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Faculty influences on academic integrity at postgraduate level – views from Spanish universities*

Influências do corpo docente na integridade acadêmica em nível de pós-graduação – visões das universidades espanholas

Influencias del profesorado en la integridad académica a nivel de posgrado – perspectivas de las universidades españolas

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Abstract: This paper uses a survey methodology to explore the diverse views of Spanish university faculty teaching postgraduate students on academic dishonesty. A total of 489 professors and lecturers were surveyed. The results were analysed and split into four clusters reflecting faculty views on preventing and addressing dishonesty. The largest cluster (39%) thought it is essential to detect dishonesty and impose strong sanctions when misconduct occurred. A smaller group (15.7%) believed the university system was not responsible for academic dishonesty. Additionally, 78.7% agreed that technological factors were the main cause of breaches, as technology allows students to act dishonestly with ease. The findings highlight the need for a shared understanding of the role the whole academic community has in developing a culture of academic integrity, where all faculty recognize that promoting academic integrity is part of their responsibility.
Keywords: Postgraduate. Academic Dishonesty. Institutional Factors.

Resumo: Este artigo utiliza uma metodologia de pesquisa para explorar as diversas opiniões de professores universitários espanhóis que lecionam para estudantes de pós-graduação sobre desonestidade acadêmica. Um total de 489 professores foram pesquisados. Os resultados foram analisados e divididos em quatro grupos que refletem as opiniões dos professores sobre prevenção e enfrentamento da desonestidade. O maior grupo (39%) considerou essencial detectar a desonestidade e impor sanções rigorosas quando ocorresse má conduta. Um grupo menor (15,7%) acreditava que o sistema universitário não era responsável pela desonestidade acadêmica. Além disso, 78,7% concordaram que fatores tecnológicos são a principal causa de violações, pois a tecnologia permite que os estudantes ajam de forma desonesta com facilidade. Os resultados destacam a necessidade de um entendimento compartilhado sobre o papel de toda a comunidade acadêmica no desenvolvimento de uma cultura de integridade acadêmica, onde todos os professores reconheçam que promover essa integridade é sua responsabilidade.
Palavras-chave: Pós-graduação. Desonestidade Acadêmica. Fatores Institucionais.

Resumen: Este artículo utiliza una metodología de encuesta para explorar las diversas opiniones del profesorado universitario español que enseña a estudiantes de posgrado sobre la deshonestidad académica. Se encuestó a un total de 489 profesores y docentes. Los resultados fueron analizados y clasificados en cuatro grupos que reflejan las perspectivas del profesorado sobre la prevención y el abordaje de la deshonestidad. El grupo más numeroso (39%) consideró esencial detectar la deshonestidad y aplicar sanciones estrictas cuando se produjera mala conducta. Un grupo más pequeño (15,7%) opinó que el sistema universitario no era responsable de la deshonestidad académica. Además, el 78,7% estuvo de acuerdo en que los factores tecnológicos son la principal causa de las infracciones, ya que la tecnología facilita que los estudiantes actúen de forma deshonesta. Los hallazgos destacan la necesidad de un entendimiento compartido sobre el papel de toda la comunidad académica en desarrollar una cultura de integridad académica, donde todo el profesorado reconozca que promover esta integridad es parte de su responsabilidad.
Palabras clave: Posgrado. Deshonestidad académica. Factores institucionales.

Introduction

This paper investigates why faculty in two Spanish universities believe that academic dishonesty happens and how such dishonesty can be addressed. The paper presents the analysis of a survey investigating institutional factors relating to misconduct by postgraduate students. The results reveal diverse faculty viewpoints. The analysis presented is intended to contribute to the literature on understanding academic integrity in local and geographical settings, whilst also helping to shape a wider understanding of how far faculty views and engagement with academic integrity initiatives can influence student behaviour.

Academic integrity remains a widely studied research area, perhaps due to the importance of ensuring the value of university awards. As Comas (2009) indicated, academic integrity research relates primarily to dishonest behaviours observed amongst students. Comas identified four main study objectives that are often explored. Two objectives, the extent of dishonest behaviour, and

the determination of the severity of academic integrity breaches, are outside the scope of this paper. This work focuses on Comas' other two objectives, namely the causes and factors that lead to academic misconduct, and the related mechanisms available to deal with the problem. The focus is on the views and experiences of the faculty who teach students at postgraduate level.

The paper first introduces relevant research based around the two objectives identified. Four research questions are identified. The survey instrument used is presented and the results are analysed to identify four clusters of faculty. Each cluster of faculty is seen to have different views on how to respond to academic dishonesty. The paper concludes by recommending that faculty are supported to develop more progressive viewpoints on academic integrity, using studies like the one reported here as the motivation for future change.

BACKGROUND

Factors associated with academic dishonesty in postgraduate studies

As the introduction indicated, the study reported in this paper focuses in on two objectives. The first is to identify the factors associated with academic dishonesty in postgraduate studies, or, at least, the faculty perceptions of those factors.

The reasons students breach academic integrity are well considered in the academic literature, although the number of sources focused specifically on postgraduate study are more limited. Many studies have not differentiated between undergraduate and postgraduate students. In one of the earliest published studies, Drake (1941) found that the pressure to achieve and obtain grades at a desired level was a key driver of cheating. Nuss (1984) found simply that students cheated to avoid failure. A more recent study by Amigud and Lancaster (2019) found that students would look to get a third party to complete their assessments for them in a dishonest manner when the student could no longer persevere and no other support was available.

It could perhaps be expected that the reasons for academic dishonesty at postgraduate level would be more refined that those for undergraduates. After all, postgraduates are expected to be more accomplished scholars, and to know how to avoid accidental plagiarism and breaches of academic dishonesty. However, Babaii and Nejadghanbar (2017) have a counter view. They emphasize factors such as students' lack of academic competencies, deficits in academic writing processes, teachers' indulgence, students' lack of time, laziness, and, finally, the pressure felt by students in the face of teaching staff high expectations.

These views are echoed by Vučković et al. (2020). Based on a study of both teachers and students, they suggest that the main factors with which dishonest behaviors are associated are: anxiety, laziness and indolence on the part of students, pressure from the environment, behaviors justifying the use of dishonorable means to achieve an end, poor time planning and learning strategies, and, finally, specific teaching strategies and methodologies.

Krishna and Peter's (2018) study, which focused on Ph.D. students, takes a more balanced view. This research underlines the importance of attitudes and knowledge about students' academic integrity as a protective factor and shows that the processes of guidance and teacher supervision, as well as student motivation, are also crucial elements when explaining dishonest behavior on the part of postgraduate students.

Not all research studies place the blame for academic dishonesty solely on students. Redman and Caplan (2015), suggest that inadequate tutoring and supervision processes in graduate

dissertations, together with a lack of clear regulations on the subject and the lack or low operability of the institutional structures dedicated to addressing the issue of dishonesty among students are elements that explain dishonesty among students.

Similarly, Abbasi et al. (2021), in a study in which the perceived causes of plagiarism commission by postgraduate medical students from various Iranian universities were analyzed, concluded that the main explanatory factors for plagiarism are lack of academic and research skills of the students, pressure from the educational system and lack of awareness on the part of students of the seriousness of the action of plagiarism, deficits in academic regulations and inefficient supervision or tutoring processes.

A final study that investigates these issues is that of Cebrián-Robles et al. (2020), which suggests the following as explanatory factors of plagiarism among postgraduate students: the lack of knowledge of the existence of plagiarism detection systems, the lack of information and guidance for prevention, and the lack of protocols and regulations that control bad practices.

The results of the literature survey suggest that, although students may breach academic integrity norms due to external pressures, the educational system does also need to ensure that support, training and guidance is in place for postgraduate students.

Mechanisms to address academic dishonesty in postgraduate studies

The other focus of this work is the analysis of measures, devices, and strategies to deal with academic dishonesty in graduate studies. There is also recent literature on this issue, but more focus on the causes is needed. For example, the study by Kokkinaki et al. (2015) shows that in establishing policies, procedures and sanctions in cases of academic dishonesty, it is necessary to have uniformity and consistency both in the implementation and especially in the imposition of sanctions. This study also indicates that using tools to detect plagiarism positively reduces its incidence.

Another insightful work, based on a European-wide macro-study involving more than 5000 teachers and researchers, highlights the need to strengthen policies to promote academic practices and implement coherent but proportionate measures to deter malpractice in education and research (Glendinning, 2015). An additional study, a review of plagiarism in nursing studies, highlights that the punitive approach to this malpractice has not reduced its incidence and advocates promoting honesty and academic integrity through the training and awareness of students (Lynch et al., 2017).

Newman (2020) undertook a study in Australia where 92 cases of alleged violations of academic integrity that occurred during a year at a university were reviewed. Newman concludes with the view that concludes that academic institutions should make greater use of preventive strategies and that greater emphasis should be placed on prevention and less on punishment as a response. This view is largely echoed by Mahmud and Bretag (2013), who argued that academic integrity training should be integrated within research training. They also noted that two in five Australian doctoral students were unaware of the existence of academic integrity policies within their institutions.

A final interesting contribution is that of Lynch et al. (2021). Based on the opinions of teachers, they recommend solutions that involve increasing the severity of sanctions for students, especially repeat offenders, improving strategies and deterrent measures, having greater institutional support and improving teacher training for the detection and treatment of cases of dishonesty.

As the literature indicates, the range of mechanisms proposed to address academic dishonesty are diverse, with supportive measures considered alongside penalties. These viewpoints match well with the factors identified that seem to influence academic dishonesty. The views of faculty members in Spain which will be explored in this paper are of equal interest.

Research questions

The purpose of this research is to investigate the main factors surrounding academic dishonesty in postgraduate study, as identified by the faculty who teach postgraduate students. Alongside this, the study aims to analyse which measures and strategies are thought to be most valuable at preventing academic dishonesty. The research takes into account the fact that there are different types of staff teaching at postgraduate level, all with their own interests, understanding of academic integrity, and varying levels of institutional responsibility in the face of fraud.

Four research questions have been identified:

RQ1: What are the leading causes related to academic dishonesty in postgraduate studies in the opinion of the teaching staff?

RQ2: What are the best strategies or measures to deal with cases of dishonesty in graduate school?

RQ3: Is there consensus among graduate faculty about the causes and measures to be taken to address academic dishonesty?

RQ4: Are there differences in the measures to be adopted in the face of dishonesty depending on the role that professors give to the institutional and organizational culture of universities as factors that can explain the existence of dishonest behavior among graduate students?

METHODOLOGY

Sample collection

The participants in the study were 489 postgraduate professors and lecturers from two Spanish public universities (the University of the Balearic Islands and the University of Granada). All participants taught postgraduate students or supervised postgraduate level research.

Regarding the characteristics of the sample, 60.5% identified as male and 39.5% as female, with a mean age of 49.5 years (SD=9.49). Regarding the professional category, 3.1% were visiting professors, 4.7% were associate professors, 8.4% were doctoral assistants, 19.6% were contracted doctors, 39.3% were tenured professors, 24.3% were full professors and 0.6% were emeritus professors. Regarding the academic discipline from which they came, 37.8% came from Social and Legal Sciences, 18% from Arts and Humanities, 14.3% from Health Sciences, 19.8% from Sciences, and 10% from Engineering and Architecture.

The process to recruit the participants in the study was as follows: a) the names and email contact details email of the postgraduate professors were obtained from the web directories of both universities, and all the staff who taught in official master's and doctoral degrees or who were supervisors/supervisors of Master's Theses or Doctoral Theses (n=2086) were considered postgraduate professors/lecturers; b) each was sent an email in January 2024 inviting them to

answer the online questionnaire and were provided with an information document about the study, including details on the privacy and data processing policy, before administering the questionnaire, and informed consent was assumed when the participants answered the survey; c) up to three reminder emails were sent in a period of 3 months. The survey response rate was 23,4%, which compares favourably with the benchmarks of Kittleson (1997) and Sheehan and Hoy (1997).

Instrument, procedure and measurement

The administered questionnaire was approved by the Ethics Committee of the University of Balearic Islands (Ref. 31CER24). It was designed and conducted anonymously, ensuring full confidentiality of the participants and strict compliance with ethical standards. Furthermore, the administration of the questionnaire adheres to all international ethical standards for research involving human subjects, in accordance with the Declaration of Helsinki (2013), the General Data Protection Regulation (GDPR) of the European Union (Regulation 2016/679), and the guidelines of the European Research Ethics Committee. This guarantees compliance with the principles of autonomy, beneficence, justice, and non-maleficence, ensuring a rigorous and ethically responsible research process.

The questionnaire used was developed based on: a) the questionnaires used in the previous studies by Henning et al. (2020) and Sureda-Negre et al. (2020); b) the validation of the questionnaire by the judgment of ten Spanish experts in studies on academic integrity and social research methodology; and c) a pilot test of the questionnaire administered to 27 postgraduate professors from three Spanish universities different from the two in the study.

Along with demographic information, the questionnaire contained two blocks of questions.

The first block of questions asked about the perceived importance of 24 explanatory factors of academic dishonesty among graduate students (4 institutional factors; 2 technological factors; 4 related to students' sense of impunity; 2 related to student motivation; 3 related to time management; 2 related to information skills; 2 related to self-imposed pressure; 2 related to self-imposed pressure; 2 related to the culture of effort; 3 related to supervision and tutoring). For each of these causes or factors, respondents had to answer on a scale where: 1=Null importance; 2=Unimportant; 3=Medium importance; 4=Quite important; 5=A lot of importance.

The second block of questions requested views on the degree of agreement regarding the implementation of 12 prevention, detection and sanction measures to combat academic dishonesty (2 detection and control measures; 2 regulatory measures; 3 training and awareness-raising measures; 2 awareness-raising measures aimed at students and three awareness-raising measures aimed at teachers). For each of the 12 measures, respondents were required to respond on a scale: 1=Disagree; 2=Neither agree nor disagree; 3=Agreed.

The questionnaire was administered online.

Data analysis and processing

First, in order to analyze the importance given to the 24 factors/causes of fraud and the degree of consensus/dissent among the teaching staff, the frequency tables of all the questions were obtained and the percentages of global agreement and the Kappa marginal free were calculated for each of the items (Brennan & Prediger, 1981; Gwet, 2010; Randolph, 2008; Warrens, 2010). This procedure was repeated to analyze the importance of implementing the 12 prevention,

detection, and sanction measures against fraud and academic dishonesty and the degree of consensus/dissent of the teaching staff regarding it. The most frequent interpretations of the Kappa index are those of Fleiss et al. (1981) (fair agreement between 0.40-0.60; good between 0.61-0.75; and excellent for values greater than 0.75); and that of Altman (1990) (poor agreement <0.20; weak between 0.21-0.40; moderate between 0.41-0.60; good between 0.61-0.80; and very good for values greater than 0.81). In this study, an acceptable consensus was those with a Fleiss Kappa index greater than 0.40, which coincides with Fleis' "fair" and Altman's "moderate" categories.

Second, according to their positions, a non-hierarchical cluster analysis (K-means) was carried out on the group of postgraduate faculty members, concerning the four institutional factors potentially related to academic dishonesty. Since this is an exploratory descriptive technique with no standardized criteria to determine the optimal number of groups, the final decision was based on the scientific and interpretative parsimony criterion. In other words, the groups obtained had to be of sufficient size, present a certain internal homogeneity and a particular external heterogeneity and, in addition, provide a simple and plausible interpretation of the data (López & Fachelli, 2015).

Thirdly, to better characterize the groups obtained in the cluster analysis, an analysis was carried out using contingency tables where the groups obtained through the cluster analysis (membership cluster) and, on the other hand, the variables related to the 12 anti-fraud measures were crossed. In this analysis, the chi-square statistic was calculated as a measure of association between the variables and, to complement the analysis, the corrected standard residuals were also calculated as a measure of the intensity of the relationship between the categories of the variables analyzed.

The SPSS v.22 computer statistical package was used for data processing and analysis.

RESULTS

Explanatory factors of academic dishonesty among graduate students.

Table 1 documents the general results regarding the perceived importance of 24 factors or causes potentially explaining academic dishonesty in graduate studies. From the analysis of the general data, it is possible to establish a classification of those factors that, in the opinion of the participants in the study, have more explanatory weight when it comes to understanding why postgraduate students may commit dishonest actions during the course of their studies.

The participants rank technical factors most highly as providing a reason why academic dishonesty takes place at postgraduate level. This suggests that faculty view that students with access to computational resources benefit from the ease, comfort, and anonymity to carry out unethical behaviour.

Other trends shown in Table 1 with overall agreement at 50% or higher are worthy of further discussion. Faculty indicate that where students feel their assessments will only be superficially evaluated or the risk of them getting caught is low, that academic dishonesty is more likely. A linked area is a perceived lack of strong sanctions and penalties for when students are caught. The faculty also indicate a belief that students who are acting dishonesty may be approaching education not expecting to have to put in effort, that some may see the need for qualification as more important than the associated learning, and that students may lack the time management skills and associated study discipline needed for success at postgraduate level.

By contrast, factors related to tutors themselves score relatively low on overall agreement. Poor tutoring is only considered to be an issue by 35% of the respondents. Faculty do not believe that postgraduate students lack a knowledge or understanding of academic integrity. They also say that they do not believe that the pressure by faculty to publish also extends to students.

Table 1 - Factors related to academic dishonesty

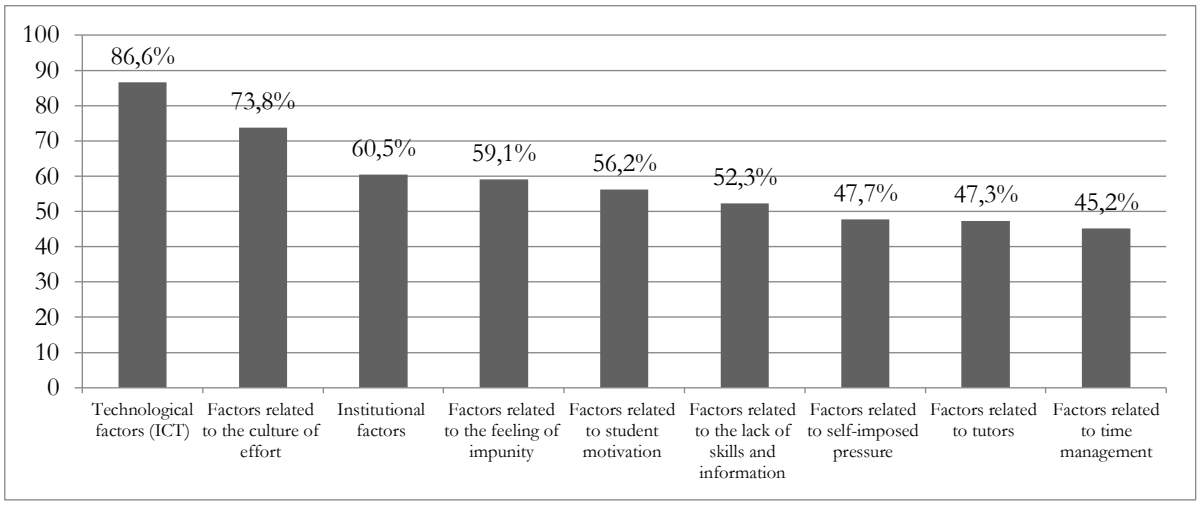
Factors	Null/Minor	Medium Importance	A lot of importance	Overall agreement	Free-marginal kappa
Technological Factors (ICT)					
The ease and comfort that ICT confers on students who wish to act dishonestly	2,7%	9,1%	88,2%	78.7%	0.68
Anonymity conferred by ICT to students who wish to act dishonestly	4,1%	10,7%	85,5%	73.7%	0.61
Factors related to the feeling of impunity					
The belief that teachers superficially review submitted assignments.	9,6%	18,5%	71,9%	55.9%	0.34
Belief that the student may have that in cases of dishonest behavior the teacher "looks the other way" and does not act harshly	20,5%	28,2%	51,2%	38.3%	0.07
The belief that they will not be caught if they engage in dishonest conduct	7,9%	21,3%	70,7%	55%	0.33
Conviction that other students are also acting dishonestly	26,4%	30,9%	42,7%	34.6%	0.02
Factors related to student motivation					
Lack of motivation towards homework and studies	10,4%	26,1%	63,3%	48.1%	0.22
The feeling of not learning anything with the assessable assignments and activities requested	22,6%	28,5%	48,9%	37%	0.06
Factors related to time management					
Poor planning or time management	8,5%	20,5%	71%	55.2%	0.33
Workload and dedication required in postgraduate studies	30,1%	38,1%	31,8%	33.5%	0.00
Lack of time due to personal constraints (work, family occupations, etc.)	29,6%	37,6%	32,8%	33.5%	0.00
Factors related to lack of skills and information					
Lack of knowledge of academic rules, codes and regulations	37,3%	22,5%	39,8%	34.9%	0.02
Lack of academic or research skills (e.g., lack of knowledge of citation regulations, difficulties in managing and processing data in research).	10,3%	24,7%	64,9%	49.2%	0.24
Factors Related to Self-Imposed Pressure					
The self-imposed pressure to publish high-impact articles for faculty accreditation (*publish-or-perish* syndrome, the introduction of many co-authors in publications, etc.)	20,3%	21,1%	58,6%	42.8%	0.14
Pressure, self-imposed or imposed by third parties, to get good grades	32,5%	30,6%	36,9%	33.4%	0.00
Factors related to the culture of effort					
Need or desire to obtain an academic qualification without regard to the means used for this purpose	13,3%	19,4%	67,4%	50.7%	0.26

Lack of culture of effort	6,9%	12,8%	80,3%	66.5%	0.50
Factors related to tutors					
Poor tutoring or follow-up by teachers	27,4%	28,3%	44,3%	35%	0.02
Teachers' ignorance of dishonest activities that their students may carry out (paraphrasing programs, buying theses, translating documents and presenting them as their own, etc.)	13,5%	24,1%	62,4%	46.4%	0.20
Pressure imposed by tutors or supervisors to publish scientific articles	33,9%	30,9%	35,2%	33.2%	0.00
Institutional factors					
Lack of prevention and awareness-raising mechanisms on the part of universities	16,2%	26%	57,9%	42.7%	0.14
Lack of detection mechanisms by universities	19,6%	25,8%	54,6%	40.1%	0.10
Lack of strong sanctions from the University for dishonest conduct	11,5%	14,1%	74,4%	58.6%	0.38
The existence of a particular "law of silence" or opacity on the part of universities when it comes to recognizing or making public the cases of academic dishonesty detected in their institution	21,1%	23,5%	55,4%	40.5%	0.11

Source: Research data.

Figure 1 shows the factors that most explain academic dishonesty among students classified by blocks based on their importance. Here, the percentage averages of responses that show a lot of importance to each block of factors studied are collected. This classification further supports the faculty view that information and communications technology factors are to blame for academic dishonesty.

Figure 1 - Explanatory Importance of Factors Classified by Blocks



Source: Research data.

Typology of teaching staff according to their position concerning four institutional factors related to academic dishonesty in postgraduate studies.

The second set of survey questions related to faculty views on the measures in place at university level to prevent, detect and address academic dishonesty. Cluster analysis was carried out, relating to the mean scores in each of the four related institutional factors thought to

potentially relate to the dishonest conduct of postgraduate students. The results of this cluster analysis are shown in Table 2.

Table 2 - Final centers of the clusters obtained

Institutional factors	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Total
Lack of prevention and awareness-raising mechanisms on the part of universities.	$2{,}38_a$	$3{,}70_b$	$4{,}50_c$	$2{,}65_a$	3,63
Lack of detection mechanisms by universities.	$2{,}00_a$	$3{,}69_b$	$4{,}40_c$	$2{,}52_d$	3,51
Lack of strong sanctions from the University for dishonest conduct.	$2{,}43_a$	$3{,}74_b$	$4{,}72_c$	$4{,}53_c$	4,04
Existence of a certain "law of silence" or opacity on the part of universities when it comes to recognizing or publicizing the cases of academic dishonesty detected in their institution.	$1{,}94_a$	$2{,}82_b$	$4{,}58_c$	$4{,}05_d$	3,57
N	77	142	191	79	489
%	15,7%	29%	39%	16,1%	100%

Note: Values in the same row and subtable that do not share the same subscript are significantly different at $p<0.05$.
Source: Research Data.

Table 2 identifies that faculty views can be categorized in four clusters.

Cluster 1. This represents 15.7% of the sample. This is a group of faculty members who give low scores to all institutional factors when explaining the dishonesty in the evaluation tests by postgraduate students. In this sense, it can be interpreted that, for this group, the university (in general) would not be the main culprit/responsible and, therefore, other non-institutional factors or causes that are more important for this cluster should be analyzed.

Cluster 2. It represents 29% of the sample. This group of faculty gives relatively high scores to all factors except a certain law of silence in the face of dishonesty. In this sense, it can be interpreted that for this group the university has much responsibility when it comes to explaining fraud and should improve in prevention mechanisms, detection mechanisms and sanction more. However, there would be no "law of silence" or opacity in the face of the fraudulent actions of graduate students.

Cluster 3. This is the largest cluster and represents 39% of the faculty surveyed. This group of people gives very high scores to the four institutional factors when explaining the dishonesty of postgraduate students. In this sense, the university is responsible and should improve both prevention and detection devices and sanctions. In addition, there would be a certain law of silence in the face of fraudulent actions at the university.

Cluster 4. It represents 16.1% of the sample. These faculty members do not give much importance to institutional prevention mechanisms or institutional detection mechanisms when it comes to explaining dishonesty on the part of postgraduate students. However, for this group, the main institutional causes would be the lack of sanctions by the university and the existence of a certain "law of silence" in the face of fraudulent/dishonest actions. That is to say, the university would have prevention and detection mechanisms; however, there would be a certain law of silence, and cases of dishonesty are not punished with sufficient force.

Potential of measures against academic dishonesty in postgraduate studies.

Table 3 shows the general results regarding the participants' opinions about how universities should act in the face of dishonest student behavior and the degree of agreement or disagreement with the different measures.

The measures with the highest level of agreement are those related to the existence of regulations and codes of conduct on academic integrity, the need to act and penalize students who engage in dishonest behavior, and the need to inform students about the consequences of dishonest behavior. The measures with the least support have been repressing teachers if students' dishonest behaviour stems from their inaction or lack of commitment and implementing control systems in online assessment activities.

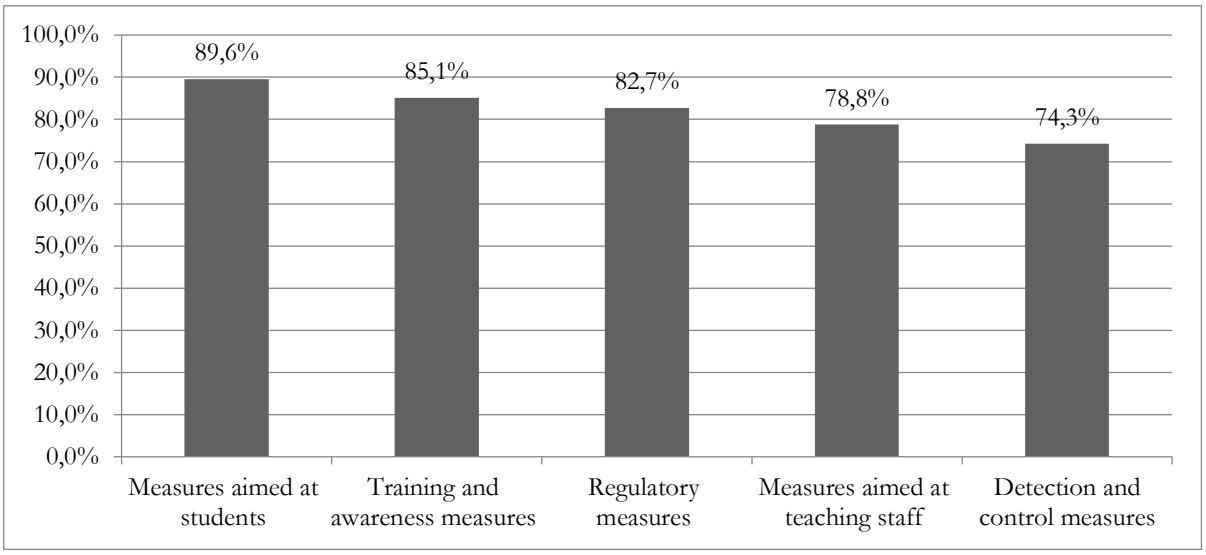
Table 3 - Measurement against academic dishonesty

	Disagree	Neither disagreement nor agreement	I agree	Overall agreement	Free-marginal kappa
Detection and control measures					
All assessment papers must be passed through a plagiarism detection program before evaluation.	5,10%	10,70%	84,20%	72.2%	0.58
Control systems should be implemented in online assessment activities (e.g. facial recognition systems, assessment test recording systems, etc.).	16,50%	19,00%	64,50%	47.8%	0.22
Regulatory measures					
Universities must have strict academic regulations or code of conduct regarding sanctions and actions in the event of dishonest conduct by students.	2,10%	3,40%	94,50%	89.4%	0.84
Universities should have an independent committee or body to act as a judge in potential cases of student academic dishonesty.	9,70%	19,40%	71%	54.9%	0.32
Training and awareness-raising measures					
Universities must report on the punitive measures or consequences that students may have for carrying out fraudulent practices.	1,10%	5,30%	93,60%	87.9%	0.82
Universities should develop programs to train students in academic integrity and research integrity.	6,50%	12,80%	80,70%	67.1%	0.51
Universities should develop student awareness programs in academic and research integrity areas.	5,70%	13,20%	81,10%	67.8%	0.52
Measures aimed at students					
Students must sign an affidavit certifying the originality of their written work (specifically, Master's Theses and doctoral theses) before being evaluated.	8,30%	7%	84,70%	72.8%	0.59
Graduate students should be reprimanded/sanctioned in some way if they are proven to have committed dishonest conduct.	2,60%	2,90%	94,50%	89.4%	0.84
Measures aimed at teachers					
Teachers must improve their coordination and standardize the responses given to situations of fraud in student evaluations.	3,50%	8,10%	88,30%	78.7%	0.68
Graduate faculty should be reprimanded/sanctioned if student dishonest conduct has occurred due to inaction, lack of commitment, indifference, or omission.	20,50%	18,40%	61,10%	44.7%	0.17
Graduate faculty should receive basic training about academically dishonest student behavior (how to detect it, how to prevent it, what to do, etc.).	4,50%	8,40%	87,10%	76.6%	0.65

Source: Research data.

Figure 2 further shows that faculty are generally in favour of addressing academic dishonesty through measures aimed at students. In Figure 2, the data is grouped by where the average percentage of responses that agree with implementing these measures to deal with dishonest behaviour among postgraduate students. Faculty indicate that training and awareness of academic integrity is needed for students. They express less enthusiasm for control and detection.

Figure 2 - Agreement on the usefulness of measures to address academic dishonesty in graduate studies



Source: Research data.

In general, there is a high degree of agreement on most of the measures submitted to the participants. Thus, in 75% of the measures analysed, a level of consensus of more than 65% has been reached; The only measures on which a significant level of agreement has not been reached are: control systems in online activities, the creation of independent committees or bodies that act in situations of academic dishonesty, and the reprimand or sanction of teachers if it is proven that the dishonest conduct derives from their inaction.

Relationship between the clusters generated and the measures to be adopted in the face of academic dishonesty in postgraduate studies

A final round of analysis involved analysing the measures against academic dishonesty for each of the four cluster groups introduced in Table 2. The results are shown in Table 4.

It should be noted that, in 11 of the 12 measures, a significant association is detected between membership in a cluster and the degree of agreement with the proposed measure. Only in the measure "the student body must have the obligation to sign an affidavit on the originality of the work written (specifically, TFM and doctoral theses) before being evaluated" is a significant relationship not detected, with the majority of the members of the four clusters agreeing with this measure.

The members of cluster 1 are characterized by disagreeing to a greater extent than the members of other clusters with the detection and control measures, with the regulatory measures, with the universities reporting on the punitive measures or consequences that the students carry out fraudulent practices and with two of the measures aimed at the teaching staff (improving the coordination of teachers and homogenizing the responses to situations of fraud in the universities). evaluations, and reprimand or sanction teachers if they have occurred for their inaction, lack of

commitment, lack of concern or omission). Also significant is the percentage of members of this cluster who do not agree or disagree with measures such as developing student awareness programs in areas related to academic integrity and integrity in research, improving teacher coordination and homogenizing responses to situations of fraud in evaluations or that teachers receive basic training on student dishonest behavior.

Members of cluster 2 are characterized by their tendency to show no agreement or disagreement to a greater extent than members of other clusters in detection and control measures, such as passing papers through plagiarism detection programs, and with measures aimed at students, such as being reprimanded or sanctioned if it is proven that they have committed dishonest behavior. On the other hand, the members of cluster 2 seem to agree to a greater extent than those of other clusters on two of the training and awareness-raising measures, whereby universities should develop training programs and programs to raise students' awareness of academic integrity and integrity in research. There is also a greater degree of agreement with the measure aimed at teachers to improve their coordination and standardize responses to fraud in assessments.

Members of cluster 3 agree more than members of other clusters on the following measures: passing assessment papers through a plagiarism detection program prior to assessment; that universities have an independent committee or body to act as a judge in potential cases of academic dishonesty on the part of students; that universities report on the punitive measures or consequences that students have for carrying out fraudulent practices; and that graduate professors be reprimanded/sanctioned if the dishonest conduct of the student body has occurred due to their inaction, lack of commitment, lack of concern, or omission.

The results of cluster 4 show a greater degree of disagreement with members of other clusters on the regulatory measure that states that universities must have an independent committee or body to act as a judge in potential cases of academic dishonesty on the part of students. There is also a tendency to show neither agreement nor disagreement to a greater extent than members of other clusters in training and awareness-raising measures such as carrying out training or awareness-raising programmes on academic integrity and integrity in research for students.

Table 4 - Measures to be adopted in the face of academic dishonesty according to each cluster

Measurement	Agreement	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Total
Detection and control measures						
All assessment papers must be passed through a plagiarism detection program before evaluation. (**) (chi2=44.062; gl=6; p=0.000)	Disagree	**18,4%**(a)	0,7%(b)	4,2%(b)	2,5%(b)	5,10%
	Neither disagreement nor agreement	11,8%(a,b)	**16,2%**(b)	5,8%(a)	11,4%(a,b)	10,70%
	I agree	69,7%(a)	83,1%(b)	**90,0%**(b)	86,1%(b)	84,20%
Control systems should be implemented in online assessment activities (e.g. facial recognition systems, assessment test recording systems, etc.). (*) (chi2=16.289; gl=6; p=0.012)	Disagree	**30,3%**(a)	10,6%(b)	16,1%(b)	14,5%(b)	16,50%
	Neither disagreement nor agreement	13,2%(a)	19,9%(a)	18,3%(a)	25,0%(a)	19,00%
	I agree	56,6%(a)	69,5%(a)	65,6%(a)	60,5%(a)	64,50%
Regulatory measures						
Universities must have strict academic regulations or codes of conduct regarding sanctions and actions in the event of dishonest conduct by students. (**) (chi2=29.332; gl=6; p=0.000)	Disagree	**9,6%**(a)	0,0%(b)	0,0%(b)	3,8%(a)	2,10%
	Neither disagreement nor agreement	5,5%(a)	2,9%(a)	3,3%(a)	2,6%(a)	3,40%
	I agree	84,9%(a)	97,1%(b)	96,7%(b)	93,6%(a,b)	94,50%
	Disagree	**20,3%**(a)	4,4%(b)	4,9%(b)	**20,8%**(a)	9,70%

Universities should have an independent committee or body to act as a judge in potential cases of academic dishonesty on the part of students. (**) (chi2=39.781; gl=6; p=0.000)	Neither disagreement nor agreement	**28,4%**(a)	21,2%(a,b)	14,3%(b)	19,4%(a,b)	19,40%
	I agree	51,4%(a)	74,5%(b)	**80,8%**(b)	59,7%(a)	71%
Training and awareness-raising measures						
Universities must report on the punitive measures or consequences that students may have for carrying out fraudulent practices. (**) (chi2=16.855; gl=6; p=0.010)	Disagree	**4,2%**(a)	0,0%(b,c)	0,0%(c)	2,8%(a,b)	1,10%
	Neither disagreement nor agreement	4,2%(a,b)	8,2%(b)	2,8%(a)	6,9%(a,b)	5,30%
	I agree	91,5%(a)	91,8%(a)	**97,2%**(b)	90,3%(a)	93,60%
Universities should develop programs to train students in academic integrity and research integrity. (**) (chi2=18.419; gl=6; p=0.005)	Disagree	8,3%(a,b)	5,8%(a,b)	4,3%(b)	11,4%(a)	6,50%
	Neither disagreement nor agreement	19,4%(a)	6,5%(b)	11,7%(a,b)	**20,3%**(a)	12,80%
	I agree	72,2%(a)	**87,7%**(b)	84,0%(b)	68,4%(a)	80,70%
Universities should develop student awareness programs in academic and research integrity areas. (**) (chi2=30.612; gl=6; p=0.000)	Disagree	6,8%(a,b)	3,5%(b)	4,3%(b)	**11,5%**(a)	5,70%
	Neither disagreement nor agreement	**20,5%**(a)	6,4%(b)	10,3%(b)	**25,6%**(a)	13,20%
	I agree	72,6%(a)	**90,1%**(b)	85,4%(b)	62,8%(a)	81,10%
Measures aimed at students						
Students must sign an affidavit stating the originality of the work written (specifically, Master's Thesis and doctoral theses) before being evaluated. (chi2=5.829; gl=6; p=0.443)	Disagree	14,1%(a)	5,8%(b)	6,7%(a,b)	11,4%(a,b)	8,30%
	Neither disagreement nor agreement	7,0%(a)	6,6%(a)	7,3%(a)	7,1%(a)	7%
	I agree	78,9%(a)	87,6%(a)	86,0%(a)	81,4%(a)	84,70%
Graduate students should be reprimanded/sanctioned in some way if they are proven to have committed dishonest conduct. (*) (chi2=15.706; gl=6; p=0.015)	Disagree	5,7%(a)	0,8%(b)	2,2%(a,b)	4,2%(a,b)	2,60%
	Neither disagreement nor agreement	1,4%(a,b)	**6,8%**(b)	1,7%(a)	0,0%(a)	2,90%
	I agree	92,9%(a)	92,5%(a)	96,1%(a)	95,8%(a)	94,50%
Measures aimed at teachers						
Teachers must improve their coordination and standardize the responses given to situations of fraud in student evaluations. (**) (chi2=26.403; gl=6; p=0.000)	Disagree	**9,2%**(a)	0,0%(b)	3,7%(a)	3,9%(a)	3,50%
	Neither disagreement nor agreement	**18,4%**(a)	6,6%(b)	6,3%(b)	5,2%(b)	8,10%
	I agree	72,4%(a)	**93,4%**(b)	90,0%(b)	90,9%(b)	88,30%
Graduate faculty should be reprimanded/sanctioned if student dishonest conduct has occurred due to inaction, lack of commitment, indifference, or omission. (**) (chi2=22.801; gl=6; p=0.001)	Disagree	**36,5%**(a)	12,9%(b)	18,6%(b,c)	23,4%(a,c)	20,50%
	Neither disagreement nor agreement	21,6%(a)	21,6%(a)	14,4%(a)	19,5%(a)	18,40%
	I agree	41,9%(a)	65,5%(b)	**67,0%**(b)	57,1%(a,b)	61,10%
Graduate faculty should receive basic training in relation to academically dishonest student behavior (how to detect it, how to prevent it, what to do, etc.). (*) (chi2=14.128; gl=6; p=0.028)	Disagree	5,6%(a,b)	2,2%(b)	4,4%(a,b)	8,3%(a)	4,50%
	Neither disagreement nor agreement	**16,7%**(a)	8,0%(a,b)	4,9%(b)	9,7%(a,b)	8,40%
	I agree	77,8%(a)	89,8%(b)	90,7%(b)	81,9%(a,b)	87,10%

Note: Values in the same row that do not share the same subscript (a, b) significantly differ by p<.05 in the bilateral equality test of column means.
Note: The percentages in bold indicate boxes with residuals greater than 1.96 (positive association) and the underlined percentages indicate the boxes with residuals greater than -1.96 (negative association).
Source: Research data.

CONCLUDING REMARKS

Discussion

This research study has investigated the views of faculty at universities in Spain regarding academic dishonesty at postgraduate level. The results clearly demonstrate that the views of faculty are diverse. The paper has further demonstrated the existence of four typologies of professors with different positions regarding the importance of institutional factors related to academic dishonesty in postgraduate studies.

Perhaps the biggest trend to note is that faculty generally externalise the problem of academic dishonesty to being something outside of their direct control. The most common view is that students are responsible for fraudulent activity, rather than the faculty who teach or support them. At the same time, faculty are pushing for misconduct to be addressed through penalties and sanctions. The view appears to be that strong messaging about cheating will stop other students from moving down the wrong path. In this sense, despite not questioning the need to ensure accessible codes of honour and clear consequences and sanctions for the entire university community, it should be taken into account that the impact of these will not be effective if they are not accompanied by prior understanding and internalisation (Janinovic et al., 2024), so we consider it essential to raise awareness among teaching staff in this regard. Higher education institutions, therefore, should not only offer clear and unambiguous information about academic integrity, the institution's code of honour and the consequences of infractions and sanctions, they should also have training and awareness programmes on the shared responsibility for academically dishonest practices.

In turn, the views on information and communications technologies are telling. Faculty have indicated the ease and convenience of cheating that they believe students are afforded by technology. Technology is thought to provide an anonymous platform for students, with no need to let on to others when shortcuts are being taken. The situation is further complicated in a world of generative AI systems, where original answers can be produced at a push of a button for any postgraduate students tempted enough to go down that route. In this sense, Information Literacy in the ethical use of AI is essential and must be incorporated into higher education institutions, together with the necessary resources, such as guides for the preparation of academic papers with their corresponding declaration of generative AI, as is already being proposed in the field of scientific production, especially in the field of Health Sciences (Avello-Sáez et al., 2024).

Participants within all four clusters expressed support for the active detection of academic dishonest, but this view was seen most strongly within cluster 3. The institutional factor that achieved the highest overall degree of consensus related to the need for strong sanctions against academic misconduct. This was accompanied by agreement that universities should have codes of practice relating to academic integrity and ethics, and that students need to be informed about the consequences of dishonest behaviour. There was little support for making teaching staff prone to punitive measures to reduce academic dishonesty. as proposed by Lynch et al. (2021), in the face of research results that do not indicate that they are the most effective measures to achieve it (Lynch et al., 2017).

Taken together and comprising 68% of the sample, clusters 2 and 3 gave high scores to almost all institutional factors when assessing their importance. They agreed that the university was responsible for improving the prevention, detection, and sanctions that exist. Only cluster 1 did not consider institutional factors as being very relevant to their relationship with dishonest behaviour in the student body. Perhaps most strikingly, the type of faculty that rated the

institutional factors as the least relevant was the one that showed the highest degree of disagreement with many of the proposed measures.

Limitations and future research

Based on the stated objectives, methodology, results, and conclusions of the study, it is important to acknowledge some limitations and suggest avenues for future research in the field of academic dishonesty within postgraduate education. Firstly, the response rate of 23.4%, although acceptable within the referenced benchmarks, implies that the findings may not represent the full spectrum of opinions among the postgraduate teaching staff. Therefore, the conclusions drawn should be considered cautiously, acknowledging the potential for non-response bias.

Secondly, the study was conducted within two Spanish public universities, which may limit the generalizability of the results to other cultural or institutional contexts. Future research could expand this study to include a more comprehensive array of institutions within and outside of Spain to validate the findings and assess their applicability in different educational settings.

Thirdly, the reliance on self-reported data through questionnaires introduces the potential for response bias. Respondents may have provided socially desirable answers or may not have fully understood the questions, impacting the reliability of the data. Future studies might incorporate a mixed-methods approach, including qualitative interviews or focus groups, to gain a deeper understanding of the nuances influencing the perspectives of teaching staff.

Another limitation is the study's cross-sectional nature, which provides a snapshot of opinions at a single point in time. Longitudinal research could track changes in perceptions and the effectiveness of anti-dishonesty measures over time, especially in response to evolving academic policies and cultural shifts.

The study's focus on faculty perceptions could also be broadened to include the perspectives of postgraduate students themselves, administrative staff, and other stakeholders in the academic community. Understanding the multifaceted views on academic dishonesty can lead to more comprehensive and effective strategies. Furthermore, while the research identified four typologies of professors based on their attitudes toward institutional factors and academic dishonesty, the factors leading to these typologies were not explored in depth. Subsequent research might investigate the underlying reasons for these attitudes, considering variables such as past experiences, training in ethics, and personal beliefs about education.

The relationship between the perceived effectiveness of different measures and actual reductions in academic dishonesty was not empirically tested. Future studies could experimentally or longitudinally evaluate the impact of various interventions to provide empirical evidence for best practices in preventing academic dishonesty. Finally, the study alludes to the potential for punitive measures to reduce academic dishonesty, as supported by some teaching staff. However, there is a need to critically examine the long-term consequences of such measures and explore the balance between punitive and rehabilitative approaches.

Conclusions

In conclusion, having analysed the data obtained, it can be considered that this study provides valuable insights into the perceptions of postgraduate teaching staff on academic dishonesty and its prevention. The viewpoints show similar diversity to those in the wider academic

integrity literature base, but the concerns about student access to technology go beyond those seen in other related studies.

The findings also indicate that there is the potential for ongoing research within this field, to move beyond the Spanish setting. It would be interesting to see if similar clusters of faculty viewpoints exist in other countries, or in specific academic disciplines. Continuing to develop methodological approaches in this space will be critical when moving forward and aiming to understand and address academic dishonesty in higher education.

Alongside this, the higher education sector must push for faculty to be more actively involved as academic integrity champions, there to support students in becoming accomplished scholars and researchers. The number of faculty who indicated that change was outside of their control is telling. Postgraduate students do need to know that faculty are there for them, that their hard work is being seriously assessed and reviewed, and that faculty understand academic integrity as being more than just an absence of academic dishonestly. Only through wider cultural change can more professors be moved away from the views of a lack of responsibility as seen in cluster 1, to the more progressive viewpoints shown in the other clusters.

In this sense, the results obtained lead us to propose as a strategic line the adoption of models such as the systemic one (multisystemic, in fact) of McCabe et al. (2012) in which the construction of an ethical community among the members of the educational community (teachers, students and managers) is the key. In alignment with McCabe et al. (2012), we consider that formal systems (administrative leadership, policies, codes, values, etc.) and informal systems (myths, beliefs, role models, acquired patterns) within any institution must engage in close collaboration, as it is only through the convergence of both systems that an ethical community committed to combatting academic dishonesty can be cultivated. In summary, the establishment of a culture of academic integrity, or what others have termed a comprehensive approach to improving academic integrity (Treviño & Nelson, 2017), is considered the foundation for combating dishonest practices. However, it is also asserted that this is in accordance with the necessary development of University Social Responsibility (USR), contributing to the individual development and collective training of a committed and socially responsible citizenry (Rodríguez, 2024).

Finally, however, it is acknowledged that the joint adoption of such a culture of academic integrity, in itself, is insufficient. In turn, equally shared actions must be guaranteed to ensure its evaluability (through the design of mechanisms and instruments to assess the scope and reliability of the strategies developed), its analysis and reflection (through reports, commissions and participation channels that allow for debate and continuous readaptation) and, as also defined by Eury and Treviño (2019), its sustainability over time. Only in this way will it be possible to encourage any new member recently incorporated into the educational institution to immediately share in and become part of the culture of academic integrity of the institution itself, and to acquire an active and participatory role within it, as well as within the community and society.

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