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Patterns of Academic Integrity Definitions among BA Romanian Students'. The Impact of Rising Enrolments

Emilia ȘERCAN¹, Bogdan VOICU²

Abstract

In light of the increasing interest in academic integrity, this paper investigates how students from three major Romanian universities conceive academic integrity. We build up an argument of dependency of such definitions on existing academic culture, and on how fast universities, faculties, or fields of study grow with respect to number of enrolled students. The findings reveal that definitions of academic integrity offered by BA students were largely confused, with some of the students being completely unable to focus on the topic. The variation in definitions depends on the size and recent history of the department and university. The universities that experienced recent growths were found have students less likely to focus on academic integrity. The department size plays a buffering role through the inertia of organizational culture and increase in department size leads to better knowledge of academic integrity. Notably, no or very little impact was found across the fields of study in the patterns of defining academic integrity. Policy makers and academic leaders should therefore be aware that in fast-growing universities, academic integrity needs careful instillation among students, and promoting it in terms of knowledge might be rewarding for the health of the organization.

Keywords: academic integrity, plagiarism, cheating, fraud, Romania, higher education expansion.

Introduction

In recent decades, the concept of academic integrity has topped the agenda of higher education in Europe. This is due to the unprecedented expansion of university education (Lucas, 2001; Voicu *et al.*, 2010), which was followed by

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debates on the tendencies in universities to, among others, cheat (Jones, 2011; McCabe *et al.*, 2001; Simkin & McLeod, 2010), plagiarize (Park, 2003; Glazer, 2013; Weber-Wulff, 2014), arrive at fraudulent scientific results (Goodstein, 1991; Eisner, 2018), and influence peddling (McCabe & Pavela, 1997). These debates have penetrated the European political arena, with various top-level politicians getting dismissed for plagiarized PhDs. In Germany, some of the notorious examples include Defense Minister Karl-Theodor zu Guttenberg, who resigned in 2011, and Education Minister Annette Schavan, who resigned in 2013 (Webber-Wolf, 2016). In Guttenberg's case, the successive examination of his thesis clearly revealed plagiarism (Stine, 2015), but the public dismissal was labeled by some as an act of "ritual punishment" that might have been detrimental to public confidence in academic institutions (Güßgen, 2011). The debate that followed highlights the importance of academic integrity in society and academia. In Hungary, after a significant part of his doctoral thesis in Physical Education was discovered to be plagiarized, President Pál Schmitt resigned (Glendinning *et al.*, 2019). In Spain, Health Minister Carmen Montón immediately resigned after she was accused of fraud related to her master's degree, and though Prime Minister Pedro Sánchez was accused of plagiarism in his doctoral thesis in economics, the accusations were later deemed to have been unfounded.

From a different perspective, it is worthy to observe the widespread penetration of the discussion in all areas of society. For academia, examples include the generalization of the use of antiplagiarism software (Ledwith & Risquez, 2008; von Isenburg *et al.*, 2019). For the general society, one may notice the constant inclusion of debates on plagiarism, falsified research results, academic misconduct, and so on in important weekly publications such as *The Economist*. All together, these phenomena reflect the mounting academic and societal concerns regarding academic integrity.

Concerning falsifications in academia, Romania stands out as a particularly salient example, in particular among other EU countries. Fraud, as several journalistic campaigns have revealed (Şercan, 2017), is a generalized practice, at least in specific fields such as military studies. Various high-level politicians have been concretely proven to have plagiarized their doctoral theses: Victor Ponta (law, 2003) and Gabriel Oprea (law, 2001), prime ministers; Florian Bodog (economy, 2008), former minister of health; Mihail Stănişoară, former minister of defense; and Petre Tobă, former minister of internal affairs (military studies, 2011). Public tolerance regarding plagiarism is exemplified by the case of Mircea Beuran, a professor with two plagiarized books on health, who was proposed in 2018 as the member and head of the health studies commission at the mere central-level agency that decides on cases of academic fraud. Moreover, Mihai Tudose (military studies, 2010), who, two years after he publicly asked for the title to be withdrawn, became prime minister of Romania. Even more recently, the prime minister Nicolae Ciucă was accused for plagiarism in his PhD thesis defended in 2013 in military studies.

In such a context of corruption and fraud, it is necessary to understand how academic integrity is conceived at the university level. Previous studies were mainly conducted in societies less permissive of academic fraud, focusing on faculty practices and not those of students. Therefore, this paper aimed to understand whether representations of academic integrity are consistent with its current definitions, whether they differ across fields of study, and whether they depend on higher education expansion. Expansion refers to the growth of disciplines or departments and universities. In this paper, we argue that a quick expansion creates more space for misunderstandings concerning academic integrity.

We employed an original sample of Romanian BA students from three Romanian universities, covering nine academic disciplines. We studied their definitions of academic integrity and predicted them using logical, cross-classified, multi-level models. We found that expansion seems harmful only when it concerns the university, that a larger department indicates a more precise knowledge of academic integrity. The resulting interplay can be fruitfully explored by policymakers to highlight success stories that can be replicated in other departments/universities.

Our approach is novel in its inspection of what academic integrity means for students, an issue, to the best of our knowledge that has never before been investigated in a context of widespread corruption. Moreover, since representations of academic integrity are embedded in the context of university expansion, this provides academic leaders and policymakers with guidelines with which they can act accordingly.

This paper begins by surveying the literature for approaches to academic integrity and references to university expansion and its consequences, from which we derive our hypotheses. The sample and methods are then introduced, followed by the findings, and the paper concludes with a discussion of policy implications, limitations, and further research directions.

Literature Review

Academic integrity is a complex and serious issue concerning the international higher education community. It covers the behaviors and interactions of all actors in the community - students, professors, researchers, administrative staff - and is directly related to ethics, which is central to academic culture and foundational in ensuring the smooth operation of higher education. Ethics is the study of human conduct focused on what is morally accepted as right or wrong in a given situation (Sims, 1992; Velasquez, 2002). Owing to the educational, social, and cultural disparity of the stakeholders involved in higher education, common ethical standards are needed in academia (Davies, 2008; Sork & Welock, 1992).

Integrity, according to moral philosophy, is one of the most valued qualities a human being can have (Janinska & Garcia-Zamor, 2006). Regarding the meaning

of academic integrity, researchers use different reference frames (Carter, 1998), with notions such as values, virtues, behaviors, conduct, norms, and practices often used to discuss it.

One of the widely accepted definitions of academic integrity belongs to the International Center for Academic Integrity: “a commitment to five fundamental values: honesty, trust, fairness, respect, and responsibility. We believe that these five values, plus the courage to act on them even in the face of adversity, are truly foundational to the academy... The fundamental values enable academic communities to translate their ideals into action” (2013, p. 16–17). The Glossary for Academic Integrity defines it as “compliance with ethical and professional principles, standards and practices by individuals or institutions in education, research and scholarship” (Tauginienè *et al.*, 2018, p. 7).

The higher education community typically approaches academic integrity from the perspective of dishonest practices, such as cheating, plagiarism, unethical research, fraud in exams, sexual harassment, and so on. According to Fishman (2016), the academic integrity discourse tends to focus on prohibited or negative behaviors rather than desired or positive behaviors. These trends are also visible in researchers’ approaches (Macfarlane, 2014), which, in addressing plagiarism in particular, focus more on academic dishonesty than academic integrity.

Plagiarism and cheating are the most widespread dishonest practices in academia and the immediate concerns of the international research community. Plagiarism is generally considered the practice of taking and presenting the ideas and words of others as one’s own (Bouville, 2008; Park, 2003; Skandalakis & Mirilas, 2004; Stavinsky, 1973; Zhang, 2016). Researchers have studied plagiarism causes from varied perspectives: moral, value, or ethical factors (Drake, 1941; Kibler, 1993; LaBeff *et al.*, 1990); situational and environmental circumstances (Bonjean & McGee, 1965; Genereux & McLoed, 1995; Kelly & Worrell, 1978; McCabe *et al.*, 2001); personal background, including age, gender, and lifestyle (Etter *et al.*, 2006; McCabe & Trevino, 1997; Straw, 2002).

Explanations for plagiarism and cheating include being concerned with time management and personal organization (Comas-Forgas & Sureda-Negre, 2010), the desire to be successful (Kaufman, 2008; Schwierén & Weichselbaumer, 2012; (Simkin and McLeod, 2010), the increased pressure to publish (Zhang, 2016), opportunity to do it or non-existent penalties (Simkin and McLeod, 2010), including the expansion of modern technologies and the internet (Sutherland-Smith, 2008).

Such practices tend to generalize and become a norm. Bertram, Gallant and Drinan (2008) noticed that if it is pervasive, normative, and systemic, misconduct turns problematic, growing into a serious indicator of institutional corruption. Empirical validation is easy to be found. According to large surveys of thousands of students, a high percentage of respondents admitted to having cheated on written assignments, exams, or during their academic career (Bowers, 1964; McCabe & Trevino, 1993). Among their list of six causes of cheating, Simkin and

McLeod (2010) include three reasons that send to existence of norms of cheating: the reluctance of many professors to prosecute cheaters (which is a behavior that express an established norm); a growing trend to redefine what constitutes “cheating”; and the “moral code” that governs the academic organization. All three causes relate to how academic integrity is embedded in broader contexts governed by values and moral codes, or how it is defined as systemic, leading to the need to inspect it as dependent on its academic environment.

Codes of ethics, also called codes of honor or codes of conduct, are the tools institutions of higher education employ to promote principles of academic integrity. According to Bretag (2016), having an institutional culture is critical in shaping honest attitudes, including students’ decisions to act with or without integrity. However, higher academic institutions use honor codes as a means of fostering academic integrity (McCabe & Trevino, 1993; McCabe *et al.*, 2012). McCabe, one of the leading researchers who influenced research on academic integrity, argued that honor codes are “one of the most effective strategies to reduce cheating in academia and the larger society” (2016: 188).

In summary, academic integrity may be used to define a wide range of practices, including fairness and transparency, as opposed to fraud, cheating, plagiarism, harassment, abusive use of authority, and so on. However, in a context where they are publicly and repeatedly violated, the acceptance and promotion of such practices may be difficult to reinforce, especially in the context of Romania.

The research on academic integrity in Romania is still scarce, but the last decade witnessed an increasing interest in the issue. Some studies have addressed plagiarism from a descriptive point of view (Comşa *et al.*, 2011; Coravu, 2013; Mungiu-Pippidi, 2011; Stan & Turcescu, 2004; Şandor, 2013). Several surveys on academic honesty have also been conducted (Chelcea, 2008; Glendinning, 2014; Ives *et al.*, 2016; Miroiu, 2005; Teodorescu & Andrei, 2009; Teodorescu *et al.*, 2007). They highlighted practices such as favoritism among students and staff as the main academic misconduct (Miroiu, 2005); the higher propensity to cheating among those exposed to the cheating model of their peers (Teodorescu & Andrei, 2009), and the widespread practices of plagiarism and academic misconduct, including academic corruption, all of which were tolerated by the universities (Comşa *et al.*, 2007, p. 42, 68–80) and accepted as normal by almost half of the students (Voicu *et al.*, 2011, p. 101–103).

Academic environments have been found to exert a positive impact on the moral conduct of students (Sandu *et al.*, 2019). Tolerance for intellectual fraud was found to decrease during the cycles of university education—from bachelors to masters and then to the doctorate. Sandu *et al.* (2019) also reveals that students do not participate in much misconduct if they are better informed about the behavioral requirements recommended by the university and that they are less tolerant of committing fraud if their seminar attendance is higher. This indicates

that a broader exposure to the learning experiences offered by the university has not only cognitive but also ethical efficiency.

Such university exposure is becoming common now for more students as attending university has become more common. The expansion of higher education is a global phenomenon (Trow, 1999; Teichler, 2008). It has become salient during the last decades (Marginson, 2016), also affecting former communist societies, in particular Romania (Hatos, 2013; Voicu *et al.*, 2010). The Gross Tertiary Enrollment in Central and Eastern European societies grew from 30% in 1972 to 32% in 1992, and, in 2012, more than doubled (71%) (Marginson, 2016, p. 248). Considering the number of students in tertiary education at the age of 20 as a percentage of the corresponding age population, the figure for Romania was 34–36% between 2013 and 2017 (Eurostat database) - more than thrice than what was at the end of the 1980s (Voicu *et al.*, 2010). The expansion is likely to have attracted first the bulk of the more privileged social classes and then the remaining portion of the society (Raftery & Hout, 1993). The vertical inequalities in education access, meaning that the students from better educated and wealthier families were more likely to have access to a university education, transformed overtime into horizontal inequalities, meaning that better universities were selected by the more privileged, and that the prestigious departments in universities started having higher odds of enrolling students from better-off families (Lucas, 2001).

This means that Romanian universities are currently exposing a broader variety of students to academic standards, and the transfer of values related to academic integrity is directed to a larger extent to students from traditional families. Therefore, in light of widespread plagiarism and the broader context of widespread corruption, one may expect a decreasing importance of academic integrity.

Hypotheses

Previous studies brought into the spotlight the presence of a moral code, invoked group or societal norms, and highlighted the role of exposure to legitimizing behaviors and institutions as a catalyst for the individual reproduction of such behaviors. This means that one has to expect that student representations of integrity are embedded in the more general context of the department, university, and field of study.

In other words, depending on the academic context within which the respective student evolves, one may imagine academic integrity differently. When departments or disciplines experience rapid expansion, we expect looser academic integrity among students, which is reflected in their less precise and vague definitions of academic integrity. The mechanisms are quite simple. Rapid expansion implies two pragmatic potential consequences: on the one hand, less flexible organizational

arrangements might have led, at least for a short while, to periods of students/staff ratios larger than they usually are. On the other hand, bringing new staff quickly brings the risk of diluting, for a while, the coherence and, perhaps, the quality of the organizational atmosphere. The two mechanisms may act simultaneously in different proportions, but irrespective of their combination, the outcome could be a looser control on academic integrity. In the context of less well-trained new students (PISA studies indicated Romania as a low performer on average since early 2000s to present, and with high inequality among pupils), the propensity to cheat and engage in plagiarism and misconduct are likely to become more common.

Our basic hypothesis states that the students more likely to offer vague definitions of academic integrity are from those departments and fields of study that have experienced a high rate of expansion since the 2000s.

Methodology

To test the hypothesis, we use a survey of students in three large Romanian non-specialized public universities: the University of Bucharest (UB), Babeş-Bolyai University of Cluj (UBB), and West University of Timișoara (UVT). These universities are well-established, teach almost all fields except engineering, health, and arts, and are regional leaders in Romanian higher education. They are part of a university alliance with Alexandru Ioan Cuza University of Iași (UAIC) and the Academy of Economic Studies in Bucharest (ASE), acting as a lobby group engaging in joint initiatives and erecting barriers to cooperation for others outside the alliance.

Nine fields of studies were chosen in these universities: three humanities, three social sciences, and three natural sciences (Table 1). The number of fields of studies (and, implicitly, departments) was constrained by the available resources, while the selection of these specific domains was driven by the similarity in the organization of the respective departments.

At the start of a random course in autumn 2018, during the face-to-face meeting led by the first author of this paper, the BA students in the chosen fields received short questionnaires. The questionnaires were afterwards returned to the course professor and handed back to the researcher. A face-to-face meeting was chosen because, compared to online surveying, it offers a higher response rate, especially among students that usually attend courses (some students may not have this habit).

Table 1. Sample distribution

	UVT	UBB	UB	Total
Sociology & Social Work	106	127	113	346
Political Science & Public Administration	54	286	43	383
Business Administration			140	141
History	54	156	108	318
Philology	175	146	125	446
Orthodox theology	52	101	73	226
Chemistry / Biology / Geography	214	264	204	682
Unknown (from the above)	1	2	13	16
Total	656	1082	819	2557

Overall, 2,557 students returned the filled-in questionnaire (*Table 1*). The database is freely available in a public repository³.

One of the open-ended opening questions concerned the meaning of academic integrity: “In Romanian universities they often speak about «academic integrity» and what is a violation of it. Please write down what you understand through academic integrity.” The next open-ended question asked students to list examples of academic integrity violations. There were also questions about their sources of information about academic integrity (eight pre-coded choices), their knowledge of the various tools to promote academic integrity at the university level, their past active involvement to contest violations of academic integrity, their personal violations of academic integrity, their battery of moral values, and details regarding their year of study, department, gender, and age.

The two open-ended questions offered the variables of interest. The answers were coded by the two authors independently and then confronted for consistency. Five broad categories of academic integrity were found within the codes: not-cheating, non-plagiarism, academic standards, honesty, and correctness in interactions. While some codes included ideas loosely related to academic integrity—rigor and general values—some others indicated concepts wholly unrelated to academic integrity, with even some linguistic confusions (for instance, “integration in the sense of integrating into the student community).

We predicted four types of outcomes: (1) there is no answer for the two open-ended questions—the respondent refused to answer; (2) the answer is “do not know”; (3) at least part of the answer is unrelated to the concept, denoting a distorted perspective; (4) the answer is legitimate.

³ Voicu, Bogdan; Emilia Șercan, 2022, “Academic Integrity, Romania 2018”, <https://doi.org/10.7910/DVN/3JXHGE>, Harvard Dataverse, V1, UNF:6:amDEB0WagpGRIs3gr+yyJQ== [fileUNF]

These outcomes were predicted using characteristics such as age, gender, and year of study as well as an index of moral permissiveness. The latter was computed as a factor score out of six items, measured on a 4-point agreement scale: “Those that break the laws are brave and innovative people”; “If you don’t know the laws/rules, it is acceptable to break them”; “Laws and rules are made by people, so it is natural that people break them sometimes”; “After all, laws and rules are made to be broken”; “When everybody around breaks the law, you are forced to break it”; and “Sometimes life forces you to break the laws/rules.” Factor analysis was employed to extract a single factor, using maximum likelihood estimation. The factor explains 41% of the total variance, with all communalities larger than .100 and KMO =.745. The scree plot clearly shows that the one-factor solution is appropriate for the data.

To study the growth of the field of study over time, we considered the number of PhD degrees awarded by the department between 1990 and 1995 and between 2012 and 2017. The difference between the latter number and the former was divided by the latter. Similar measures were established at the domain level considering all Romanian universities. We also computed a cross-domain indicator at the university level. Considering the number of PhD degrees gave us several advantages: 1) it enabled us to observe a more accurate figure than the one given by the number of students; 2) we employed a measure closer to the debate surrounding academic fraud; 3) we provided an estimate on how the pool for selecting academic staff increased over time; 4) we obtained an area more dynamic than the number of undergraduate students in itself, one that provides more variation across departments, disciplines, and universities.

Table 2. Descriptive statistics

		Count	Minimum	Maximum	Mean	Standard Deviation
Type of answer to the open-ended question (at least one answer in the category gives a 1 in the dummy variable)	“do not know”	2567	0	1	.08	.27
	No answer	2567	0	1	.31	.50
	Legit answers	2567	0	1	.45	.47
	Random answers	2567	0	1	.10	.30
Year 1 BA		2567	0	1	.46	.50
Year 2 BA		2567	0	1	.34	.47
Year 3 BA		2567	0	1	.20	.40
Woman		2567	0	1	.72	.45
Age		2567	17	64	20.33	3.18

Current degrees (awarded 2012-2017)	department	2567	1	473	169.89	119,27
Increase in doctoral degrees / current number of degrees, at the level of ...	field of study	2567	80	100	95.06	5.31
	University	2567	85	98	91.99	4.96
	department	2567	63	100	95.02	7.19

The above-mentioned variables are described in *Table 2*. The multilevel models were set up to provide the estimates. To deal with the low number of cases on the superior levels (there are only nine fields of study and only three universities), two models were set up for each dependent variable. The first includes only the growth rates for the university respective to the discipline; the second adds the growth rate of the department and its current size indicated by the number of PhD graduates.

Findings

Within the sample, 8% of respondents declared through various expressions that they do not have a clear idea about academic integrity; 31% did not answer the question at all; 45% offered at least one comprehensible meaning, while 44% offered borderline answers containing a vague connection to the concept; 10% offered random and irrelevant answers. Since these were open-ended questions, these percentages do not sum up to 100%: most of the answers, since they were quite elaborate, were recoded into more categories.

The most frequent word among the answers was “respecting” and its various derivations, such as “respect,” “to respect,” and so on. The salience of this “respect” word-family indicates that many answers highlighted academic integrity as something related to accepting and respecting some rules. Two other frequent terms were “students” and “professors” as the main agents in the university system. Other words that were also mentioned include “frames,” “norms,” “rules,” “must,” “universities,” “faculties,” “values,” “principles,” “rights,” “obligations,” “honesty,” “plagiarism,” “integration,” and behavior.”

Examples of random answers include definitions based on the phonetic or semantic similarity (in Romanian language) of ‘integrity’ to ‘integration’, ‘integral’, ‘admission’, ‘adaptation’, and being an ‘integralist’- passing all exams in a session.

Table 3. Frequency of the substantial answers to open-ended questions

Representations on meanings of academic integrity and its violations		Responses		Percent of Cases
		N	Percent	
Close to the concept	Cheating	913	7%	15%
	Plagiarism	1456	12%	25%
	academic standards	342	3%	6%
	Honesty	1518	12%	26%
	fair interactions with others	2143	17%	36%
Loosely related	Rigour	311	3%	5%
	desirable values	904	7%	15%
	Other	3158	25%	53%
Unrelated	random answers	1799	14%	30%
Total		12542	100%	212%

Table 3 displays the actual frequencies of the re-coded answers for the two open-ended questions. Only the substantial answers are displayed; we ignored those who left the two rubrics blank and those who answered that they did not know anything about the topic. Among the remaining answers, 7% referred to forms of cheating, and 15% answered other than “don’t know” or refused to answer. Fair interaction with others, honesty, and plagiarism were among the most frequently mentioned legit answers. But their total was overpassed by the loosely related definitions and were frequently close to the completely unrelated or random answers. This indicates a general atmosphere of confusion regarding the topic.

Table 4 displays the incidence of answer choices across the disciplines of study. One may note a specific pattern in geography, with a lesser understanding of academic integrity. But in philology, the situation is opposite: higher knowledge is reported. Otherwise, the domains are quite homogeneous with respect to our dependent variables.

Table 4. Incidence of the four answer choices across disciplines

		% non-answer	% don't know	% random answers	% legit answers
discipline	Sociology & Social Work	34%	8%	16%	38%
	Political Science & Public Administration	34%	4%	8%	47%
	Business Administration	34%	3%	6%	47%
	History	32%	13%	6%	45%
	Philology	19%	9%	9%	61%
	Orthodox theology	30%	10%	9%	40%
	Geography	40%	6%	17%	33%
	Biology	38%	9%	9%	35%
	Chemistry	28%	4%	10%	51%

Table 5 depicts the findings from the multivariate models. The year of study impacts three out of the four dependent variables, suggesting that first-year students are less likely to say “don’t know,” more likely to not answer, and have lower odds of providing an acceptable response. The models show no gender-based difference. Though age plays an insignificant role, it prevents random answers. Moral values were used as a covariate, and no causal relations were implied. The higher scores of morality are not only associated with lower odds of providing no answer to the academic integrity open-ended questions, but also with increased odds of providing a legit answer.

To switch the focus to the variables of interest, let us consider first the models that predict the “don’t know” answer - in other words, uncertainty about academic integrity. The growth rate of the discipline in the 2010s compared to the 1990s was found to have little impact. In fact, the p-value was larger than the canonical .05 threshold, becoming significant only in the model with a larger number of predictors on the second level(s). One needs to keep in mind that there were only nine fields of study and three universities, so the standard errors are likely to be biased, and we may risk rejecting significant relations as being insignificant. If we treat the sample as a convenience sample, there are higher odds for students from disciplines with higher growth to say “don’t know.” The impact at the university level is in the same direction and quite strong: there is a one-point increase in the ratio of the PhDs awarded in the 2010s to the corresponding 1990s number, which leads to an increase of 1.44 in the odds of students declaring their ignorance of academic integrity. The DK2 model adds the impact of the dynamics at the department level. Here, the effect was contrary to what was expected: a higher

increase in the department size, we found, leads to lower odds of uncertainty about academic integrity.

Table 5. Cross-classified logit models: odd-ratios

dependent	Don't know		No Answer		Random answer		Legit answer	
	DK1	DK2	NA1	NA2	RA1	RA2	LA1	LA2
Year 1	0.23***	0.22***	1.45***	1.44**	1.25	1.25	0.71**	0.71**
Year 3	0.72	0.72	0.67**	0.68*	0.84	0.84	1.46**	1.44**
Woman	1.16	1.13	0.80 [†]	0.80 [†]	1.35	1.36	0.98	0.99
Age	0.98	0.98	1.00	1.00	0.96*	0.96*	1.02	1.02
Moral Values	0.99	0.99	0.83***	0.83***	0.98	0.98	1.24***	1.25***
Growth: Discipline	1.01	1.09 [†]	0.99	1.03	1.01	1.01	1.01	0.97
Growth: Univ	1.37***	1.44***	1.00	1.00	1.06***	1.05 [†]	0.92***	0.94***
Department Size		0.93		0.84*		0.96		1.32***
Growth: Depart		0.92*		0.97*		1.00		1.03*
N	2085	2085	2085	2085	2085	2085	2085	2085

[†] $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Reference categories: BA Year 2, Men.

Analyzing the propensity of refusing to answer can be trickier. One may refuse to answer out of convenience, not having enough creativity to answer open-ended questions or simply being for the moment more interested in discussing with the colleague in the next seat (the data was collected in course-rooms, typically lecture halls). Despite such perturbations, the NA1 and NA2 models show common tendencies that go beyond immeasurable factors. There is no impact of growth at the level of discipline or the university. However, departments with higher growth rates tend to have students with lower odds of refusing to answer. A one-point increase in the growth of the department (as measured in the number of PhDs awarded) leads to a decrease of .03 in the odds of non-answering. The figure may seem low, but one should remember that the growth rate is measured as an increase in the number of PhDs between the 1990s and 2010s as divided by the 2000s number. It may theoretically vary from 0 to 100, and in practical terms, the observed range is 63 to 100. Computing the size of the effect, when the growth rate changes from 63 to 100, one may observe a .2 decrease in the odds of non-answering.

Growth in university size is reflected in a higher propensity to provide answers unrelated to the concept. However, with only three universities in the sample, this finding should be considered with caution. This result is consistent with our initial expectation that university expansion, reflected in the increase in the awarded PhDs, leads to a less clear representation of academic integrity. The corresponding hypotheses of growth within discipline or within the department do not hold water.

Finally, analyzing the acceptable answers, a higher number of significant relations were presented. Larger departments with higher growth compared to the 1990s are more prone to have students who offer relevant elements when defining academic integrity. However, fast growth at the university level seems harmful, but this should be considered with caution given the low number of universities. A one-point growth in the department increases the odds of a student providing a legit answer by 1.03. Considering the observed scale of the independent variable, the change in probability to answer with a legit definition increases with .2- a fifth of the 0–1 probability scale.

Discussion and Conclusion

The stark growth of a university or a discipline, it was found, is associated with a higher degree of spoken uncertainty concerning academic integrity. Growth in university size also determines higher odds of random answers and lower odds of legit answers. Overall, our expansion hypothesis concerning university size is confirmed.

The growth rate in the discipline across the country remains marginally related to a slightly higher degree of uncertainty about academic integrity. The hypothesis related to expansion fails to be sustained with respect to the increasing number of PhDs in the discipline.

The growth rate of the department demonstrated an opposite and unexpected effect, reducing the number of non-answers and the participants ignorant of academic integrity. It also increases the odds of participants who provide answers that include at least partially acceptable definitions of academic integrity.

Beyond the mechanisms that explain the differences across students, one striking result is the large number of students ignorant about academic integrity. In particular, many students simply offered random answers, using examples and definitions far from the concept. Overinclusion and incorrect phrasing, including difficulties with wording, affected at least 10% of the sample.

Our findings offer more knowledge on academic integrity in societal environments affected by high levels of corruption and permissiveness to fraud. We expect similar mechanisms as those described in this paper to be in place in other areas as well, and that the results can be transferred to other university systems.

Our findings raise several practical implications. On the one hand, academic management is normally concerned with promoting academic integrity. Therefore, in the case of higher education expansion, university decision-makers should be aware that the growth of universities as such may be associated with a decreasing knowledge of academic integrity for BA students. This might be the consequence of expansion by itself or of the increasing number of staff. In either scenario, the implication is that tailored measures to increase awareness of misconduct and other violations of academic integrity should be in place.

On the other hand, when the department grows, the rule is reversed. A growing department is one that is more likely to attract or have students who are more aware and less confused about academic integrity. Therefore, ethics commissions should be concerned about the students in departments that do not grow so much.

According to Bouville (2008), who discussed the negative consequences of plagiarism, the most important one concerns the trust of the readers. Since readers won't be able to differentiate between the original and the copy, plagiarism could jeopardize their trust. Similar harm can arise from the inability to reinforce academic integrity. The vague understanding of academic integrity among students becomes a problem for the entire university system. According to our findings, regulators and academic management could focus their efforts on promoting academic integrity in universities that have experienced rapid growth.

This study has several limitations. The convenience sample might have driven the findings; therefore, further research could consider extending the study to more varied fields of study and universities. Due to the increased number of cases on the second level(s), doing so would also allow a control for more factors at the level of university and/or department or discipline. Moreover, comparison across disciplines or at least domains (natural sciences, social and compartmental sciences, humanities, and so on) should be envisaged. This study did not include, for instance, students from health, law, or military studies, disciplines that gave rise to most of the publicly debated plagiarism and academic misconduct. We only focused on how academic integrity is conceived by the students in the remaining fields, and particular implications for these fields can be assumed from our findings. However, focusing on how students in other fields represent academic integrity may shed even more light on the topic. Considering more disciplines might also allow for adding discipline-level predictors and explaining variations from one field of study to another.

Furthermore, a panel approach may be considered to better explain the changes students undergo during their university studies. Such an understanding would refine the current findings and facilitate a better understanding of how representations of academic integrity are shaped during higher education expansion.

We did not control for the culture of academic integrity among the departments' academic staff. Since they are the agents of student exposure to academic practices, they act as influencers. At this stage, despite being aware of its importance, we have

missed such data. Future research should consider academic staff representations of academic integrity and study the extent to which these representations align with those of the students.

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