320 first year engineering undergraduate students from 34 universities as they progressed through the first two years of college. The second dataset includes nationally representative (randomly selected) data on 1,016 third year students from the same 34 universities. The third dataset includes responses from 533 faculty members who taught these third year students mathematics and physics courses during the first two years of their studies. Faculty responses from the third dataset were matched with student responses from the second dataset.

We present three sets of results. First, we reveal a high rate (81.9%) of dishonest academic attitudes among our nationally representative sample of first year students in Russian universities. The rate, although high, becomes even higher among the same cohort after two years of their university studies. This is reflected mostly in a worsening of dishonest academic attitudes among students in the top quartile by academic performance (as measured by college entrance exam scores). Second, we observe meaningful differences in the severity of faculty punitive actions towards academic dishonesty across different types of universities, with more severe actions taken among faculty at selective institutions. Third, using a value-added type specification, we find that one standard deviation in the existing variation in faculty punitive actions significantly and substantially reduces students' tolerance of academic dishonesty by approximately 12 percentage points. Taken together, the results imply that faculty can play a much needed and critical role in preventing dishonest attitudes among students.

2. Background

2.1. Academic dishonesty in Russia

Although existing studies of student academic dishonesty in Russia are based on convenience samples, they all argue that academic dishonesty is pervasive. Nearly half of undergraduate students in Russia admit to cheating on an exam at least once during the academic year (Monitoring of Student Characteristics and Trajectories 2014). Engineering students have been found to cheat more frequently than students in other majors (Shmeleva 2016). Cross-national comparative studies further find that Russian students tend to tolerate academic dishonesty more than students from other countries (Lupton and Chaqman 2002; Magnus et al. 2002; Grimes 2004). According to these studies, only 26 percent of Russian students claim that cheating is morally wrong compared to 84 percent of students in the US and 40 percent of students in transitional (post-socialist) economies (Grimes 2004).

There are a number of institutional factors that may explain why academic dishonesty is especially pervasive in Russia's higher education system. These factors include the infrequent use of honor codes and misaligned incentives for university staff to curb student dishonesty (Golunov 2013).¹ A number of studies suggest that there is a 'disengagement compact' between students and faculty that leads to higher levels of academic dishonesty: students are not very engaged and demanding in terms of the quality of instruction, while faculty, in turn, 'let things slide' during exams and thus reduce their workload (Kuh, Schuh, and Whitt 1991; Froumin and Dobryakova 2012).

Despite the pervasiveness of academic dishonesty in Russia, there are a few initiatives, both at the national and institutional level, that seek to curb academic dishonesty in higher education. At the national level, the Ministry of Education and Science (MOES) has forced all universities to check all bachelor and master theses for plagiarism using plagiarism detection software (MOES 2015). At the institutional level, a handful of selective universities and departments have instituted honor codes or introduced specific punishments for plagiarism and cheating (Higher School of Economics 2012; New Economic School 2018). However, these efforts have been extremely limited, especially in light of the reported pervasiveness of academic dishonesty in Russia. In particular, to the best of our knowledge, there are no initiatives that seek to leverage the role of faculty in reducing academic dishonesty.

2.2. Faculty punitive actions against student academic dishonesty

We rely on deterrence theory to underscore the potential of severe punishments from faculty to reduce academic dishonesty among students (Nagin 1998; Pratt et al. 2008). Deterrence theory emphasizes the role of severity, certainty, and celerity of punishments in deterring individuals from violating rules or laws (Ogilvie and Stewart 2010). It assumes that people make rational decisions to not engage in illegal activities when there are high costs associated with these activities. In higher education specifically, deterrence theory suggests that to curb academic dishonesty, punishments should be certain, severe, and swift enough to outweigh the benefits of dishonest behavior (Gibbs 1975; McCabe and Treviño 1993; McCabe, Butterfield, and Treviño 2006; Freiburger et al. 2017). Deterrence theory not only highlights potential causes of academic dishonesty (it happens when the benefits of dishonest behaviors outweigh the costs) but also offers solutions for how to curb dishonesty (by developing and maintaining policies that increase the costs of dishonest behavior – Pratt et al. 2008). Taken together, deterrence theory is particularly relevant for our study, which seeks to inform the formulation of policies that can combat academic dishonesty. In our study we specifically focus on the severity of punishment as a deterring factor.

In addition, empirical evidence suggests that faculty behavior, in general, may play a substantive role in curbing academic dishonesty (Lang 2013). Faculty may deter students from academic dishonesty by reducing opportunities to cheat (Simon et al. 2004; Yu et al. 2017), treating cases of dishonesty

seriously and fairly (Genereux and McLeod 1995; Simon et al. 2004; Yu et al. 2017), verbally emphasizing academic integrity before examinations (Broeckelman-Post 2008), or increasing clarity and relevance of instruction (Murdock, Miller, and Goetzinger 2007; Teodorescu and Andrei 2008). That being said, faculty tend to be reluctant to address student dishonesty because of the psychological costs of dealing with student cheating, the direct and indirect costs associated with proving dishonesty, and the lack of real or perceived institutional support (Keith-Spiegel et al. 1998; Coalter, Lim, and Wanorie 2007; Thomas and De Bruin 2012).

Research is less conclusive on the impact of faculty punitive actions on academic dishonesty. A few studies suggest that there is an inverse correlation between student perceptions of the severity of faculty punitive actions and academic dishonesty (Tittle and Rowe 1973; Michaels and Miethe 1989; McCabe and Treviño 1993; Broeckelman-Post 2008; Yu et al. 2017). By contrast, some studies report that student perceptions of the severity of punitive actions are not related or even positively related to academic dishonesty (McCabe and Treviño 1997; McCabe, Butterfield, and Treviño 2006; Passow et al. 2006; Harding et al. 2007).

The lack of consistent findings may be due to several reasons. First, virtually all past studies have used a potentially biased measure of faculty punitive actions: students' self-reports of the likelihood of being punished. The measure may be biased because cheating students tend to report less severe punishments than those that faculty actually administer: students argue that faculty are to be blamed for making it so easy and acceptable to cheat.² Second, few, if any, studies have used detailed matched data on students and faculty that include 'pre-treatment' (in the sense of being prior to faculty punitive actions) measures of students' levels of academic dishonesty. Finally, to the best of our knowledge, no study has used longitudinal nationally representative data that allow for generalizable claims. In this paper, we overcome these limitations by analyzing detailed, nationally representative data that include, among other things, response data from faculty about the punishments they apply when students exhibit academic dishonesty as well as pre-treatment measures of students' academic dishonesty.

3. Research design

3.1. Sampling and data

The data for this study includes three datasets that were collected in Fall 2015 and Spring 2017 as part of the Study of Undergraduate Performance (SUPER-test) at 34 universities in Russia.³ The sampling for all three datasets was conducted in three stages. In the first stage, we randomly selected 34 universities from all Russian universities offering undergraduate degree programs in CS and EE (18 percent of all universities). In the second stage, we randomly selected up to three computer science (CS) and up to three electrical engineering (EE) departments at each university. In the third stage, we randomly selected up to three study groups of first year students (hereafter 'dataset A') and up to three study groups of third year students (hereafter 'dataset B') within each selected department.⁴ Half of the students from each sampled study group were randomly selected to participate in the study. In addition, we surveyed all faculty members who taught third year students mathematics and physics courses during the first two years of their studies (hereafter 'dataset C').

Dataset A includes longitudinal data from a nationally representative sample of undergraduate CS and EE students during the first two years of their studies. In Fall 2015 we conducted a baseline survey of 1,320 first year (freshmen) students with a response rate of 87%. In Spring 2017 we conducted a follow-up survey of first year students who participated in the baseline survey after two years of studies; our response rate was 88%.⁵ Individual student responses in the baseline and in the follow-up surveys were matched together.

Dataset B includes data from a nationally representative sample of 1,016 third year (junior) undergraduate CS and EE students. In Fall 2015 we conducted a survey of 1,016 third year (junior) students from the same universities and departments as the students included in dataset A; our response rate was 91%.⁶

Dataset C includes data from the 533 faculty members who taught the third year students (included in dataset B) mathematics and physics courses in the first two years of their studies at 33 Russian universities in 2013–2015.⁷ Mathematics and physics courses comprise around 80 percent of all the coursework in the first two years of CS and EE majors. Faculty responses from dataset C were then matched with the student responses from the dataset B. Following Bettinger and Long (2005), we averaged the characteristics of all the faculty members that taught a particular student, weighted by the respective credit hours allocated to each faculty member's course. The averaged measure reflects the percentage of a student's faculty with a particular characteristic, weighted by the amount of time that faculty spent with the student.

Students in datasets A and B were asked about their socio-demographic characteristics (gender, age, parental education, socioeconomic status (SES)⁸) and about their precollege educational characteristics (type of high school class attended, whether their tuition is state-funded and their Unified State Exams (USE) score in math⁹). Summary statistics for student level variables are presented in Table 1. Students were also asked about their attitudes towards academic dishonesty during exams. Multiple studies suggest that eliciting student beliefs about the appropriate punishment for academic dishonesty is a valid indicator of student attitudes towards academic dishonesty (Brimble and Stevenson-Clarke 2005; Levy and Rakovski 2006; Megehee and Spake 2008; Newton 2016). Following this approach, we asked students about the appropriate punishment that a faculty member should apply for a student who has been caught cheating on the exam. Students were offered a 6-point scale with the following responses: (1) Do nothing, (2) Warn the student, (3) Lower the grade, (4) Give the student a failing grade, (5) Give the student a failing grade and inform the department about the incident, (6) Do not know. A dichotomized version of this variable is used in the analysis, where 1 = apply severe punishment (includes options 'Give the student a failing grade' and 'Give the student a failing grade and inform the department about the incident') and 0 = do not apply severe punishment (includes all other options, including 'Do not know').¹⁰ Following previous studies (Megehee and Spake 2008; Newton 2016), we interpret the choice of severe punishment as intolerant attitudes towards academic dishonesty and other choices as tolerant attitudes towards academic dishonesty.

Table 1. Student level summary statistics.

| | Dataset A | | | | | | Dataset B | | |
|---|--------------------------|--------|-----------|--------------------------|--------|-----------|--------------------------|--------|-----------|
| | First year students 2015 | | | First year students 2017 | | | Third year students 2015 | | |
| | N | Mean | Std. Dev. | N | Mean | Std. Dev. | N | Mean | Std. Dev. |
| <i>Socio-Demographic Characteristics</i> | | | | | | | | | |
| Female | 1320 | 0.21 | 0.41 | 855 | 0.24 | 0.43 | 959 | 0.23 | 0.42 |
| Age | 1319 | 18.22 | 1.53 | 854 | 20.11 | 1.38 | 959 | 20.16 | 1.16 |
| Father has college education | 1306 | 0.44 | 0.49 | 855 | 0.45 | 0.50 | 955 | 0.44 | 0.50 |
| Mother has college education | 1306 | 0.53 | 0.49 | 855 | 0.54 | 0.50 | 955 | 0.56 | 0.50 |
| SES index | 1306 | 0.04 | 0.82 | 855 | 0.00 | 0.82 | 955 | 0.07 | 0.91 |
| <i>Precollege educational characteristics</i> | | | | | | | | | |
| Advanced high school (lyceum or gymnasium) | 1306 | 0.33 | 0.47 | 855 | 0.31 | 0.46 | 955 | 0.32 | 0.47 |
| Advanced high school class in math and physics | 1306 | 0.38 | 0.48 | 855 | 0.39 | 0.49 | 955 | 0.40 | 0.50 |
| Advanced high school class (not in math or physics) | 1306 | 0.24 | 0.43 | 855 | 0.26 | 0.44 | 955 | 0.21 | 0.41 |
| Did not attend advanced high school class | 1306 | 0.38 | 0.49 | 855 | 0.35 | 0.48 | 955 | 0.39 | 0.49 |
| State-funded tuition | 1306 | 0.92 | 0.27 | 855 | 0.95 | 0.21 | 955 | 0.95 | 0.22 |
| USE score in math | 1050 | 59.35 | 15.1 | 716 | 60.19 | 14.61 | 827 | 64.6 | 12.9 |
| <i>Institutional characteristics</i> | | | | | | | | | |
| Selective university | 1320 | 0.27 | 0.45 | 855 | 0.19 | 0.39 | 1016 | 0.29 | 0.45 |
| Student-faculty ratio | 1320 | 16.40 | 4.61 | 855 | 16.24 | 4.10 | 1016 | 16.63 | 4.72 |
| Funding per student | 1320 | 250.06 | 132.26 | 855 | 246.14 | 128.98 | 1016 | 241.54 | 121.81 |

Faculty (in dataset C) were asked to directly report the kind of punishment that they typically give to students caught cheating on exams. Faculty were offered the same 6-point scale as students.¹¹ Faculty also reported their individual characteristics such as gender, age, academic title, education background, years of teaching experience, and type of employment (full-time or part-time). Summary statistics for the faculty level variables used are in Table 2.

Table 2. Faculty level summary statistics (dataset C).

| Variable | Obs. | Mean | Std. Dev. |
|---|------|--------|-----------|
| <i>Individual characteristics</i> | | | |
| Female | 533 | 0.40 | 0.49 |
| Age | 493 | 56.12 | 14.32 |
| PhD, Candidate of Science or Doctor of Sciences | 528 | 0.71 | 0.45 |
| Full-time faculty | 522 | 0.86 | 0.35 |
| Full professor | 531 | 0.18 | 0.39 |
| Associate professor | 531 | 0.67 | 0.47 |
| Instructor/ Lecturer/ Assistant professor/ graduate student | 531 | 0.15 | 0.35 |
| N years working as faculty | 530 | 25.98 | 13.03 |
| <i>Institutional characteristics</i> | | | |
| Selective university | 533 | 0.38 | 0.48 |
| Student-faculty ratio | 533 | 15.43 | 4.95 |
| Funding per student | 533 | 283.52 | 171.27 |

3.2. Statistical approach

Our analytical exploration of the role of faculty punitive actions in curbing academic dishonesty includes three steps. First, we use dataset A to estimate changes in attitudes over time comparing first year student attitudes with their attitudes measured two years later (in the late Spring 2017). Students who indicated that faculty should apply severe punishment in both 2015 and 2017 were labeled as ‘stayed intolerant toward dishonesty’. Students who indicated faculty should not apply severe punishment in both 2015 and 2017 were labeled as ‘stayed tolerant toward dishonesty’. Students who chose severe punishments in 2015 but not in 2017 were labeled as ‘became more tolerant toward dishonesty’. Students who chose severe punishments in 2017 but not in 2015 were labeled or ‘became less tolerant toward dishonesty’. Additionally, we estimate how the changes in attitudes over time differ by student characteristics such as socioeconomic status, precollege characteristics, and across different types of institutions.

Second, we use dataset C to calculate simple descriptive statistics that examine whether faculty enact severe punishments for academic dishonesty. We examine the prevalence of faculty punitive actions on average as well as for different subgroups (faculty gender, age, type of employment, years of teaching experience, education background, and rank). We also compare the prevalence of faculty punitive actions across selective (or elite) and non-selective institutions.

Third, we use matched third-year student responses from dataset B and faculty responses from dataset C to estimate whether more severe faculty punitive actions are associated with less tolerant attitudes towards academic dishonesty among students. We do this using logit regressions that adjust for a number of potential confounders. In particular, we estimate how faculty punitive actions influence third year students’ attitudes towards academic dishonesty, controlling for first year students’ attitudes aggregated at the department level.¹² We also sequentially control for four sets of covariates: a) student socio-demographic characteristics; b) student precollege educational characteristics; c) faculty aggregated characteristics; and d) institutional characteristics. The last model that includes all the covariates is represented by the following equation (1):

$$\log\left(\frac{\pi_{ij}}{1 - \pi_{ij}}\right) = \beta_0 + \beta_1 X_{1j} + \delta Z'_{ij} + \varepsilon_{ij} \quad (1)$$

where π_{ij} is the dependent variable, reflecting the intolerant attitudes of a student i in study group j ; β_0 is the intercept; X_{1j} is the share of intolerant faculty for the study group j , Z'_{ij} is a vector of controls

of a student i in study group j , and ε_{ij} is the error term. As such, β_1 represents the influence of faculty punitive actions on student attitudes towards academic dishonesty, and δ is a vector of effects (coefficients) of controls. Since the students are clustered within study groups, we adjust standard errors using the Huber-White estimator (Freedman 2006).

4. Results

4.1. Tolerance of academic dishonesty among students

Russian undergraduate students are very tolerant of academic dishonesty (Table 3, Column 1). 81.9% of first year students believe that faculty members should not use severe punishment against a student who is caught cheating on the exam (31.1% of students chose an option to just give a verbal warning to such student). Only one student out of six supports severe punishments for cheating – give the cheating student a failing grade. These findings are consistent with previous research on the pervasiveness of academic dishonesty among Russian students (Monitoring of Student Characteristics and Trajectories 2014; Shmeleva 2016). The level of tolerance towards academic dishonesty of first year students does not vary by student gender, parental education, socioeconomic status, precollege characteristics, and by institutional characteristics of universities.

This high level of dishonest attitudes increases after the first two years of university studies. By the end of their second year in 2017, 87.3% of students demonstrated tolerant attitudes towards academic dishonesty (Table 3, Column 2). This is a 5.4 percentage point increase: while more than 6% of students developed more honest attitudes from 2015 to 2017, approximately 12% of students developed less honest attitudes towards academic dishonesty (Table 4). The share of second year students with dishonest attitudes (dataset A) is almost equal to the share of third year students with dishonest attitudes (dataset B), which is 88.3% (Table 3).

The level of tolerance towards academic dishonesty increases across all student subgroups by gender, parental education, socioeconomic status, precollege characteristics and across different types of universities. It is especially worrisome that students in the top quartile by precollege academic performance (as measured by USE score in math) increase their tolerance towards academic dishonesty at a higher rate than other subgroups of students (Table 4). This indicates that universities are unable to sustain academic integrity even of the most engaged and talented students.

4.2. Faculty punitive actions against academic dishonesty

Faculty members at Russian universities also demonstrate a high level of tolerance towards academic dishonesty. The majority of faculty members prefer not to use severe punishments in response to student cheating on exams: 40.1% of them just give a warning to a cheating student, 27.8% simply lower the student's grade (Table 3, Column 4). That being said, the share of faculty that prefer severe punishments in response to cheating on the exam is more than two times larger than the share of students who choose severe punishments – 27.6% and 11.7%, respectively.

The exercise of severe faculty punishment is not related to faculty gender, age, the type of employment (full-time or part-time), or teaching experience (Table 5). However, the share of faculty who prefer severe punishment is significantly lower among those who hold PhD degrees or occupy higher academic positions of full professor or associate professor.¹³ One possible explanation for this observation is that higher-ranked faculty conduct exams and encounter cheating incidents less frequently. It may also be that higher-ranked faculty, that are also heavily engaged in research, are less engaged in teaching compared to lower-ranked faculty.

There are also significant differences in the share of faculty that is tolerant to academic dishonesty by institutional characteristics of university: selectivity, student to faculty ratio, and

Table 3. Student and faculty responses about the appropriate punishment for the student who was caught cheating on an exam.

| | Dataset A | | | | Dataset B | | Dataset C | |
|---|-------------------------------------|---------------------|------------------------------------|---------------------|------------------------------------|---------------------|-----------------------|---------------------|
| | First year students 2015 (N = 1306) | | First year students 2017 (N = 855) | | Third year students 2015 (N = 955) | | Faculty (N = 526) | |
| | Original distribution | Binary distribution | Original distribution | Binary distribution | Original distribution | Binary distribution | Original distribution | Binary distribution |
| Do not know | 20.1 | 81.9 | 15.1 | 87.3 | 16.3 | 88.3 | 3.0 | 72.4 |
| Do nothing | 3.4 | | 4.3 | | 3.8 | | 1.5 | |
| Warn the student | 31.1 | | 40.1 | | 39.9 | | 40.1 | |
| Lower the grade | 27.3 | | 27.7 | | 28.3 | | 27.8 | |
| Give the student a failing grade | 13.9 | 18.1 | 10.9 | 12.7 | 9.4 | 11.7 | 23.8 | 27.6 |
| Give the student a failing grade and inform the department about the incident | 4.2 | | 1.9 | | 2.3 | | 3.8 | |

Question for students: If a student is caught cheating on an exam, what should the faculty member do?

Question for faculty: If you found out that a student cheated on an exam, how would you likely react?

Table 4. The changes in student attitudes towards academic dishonesty, by subgroups (first year students in 2015 and 2017, dataset A).

| Variable | Options | N (in rows) | Stayed tolerant | Became intolerant | Became tolerant | Stayed intolerant |
|--|--|-------------|-----------------|-------------------|-----------------|-------------------|
| All students | | 855 | 75.1 | 6.4 | 12.2 | 6.3 |
| <i>Student socio-demographic characteristics</i> | | | | | | |
| Gender | Male | 653 | 74.7 | 6.3 | 12.6 | 6.4 |
| | Female | 202 | 76.2 | 6.9 | 10.9 | 6.0 |
| Father's education | Father does not have college education | 470 | 74.9 | 7.0 | 12.1 | 6.0 |
| | Father has college education | 385 | 75.3 | 5.7 | 12.2 | 6.8 |
| Mother's education | Mother does not have college education | 464 | 74.7 | 7.9 | 11.0 | 6.4 |
| | Mother has college education | 391 | 75.4 | 5.2 | 13.2 | 6.2 |
| SES index | Bottom tercile | 264 | 75.0 | 6.8 | 10.2 | 8.0 |
| | Middle tercile | 305 | 73.8 | 7.2 | 12.1 | 6.9 |
| | Upper tercile | 286 | 76.6 | 5.2 | 14.0 | 4.2 |
| <i>Precollege educational characteristics</i> | | | | | | |
| USE score in math** | Bottom quartile | 210 | 80.4 | 5.7 | 10.5 | 3.4 |
| | Second quartile | 141 | 73.8 | 4.3 | 13.5 | 8.4 |
| | Third quartile | 224 | 75.9 | 5.4 | 12.1 | 6.6 |
| | Upper quartile | 141 | 63.1 | 9.9 | 19.2 | 7.8 |
| Type of school | Regular high school | 586 | 76.5 | 6.1 | 12.1 | 5.3 |
| | Advanced high school (lyceum or gymnasium) | 269 | 72.1 | 7.1 | 12.3 | 8.5 |
| Type of high school class | Advanced in math and physics | 332 | 73.8 | 5.1 | 13.6 | 7.5 |
| | Advanced not in math or physics | 224 | 75.0 | 8.5 | 12.5 | 4.0 |
| | Did not attend advanced high school class | 299 | 76.6 | 6.4 | 10.4 | 6.6 |
| Type of funding | State funding | 814 | 74.5 | 6.6 | 12.5 | 6.4 |
| | Paying tuition | 41 | 87.8 | 2.4 | 4.9 | 4.9 |
| <i>Institutional characteristics of university</i> | | | | | | |
| University selectivity | Selective | 631 | 75.0 | 6.3 | 11.6 | 7.1 |
| | Non selective | 224 | 75.1 | 6.5 | 12.4 | 6.0 |
| Student-faculty ratio | Bottom tercile | 277 | 72.6 | 5.8 | 14.8 | 6.8 |
| | Middle tercile | 330 | 75.5 | 7.0 | 10.3 | 7.2 |
| | Upper tercile | 248 | 77.4 | 6.5 | 11.7 | 4.4 |
| Funding per student | Bottom tercile | 347 | 75.5 | 6.6 | 13.0 | 4.9 |
| | Middle tercile | 252 | 77.0 | 6.8 | 8.3 | 7.9 |
| | Upper tercile | 256 | 72.7 | 5.9 | 14.8 | 6.6 |

Note: Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

funding per student. The share of faculty who prefer severe punishments is larger at selective universities (36%), at universities with the lowest student to faculty ratio (33%), and at universities with the largest funding per student (34%). These findings suggest that administrators at selective institutions and at institutions that have more resources either hire faculty that are less tolerant towards academic dishonesty or require faculty to address incidents of academic dishonesty more seriously.

4.3. The effect of faculty punitive actions on student attitudes towards academic dishonesty

The results of the series of value-added logistic regression models show that students are more likely to hold intolerant attitudes towards academic dishonesty in study groups with a higher share of intolerant faculty that apply severe punishment for cheating on exams (Tables 6 and 7). One standard deviation in the existing variation in faculty punitive actions reduces students' tolerance of academic dishonesty by 12 percentage points (Table 6, Model 5). This effect remains significant after controlling for student, faculty characteristics and institutional characteristics. The share of intolerant students among first year students at the same departments also increases the likelihood of being intolerant, though this effect is only marginally significant (p -value > 0.10) and is clearly insignificant after

Table 5. Level of intolerance of academic dishonesty among faculty, by types (dataset C).

| Variable | Options | N (in rows) | % of intolerant faculty |
|--|---|-------------|-------------------------|
| All faculty | | 526 | 27.6 |
| <i>Faculty individual characteristics</i> | | | |
| Gender | Male | 316 | 27.2 |
| | Female | 210 | 28.1 |
| Age | Bottom tercile | 162 | 27.2 |
| | Middle tercile | 158 | 30.4 |
| | Upper tercile | 167 | 24.0 |
| Years of teaching | Bottom tercile | 178 | 26.4 |
| | Middle tercile | 166 | 30.7 |
| | Upper tercile | 180 | 26.1 |
| Education background** | Non PhD | 67 | 38.8 |
| | PhD or candidate of Science | 454 | 26.2 |
| Rank* | Professor | 98 | 28.6 |
| | Associate Professor | 351 | 24.8 |
| | Lecturer, assistant professor, graduate student | 76 | 38.2 |
| Type of employment | Full-time | 443 | 27.5 |
| | Part-time | 73 | 24.7 |
| <i>Institutional characteristics of university</i> | | | |
| University selectivity*** | Selective | 197 | 36.0 |
| | Non selective | 329 | 22.5 |
| Student-faculty ratio** | Bottom tercile | 240 | 32.9 |
| | Middle tercile | 160 | 23.1 |
| | Upper tercile | 126 | 23.0 |
| Funding per student*** | Bottom tercile | 185 | 31.4 |
| | Middle tercile | 142 | 14.1 |
| | Upper tercile | 199 | 33.7 |

Note: Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 6. Relationship between faculty behavior towards academic dishonesty and third year student attitudes towards academic dishonesty (Binary logit regression, dataset B).

| VARIABLES | (1) | (2) | (3) | (4) | (5) |
|---|--------------------|--------------------|--------------------|--------------------|--------------------|
| Share of intolerant faculty | 0.097** (0.045) | 0.099** (0.044) | 0.098** (0.044) | 0.096** (0.048) | 0.115** (0.050) |
| Share of intolerant first year students (at the department-level) | 0.170* (0.091) | 0.165* (0.092) | 0.170* (0.091) | 0.121 (0.089) | 0.112 (0.096) |
| Student socio-demographic characteristics | No | Yes | Yes | Yes | Yes |
| Precollege educational characteristics | No | No | Yes | Yes | Yes |
| Faculty characteristics | No | No | No | Yes | Yes |
| Institutional characteristics | No | No | No | No | Yes |
| Observations | 912 | 912 | 912 | 912 | 912 |
| Number of study groups | 120 | 120 | 120 | 120 | 120 |
| Pseudo R-squared | 0.015 | 0.021 | 0.023 | 0.048 | 0.051 |

Notes:

1. Average marginal effects are reported.
2. Standard errors adjusted for clustering at the study group-level in parentheses.
3. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.
4. Student socio-demographic characteristics include: gender, age, parents' education, SES index (household assets index). Precollege educational characteristics include: type of high school (advanced regular school), type of high school class (advanced class in math and physics or advanced in other subjects or non-advanced class), type of funding of education at university (state funding or paid tuition). Faculty characteristics include: share of female faculty, average age of faculty, share of PhD holders, share of Full Professors, share of Lecturers or AP, share of full-time faculty, average number of years teaching). Institutional characteristics include: university selectivity, funding per student (terciles); student-faculty ratio.

controlling for faculty and institutional characteristics (Table 6, Models 4 and 5). Relatively low value of Pseudo R-squared (0.051, Model 5) is acceptable for studies aimed at estimating the effect of a particular factor as opposed to predictive modeling (King 1991).

Table 7. (Full) Relationship between faculty behavior towards academic dishonesty and third year student attitudes towards academic dishonesty (Binary logit regression, dataset B).

| VARIABLES | (1) | (2) | (3) | (4) | (5) |
|---|--------------------|--------------------|--------------------|--------------------|--------------------|
| Share of intolerant faculty | 0.097** (0.045) | 0.099** (0.044) | 0.098** (0.044) | 0.096** (0.048) | 0.115** (0.050) |
| Share of intolerant first year students (at the department-level) | 0.170* (0.091) | 0.165* (0.092) | 0.170* (0.091) | 0.121 (0.089) | 0.112 (0.096) |
| <i>Student socio-demographic characteristics</i> | | | | | |
| Female | | -0.034 (0.024) | -0.035 (0.024) | -0.039 (0.024) | -0.038 (0.024) |
| Age | | -0.002 (0.009) | -0.000 (0.009) | -0.001 (0.009) | -0.003 (0.009) |
| Father has college education | | 0.017 (0.030) | 0.013 (0.031) | 0.008 (0.031) | 0.011 (0.031) |
| Mother has college education | | 0.002 (0.026) | 0.001 (0.026) | 0.001 (0.027) | 0.003 (0.026) |
| Middle tercile of SES index | | -0.030 (0.027) | -0.029 (0.027) | -0.029 (0.027) | -0.030 (0.027) |
| Upper tercile of SES index | | -0.027 (0.027) | -0.027 (0.028) | -0.023 (0.027) | -0.023 (0.027) |
| <i>Precollege educational characteristics</i> | | | | | |
| Advanced high school (base = regular school) | | | 0.008 (0.025) | 0.008 (0.025) | 0.006 (0.024) |
| Advanced class in math and physics (base = Advanced but not in math or physics) | | | 0.027 (0.025) | 0.031 (0.025) | 0.032 (0.025) |
| Did not attend advanced class (base = advanced but not in math or physics) | | | 0.001 (0.030) | 0.006 (0.028) | 0.004 (0.029) |
| State funding (base = Pay tuition) | | | 0.005 (0.045) | 0.009 (0.046) | 0.006 (0.046) |
| <i>Faculty characteristics</i> | | | | | |
| Share of female faculty | | | | -0.048 (0.042) | -0.058 (0.044) |
| Average age of faculty | | | | 0.003* (0.002) | 0.003** (0.002) |
| Share of PhD holders | | | | 0.352** (0.155) | 0.332** (0.153) |
| Share of Full Professors | | | | 0.000 (0.057) | -0.007 (0.055) |
| Share of Lecturers or AP | | | | 0.272** (0.133) | 0.253** (0.127) |
| Share of full-time faculty | | | | -0.015 (0.110) | -0.024 (0.111) |
| Average number of years teaching | | | | 0.001 (0.003) | 0.001 (0.003) |
| <i>Institutional characteristics</i> | | | | | |
| Selective university | | | | | -0.041 (0.030) |
| Student-faculty ratio | | | | | -0.002 (0.005) |
| Middle tercile of funding per student | | | | | 0.015 (0.034) |
| Upper tercile of funding per student | | | | | 0.006 (0.036) |
| Observations | 912 | 912 | 912 | 912 | 912 |
| Number of study groups | 120 | 120 | 120 | 120 | 120 |
| Adjusted R-square | 0.015 | 0.021 | 0.023 | 0.048 | 0.051 |

Notes:

1. Average marginal effects are reported.
2. Standard errors adjusted for clustering at the class-level in parentheses.
3. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

5. Discussion and conclusion

Academic dishonesty can negatively impact the culture of universities, seep into the workplace, and ultimately undermine the strength of social institutions (Nonis and Swift 2001; Grimes 2004; Pascual-Ezama et al. 2015; Gächter and Schulz 2016). As such, universities in Russia and elsewhere should discover ways to curb dishonesty and develop fundamental moral and civic qualities such as honesty. Our study provides useful insights into the prevalence of academic dishonesty and the role of faculty in reducing dishonest attitudes among students.

Relying on unique, nationally representative longitudinal data, we demonstrate that academic dishonesty is not only pervasive at the start of college in Russia but also increases during college. The results are consistent with earlier cross-sectional comparisons of differences in Russian students' attitudes towards dishonesty between cohorts (Denisova-Schmidt, Huber, and Leontyeva 2016; Shmeleva 2016). As such, the situation in Russia appears to contrast with that of Western countries (primarily the United States) which suggest that junior and senior students tend to cheat less than freshmen and sophomores (Lipson and McGavern 1993; Mustaine and Tewksbury 2005; McCabe, Butterfield, and Treviño 2012). To some degree the decrease in the United States has been attributed to the size of the classes: in contrast to upper division students, lower division students in the United States have larger classes that are harder to monitor during exams (McCabe, Treviño, and Butterfield 2001). In Russia classes tend to be of the same size during the course of the study and usually include several study groups within the same major.

The results of this study suggest that faculty actions against incidents of academic dishonesty play a critical role in developing more honest attitudes among students. Third year students who were taught by the faculty that prefer severe punishments for academic dishonesty (give student a failing grade for cheating on the exam) tend to demonstrate less tolerant attitudes towards academic dishonesty. The relationship is strong and significant even when taking into account the attitudes towards academic dishonesty of freshman students in the same department, as well as other student, faculty, and institutional characteristics. Despite the fact that faculty are at the frontline in a university's engagement with students, prior studies did not give their actions deserved attention, focusing more on either student individual factors, like motivation (Jordan 2001; Murdock and Anderman 2006) or contextual factors, like honor codes (McCabe, Treviño, and Butterfield 2002).

The study provides an empirical confirmation of one of the central proposition of the deterrence theory that severe punishments from faculty could deter students from cheating. It gives hope that even in the countries with low levels of academic integrity and high levels of corruption, severe deterrence policies can still produce more honest attitudes among students. In particular, universities can create systems which encourage the role of faculty in preventing dishonesty among students. The systems may include faculty trainings on academic integrity as well as policies that encourage greater faculty monitoring of academic dishonesty, and reward more severe faculty actions against academic dishonesty.

Finally, any research on student dishonesty is methodologically challenging. The research design of our study had two advanced methodological elements that can later be adopted in further studies. First is the use of longitudinal data to trace the actual changes in student attitudes towards dishonesty that are in fact changing over time. Second is the collection and analysis of the matched data of student responses with faculty responses that taught to these students. Prior studies (Tittle and Rowe 1973; Michaels and Miethe 1989; Broeckelman-Post 2008; Yu et al. 2017) relied exclusively on student responses to understand how the severity of punishment is related to student dishonest academic attitudes/behavior. Students, however, tend to report less severe punishments by faculty in order to justify their cheating (Brent and Atkisson 2011).

Notes

1. Incentives are misaligned because university funding is based in large part on the number of enrolled students (Abankina et al. 2016), and university staff are therefore hesitant to give students failing grades that will lead to their dropping out of university (Terentyev et al. 2016).

2. Students tend to rationalize dishonest behavior by adopting a neutralization technique called ‘condemnation of the condemners’: which is an attempt ‘to turn the argument back on any who might disapprove of the cheating’ (Brent and Atkisson 2011; Sykes and Matza 1957). One of the main justifications that students give for academic dishonesty is faculty-driven (Brent and Atkisson 2011; Jensen et al. 2002; McCabe 1992).
3. The SUPER-test is an international comparative study aimed at measuring gains in academic and higher order thinking skills among university students and identifying factors that affect skill gains (see Loyalka et al. 2019b and Loyalka et al. 2019a). It was organized by researchers at Stanford University in collaboration with partner institutions in Russia, China, and India. The data on academic dishonesty were from Russia.
4. In Russia, students study together in the same study group (roughly 15–25 people) within a particular major throughout their university studies; the study group is administratively assigned to each student in the first year of study.
5. Approximately 26% of first year students (344) attrited from universities between the baseline and endline phases. These students were not surveyed in 2017.
6. We followed the same sampling procedure as for the dataset A.
7. Faculty members of one university did not participate in the study, so the multi-level and multivariate analyses were conducted on the data from 33 universities.
8. We measured SES by asking students to list several items of value in their parents’ home. We then applied a polychoric principal component analysis to create a proxy for socioeconomic status (Kolenikov and Angeles 2009).
9. Unified State Exam is a series of subject-specific standardized tests in Russia that students pass at the end of high school in order to both graduate from high school and enter higher education institutions.
10. We include the option ‘Do not know’ as an indicator of the tolerant attitude towards academic dishonesty for the following reason. We assume that the students who chose this option experienced the lack of information about the context to choose an appropriate punishment. This difficulty may be a result of relying on ‘situational ethics’ (LaBeff et al. 1990), in other words, ‘a student justifies his or her cheating based on some aspect of the situation’ (Murdock et al. 2007, 142). Appealing to ‘situational ethics’ is associated with more tolerant attitudes towards academic dishonesty (McCabe 1992).
11. The scale in faculty questionnaire included the same options as in student questionnaire: (1) Do nothing, (2) Warn the student, (3) Lower the grade, (4) Give the student a failing grade, (5) Give the student a failing grade and inform the department about the incident, (6) Do not know. Similarly, a dichotomized version of this variable is used in the analysis, where 1 = apply severe punishment (includes options ‘Give the student a failing grade’ and ‘Give the student a failing grade and inform the department about the incident’) and 0 = do not apply severe punishment (includes all other options, including ‘Do not know’).
12. For this value-added type specification, we used the 2015 first year student responses from dataset A to create a department-level, baseline aggregate measure of first-year student attitudes towards academic dishonesty.
13. These two variables are highly correlated: the majority of PhD holders are either full professors (21%) or associate professors (75%).

Disclosure statement

No potential conflict of interest was reported by the authors.

Acknowledgements

Support from the Basic Research Program of the National Research University Higher School of Economics is gratefully acknowledged.

Funding

This work was supported by National Research University Higher School of Economics: [Grant Number Basic Research Program, grant #27].

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References

- AACU (Association of American Colleges & Universities). 2018. "Essential Learning Outcomes." Accessed January 26 2019. <https://www.aacu.org/leap/essential-learning-outcomes>.
- Abankina, Irina, V.L.M. Filatova, and V. A. Vinarik. 2016. "Gosudarstvennaya Politika Finansirovaniya Sektora Vysshego Obrazovaniya v Usloviyah Byudzhetnyh Ogranichenij." *New Economic Journal* 3 (31): 111–143.
- ABET (Accreditation Board for Engineering and Technology). 2017. "Criteria for Accrediting Engineering Programs." Accessed January 26 2019. <http://www.abet.org/accreditation/accreditation-criteria/criteria-for-accrediting-engineering-programs-2016-2017/#objectives>.
- All European Academies. 2017. "The European Code of Conduct for Research Integrity." Revised edition. Accessed January 26 2019. <http://www.allera.org/wp-content/uploads/2017/05/ALLEA-European-Code-of-Conduct-for-Research-Integrity-2017.pdf>.
- Austin, Zubin, David Collins, Alfred Remillard, Sheila Kelcher, and Stephanie Chui. 2006. "Influence of Attitudes Toward Curriculum on Dishonest Academic Behavior." *American Journal of Pharmaceutical Education* 70 (3): 1–9.
- Bettinger, Eric P., and Bridget Terry Long. 2005. "Do Faculty Serve as Role Models? The Impact of Instructor Gender on Female Students." *The American Economic Review* 95 (2): 152–157.
- Brent, Edward, and Curtis Atkisson. 2011. "Accounting for Cheating: An Evolving Theory and Emergent Themes." *Research in Higher Education* 52 (6): 640–658.
- Brimble, Mark, and Peta Stevenson-Clarke. 2005. "Perceptions of the Prevalence and Seriousness of Academic Dishonesty in Australian Universities." *The Australian Educational Researcher* 32 (3): 19–44.
- Broeckelman-Post, Melissa A. 2008. "Faculty and Student Classroom Influences on Academic Dishonesty." *IEEE Transactions on Education* 51 (2): 206–211.
- Coalter, Terry, Chi Lo Lim, and Tekle Wanorie. 2007. "Factors That Influence Faculty Actions: A Study on Faculty Responses to Academic Dishonesty." *International Journal for the Scholarship of Teaching and Learning* 1 (1): 1–19.
- Cummings, Ronald G., Jorge Martinez-Vazquez, Michael McKee, and Benno Torgler. 2009. "Tax Morale Affects Tax Compliance: Evidence From Surveys and an Artefactual Field Experiment." *Journal of Economic Behavior & Organization* 70 (3): 447–457.
- Denisova-Schmidt, Elena, Martin Huber, and Elvira Leontyeva. 2016. "On the Development of Students' Attitudes Towards Corruption and Cheating in Russian Universities." *European Journal of Higher Education* 6 (2): 128–143.
- European Commission. 2014a. "EU Anti-Corruption report". Accessed January 25 2019. https://ec.europa.eu/home-affairs/sites/homeaffairs/files/e-library/documents/policies/organized-crime-and-human-trafficking/corruption/docs/acr_2014_en.pdf.
- European Commission. 2014b. "Special Eurobarometer 397: Corruption". Accessed January 25 2019. http://ec.europa.eu/commfrontoffice/publicopinion/archives/ebs/ebs_397_en.pdf.
- Freedman, David A. 2006. "On the so-Called "Huber Sandwich Estimator" and "Robust Standard Errors"." *The American Statistician* 60 (4): 299–302.
- Freiburger, Tina L., Danielle M. Romain, Blake M. Randol, and Catherine D. Marcum. 2017. "Cheating Behaviors among Undergraduate College Students: Results From a Factorial Survey." *Journal of Criminal Justice Education* 28 (2): 222–247.
- Froumin, Isak, and Maria Dobryakova. 2012. "What Makes Russian Universities Change: Disengagement Compact." *Educational Studies* 2: 159–191.
- Gächter, Simon, and Jonathan F. Schulz. 2016. "Intrinsic Honesty and the Prevalence of Rule Violations Across Societies." *Nature* 531 (7595): 496–499.
- Genereux, Randy L., and Beverly A. McLeod. 1995. "Circumstances Surrounding Cheating: a Questionnaire Study of College Students." *Research in Higher Education* 36 (6): 687–704.
- Gibbs, Jack P. 1975. *Crime, Punishment, and Deterrence*. New York: Elsevier.
- Golunov, Serghei. 2013. "Malpractices in the Russian Higher Education System: Implications for EU-Russian Education and Science Cooperation." *Centre for EU-Russia Studies EU-Russia paper, no. 9*.
- Grimes, Paul W. 2004. "Dishonesty in Academics and Business: a Cross-Cultural Evaluation of Student Attitudes." *Journal of Business Ethics* 49 (3): 273–290.
- Harding, Trevor S., Matthew J. Mayhew, Cynthia J. Finelli, and Donald D. Carpenter. 2007. "The Theory of Planned Behavior as a Model of Academic Dishonesty in Engineering and Humanities Undergraduates." *Ethics & Behavior* 17 (3): 255–279.
- Higher School of Economics. 2012. "Procedures for Applying Disciplinary Measures for the Violation of Academic Standards for Student Papers at the National Research University Higher School of Economics". Accessed January 25 2019. <https://www.hse.ru/data/2015/08/13/1087393915/Appendix%207%20to%20Internal%20Regulations%20Disci.s%20for%20Violation%20of%20Ac%20Standards.pdf>.
- Houston, John P. 1977. "Cheating Behavior, Anticipated Success-Failure, Confidence, and Test Importance." *Journal of Educational Psychology* 69 (1): 55–60.
- Jensen, Lene Arnett, Jeffrey Jensen Arnett, S. Shirley Feldman, and Elizabeth Cauffman. 2002. "Its Wrong, But Everybody Does It: Academic Dishonesty among High School and College Students." *Contemporary Educational Psychology* 27 (2): 209–228. doi:10.1006/ceps.2001.1088.
- Jordan, Augustus E. 2001. "College Student Cheating: The Role of Motivation, Perceived Norms, Attitudes, and Knowledge of Institutional Policy." *Ethics & Behavior* 11 (3): 233–247.

- Keith-Spiegel, Patricia, Barbara G. Tabachnick, Bernard E. Whitley Jr, and Jennifer Washburn. 1998. "Why Professors Ignore Cheating: Opinions of a National Sample of Psychology Instructors." *Ethics & Behavior* 8 (3): 215–227.
- Kellner, Douglas. 2017. *American Horror Show: Election 2016 and the Ascent of Donald J. Trump*. Rotterdam: Sense Publishers.
- Kerschbamer, Rudolf, Daniel Neururer, and Matthias Sutter. 2016. "Insurance Coverage of Customers Induces Dishonesty of Sellers in Markets for Credence Goods." *Proceedings of the National Academy of Sciences* 113 (27): 7454–7458.
- King, Patricia M., and Matthew J. Mayhew. 2002. "Moral Judgement Development in Higher Education: Insights From the Defining Issues Test." *Journal of Moral Education* 31 (3): 247–270.
- King, Gary. 1991. "'Truth' Is Stranger Than Prediction, More Questionable Than Causal Inference." 1991." *American Journal of Political Science* 35 (4): 1047–1053.
- Kolenikov, Stanislav, and Gustavo Angeles. 2009. "Socioeconomic Status Measurement with Discrete Proxy Variables: Is Principal Component Analysis a Reliable Answer?" *Review of Income and Wealth* 55 (1): 128–165.
- Kuh, George D., John H. Schuh, and Elizabeth J. Whitt. 1991. *Involving Colleges: Successful Approaches to Fostering Student Learning and Personal Development Outside the Classroom*. San Francisco: Jossey-Bass.
- LaBeff, Emily E., Robert E. Clark, Valerie J. Haines, and George M. Diekhoff. 1990. "Situational Ethics and College Student Cheating." *Sociological Inquiry* 60 (2): 190–198.
- Lang, James. M. 2013. *Cheating Lessons*. Cambridge, MA: Harvard University Press.
- Ledeneva, Alena V. 2006. *How Russia Really Works: The Informal Practices That Shaped Post-Soviet Politics and Business*. Ithaca, NY: Cornell University Press.
- Levin, Mark, and Georgy Satarov. 2000. "Corruption and Institutions in Russia." *European Journal of Political Economy* 16 (1): 113–132.
- Levy, Elliott S., and Carter C. Rakovski. 2006. "Academic Dishonesty: a Zero Tolerance Professor and Student Registration Choices." *Research in Higher Education* 47 (6): 735–754.
- Lipson, Alberta, and Norma McGavern. 1993. Undergraduate Academic Dishonesty at MIT. Results of a Study of Attitudes and Behavior of Undergraduates, Faculty, and Graduate Teaching Assistants. Paper presented at the 33rd Forum of the Association for Institutional Research, Chicago, IL.
- Loyalka, Prashant, Ou Lydia Liu, Guirong Li, Igor Chirikov, Elena Kardanova, Lin Gu, Guangming Ling, et al. 2019a. "Computer Science Skills Across China, India, Russia, and the United States." *Proceedings of the National Academy of Sciences*, doi:10.1073/pnas.1814646116.
- Loyalka, P., O. L. Liu, G. R. Li, E. Kardanova, I. Chirikov, S. F. Hu, N. N. Yu, et al. 2019b. "Skill in College: Evidence from China, India, Russia, and the United States." Forthcoming.
- Lupton, Robert. A., and Kenneth J. Chaqman. 2002. "Russian and American College Students' Attitudes, Perceptions and Tendencies Towards Cheating." *Educational Research* 44 (1): 17–27.
- Magnus, Jan. R., Victor M. Polterovich, Dmitriy L. Danilov, and Alexei V. Savvateev. 2002. "Tolerance of Cheating: An Analysis Across Countries." *The Journal of Economic Education* 33 (2): 125–135.
- Maramark, Sheilah, and B. Mindi Barth Maline. 1993. *Academic Dishonesty among College Students. Issues in Education*. Washington, D.C.: U.S. Department of Education, Office of Educational Research and Improvement.
- McCabe, Donald. L. 1992. "The Influence of Situational Ethics on Cheating Among College Students." *Sociological Inquiry* 62 (3): 365–374.
- McCabe, Donald. L., Kenneth D. Butterfield, and Linda Klebe Treviño. 2006. "Academic Dishonesty in Graduate Business Programs: Prevalence, Causes, and Proposed Action." *Academy of Management Learning & Education* 5 (3): 294–305.
- McCabe, Donald. L., Kenneth D. Butterfield, and Linda Klebe Treviño. 2012. *Cheating in College: Why Students Do It and What Educators Can Do About it*. Baltimore, MD: JHU Press.
- McCabe, Donald. L., and Linda Klebe Treviño. 1993. "Academic Dishonesty: Honor Codes and Other Contextual Influences." *The Journal of Higher Education* 64 (5): 522–538.
- McCabe, Donald. L., and Linda Klebe Treviño. 1997. "Individual and Contextual Influences on Academic Dishonesty: A Multicampus Investigation." *Research in Higher Education* 38 (3): 379–396.
- McCabe, Donald. L., Linda Klebe Treviño, and Kenneth D. Butterfield. 2001. "Cheating in Academic Institutions: A Decade of Research." *Ethics & Behavior* 11 (3): 219–232.
- McCabe, Donald. L., Linda Klebe Treviño, and Kenneth D. Butterfield. 2002. "Honor Codes and Other Contextual Influences on Academic Integrity: A Replication and Extension o Modified Honor Code Settings." *Research in Higher Education* 43 (3): 357–378.
- Megehee, Carol. M., and Deborah F. Spake. 2008. "The Impact of Perceived Peer Behavior, Probable Detection and Punishment Severity on Student Cheating Behavior." *Marketing Education Review* 18 (2): 5–19.
- Michaels, James. W., and Terance D. Miethe. 1989. "Applying Theories of Deviance to Academic Cheating." *Social Science Quarterly* 70 (4): 870–885.
- MOES (Ministry of Education and Science). 2015. "Order No. 636 "On Approval of the Procedure for Conducting state Final Certification on Higher Education Educational Programs - Bachelor Programs, Specialist Programs and Master's Programs"". Accessed January 25 2019. <http://www.garant.ru/products/ipo/prime/doc/71045690/>.

- Monitoring of Student Characteristics and Trajectories. 2014. "Project Report". Accessed January 25 2019. <http://www.hse.ru/data/2014/10/21/1098991659/%D0%9E%D1%82%D1%87%D0%B5%D1%82%20%D0%BF%D0%BE%20%D0%BF%D1%80%D0%BE%D0%B5%D0%BA%D1%82%D1%83%20%D0%9C%D0%A1%D0%A5%D0%A2.pdf>.
- Murdock, Tamera B., and Eric M. Anderman. 2006. "Motivational Perspectives on Student Cheating: Toward an Integrated Model of Academic Dishonesty." *Educational Psychologist* 41 (3): 129–145.
- Murdock, Tamera Burton, Angela D. Miller, and Amy Goetzinger. 2007. "Effects of Classroom Context on University Students' Judgments About Cheating: Mediating and Moderating Processes." *Social Psychology of Education* 10 (2): 141–169.
- Mustaine, Elizabeth Ehrhardt, and Richard Tewksbury. 2005. "Southern College Students' Cheating Behaviors: An Examination of Problem Behavior Correlates." *Deviant Behavior* 26 (5): 439–461.
- Nagin, Daniel S. 1998. "Criminal Deterrence Research at the Outset of the Twenty-First Century." In *Crime and Justice: A Review of Research*, vol. 23, edited by Michael Tonry. Chicago: University of Chicago Press.
- New Economic School. "Code of Honor". Accessed January 25 2019. <https://www.nes.ru/en/people/students/codex>.
- Newton, Philip. 2016. "Academic Integrity: A Quantitative Study of Confidence and Understanding in Students at the Start of Their Higher Education." *Assessment & Evaluation in Higher Education* 41 (3): 482–497. doi:10.1080/02602938.2015.1024199.
- Nonis, Sarath, and Cathy Owens Swift. 2001. "An Examination of the Relationship Between Academic Dishonesty and Workplace Dishonesty: A Multicampus Investigation." *Journal of Education for Business* 77 (2): 69–77. doi:10.1080/08832320109599052.
- Ogilvie, James, and Anna Stewart. 2010. "The Integration of Rational Choice and Self-Efficacy Theories: A Situational Analysis of Student Misconduct." *Australian & New Zealand Journal of Criminology* 43 (1): 130–155.
- Olken, Benjamin A., and Rohini Pande. 2012. "Corruption in Developing Countries." *Annual Review of Economics* 4 (1): 479–509. doi:10.1146/annurev-economics-080511-110917.
- Pascual-Ezama, David, Toke R. Fosgaard, Juan Camilo Cardenas, Praveen Kujal, Robert Veszteg, Beatriz Gil-Gómez de Liaño, Brian Gunia, et al. 2015. "Context-Dependent Cheating: Experimental Evidence From 16 Countries." *Journal of Economic Behavior & Organization* 116: 379–386.
- Passow, Honor J., Matthew J. Mayhew, Cynthia J. Finelli, Trevor S. Harding, and Donald D. Carpenter. 2006. "Factors Influencing Engineering Students' Decisions To Cheat By Type Of Assessment." *Research in Higher Education* 47 (6): 643–684. doi:10.1007/s11162-006-9010-y.
- Pratt, Travis C., Francis T. Cullen, Kristie R. Blevens, Leah E. Daigle, and Tamara D. Madensen. 2008. "The Empirical Status of Deterrence Theory: A Meta-Analysis." In *Taking Stock: The Status of Criminological Theory*, edited by Francis T. Cullen, John Paul Wright, and Kristie R. Blevens, 367–396. New Brunswick: Transaction Publishers.
- Reisz, M. 2014. "University Consortium Calls for the Academy to Join the Fight Against Global Corruption." *Times Higher Education (THE)*, November 13. <https://www.timeshighereducation.com/news/university-consortium-calls-for-the-academy-to-join-the-fight-against-global-corruption/2016892.article>.
- Rose-Ackerman, Susan, and Bonnie J. Palifka. 2016. *Corruption and Government: Causes, Consequences, and Reform*. Cambridge: Cambridge University Press.
- Shmeleva, Evgeniia. 2016. "Plagiarism and Cheating in Russian Universities: The Role of the Learning Environment and Personal Characteristics of Students." *Educational Studies* 1: 84–109.
- Simon, Cristopher, A., Jim R. Carr, Sesi M Mccullough, Sally J Morgan, Ted Oleson, and Maggie Ressel. 2004. "Gender, Student Perceptions, Institutional Commitments and Academic Dishonesty: Who Reports in Academic Dishonesty Cases?" *Assessment & Evaluation in Higher Education* 29 (1): 75–90. doi:10.1080/0260293032000158171.
- Sykes, Gresham M., and David Matza. 1957. "Techniques of Neutralization: A Theory of Delinquency." *American Sociological Review* 22 (6): 664–670. doi:10.2307/2089195.
- Tanzi, Vito. 1998. "Corruption Around the World: Causes, Consequences, Scope, and Cures." *IMF Working Papers* 45 (4): 559–594. doi:10.5089/9781451848397.001.
- Teodorescu, Daniel, and Tudorel Andrei. 2008. "Faculty and Peer Influences on Academic Integrity: College Cheating in Romania." *Higher Education* 57 (3): 267–282.
- Terentyev, Evgeny, Ivan Gruzdev, and Elena Gorbunova. 2016. "The Court Is Now in Session: Professor Discourse on Student Attrition." *Russian Education & Society* 58 (1): 44–68.
- "The Poznan Declaration.". 2014. Accessed January 25 2019. <http://www2.usc.es/gcompostela/en/activities/PoznanDeclaration.html>.
- Thomas, Adele, and Gideon P. De Bruin. 2012. "Student Academic Dishonesty: What Do Academics Think and Do, and What are the Barriers to Action?" *African Journal of Business Ethics* 6 (1): 13–24.
- Tittle, Charles R., and Alan R. Rowe. 1973. "Moral Appeal, Sanction Threat, and Deviance: An Experimental Test." *Social Problems* 20 (4): 488–498.
- Transparency International. 2014. "Transparency in Corporate Reporting: Assessing the World's Largest Companies." Accessed January 25 2019. https://www.transparency.org/whatwedo/publication/transparency_in_corporate_reporting_assessing_worlds_largest_companies_2014.
- Transparency International. 2017. "Corruption Perceptions Index." Accessed January 25 2019. https://www.transparency.org/whatwedo/publication/corruption_perceptions_index_2016.

- Weill, Laurent. 2011. "How Corruption Affects Bank Lending in Russia." *Economic Systems* 35 (2): 230–243.
- World Anti-Doping Agency. 2015. "World Anti-Doping Code." Accessed January 25 2019. <https://www.wada-ama.org/sites/default/files/resources/files/wada-2015-world-anti-doping-code.pdf>.
- Yu, Hongwei, Perry L. Glanzer, Rishi Sriram, Byron R. Johnson, and Brandon Moore. 2017. "What Contributes to College Students' Cheating? A Study of Individual Factors." *Ethics & Behavior* 27 (5): 401–442.