

Trends, triggers, and type of plagiarist on academic assignments: a case of study at the Spanish university

Tendencias, factores desencadenantes y tipo de plagio en las tareas académicas: un caso de estudio en la universidad española

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ABSTRACT. The aim of the paper is to deepen the knowledge of plagiarism among college students in a Spanish University and to propose measures leading to its reduction. An analytical framework was developed to compare students' perception of the plagiarism that they perform with data provided by anti-plagiarism software, which provided objective information about student's real plagiarism behaviour. The data's comparison revealed a general lack of knowledge about plagiarism; 37% of the students declared ignorance of what it is. They were able to recognise cheating activities as plagiarism only when severe. Thus, cheating attitudes were perceived as morally acceptable in the most common plagiarism situations such as the reproduction of works from the internet. In policy terms, the implementation of training measures is advisable to provide students with conceptual tools to help them avoid and reject plagiarism. Improving compliance and the articulation of gradual and adapted punishments to the cheaters will be relevant to reinforce the educational system and reduce dishonest attitudes.

RESUMEN. El objetivo de este trabajo es profundizar en el conocimiento sobre plagio entre las actividades académicas de estudiantes de una universidad española y proponer medidas encaminadas a su reducción. Para ello, hemos desarrollado un marco analítico que compara la percepción de los estudiantes sobre el plagio que realizan, con datos objetivos ofrecidos por un software antiplagio sobre el comportamiento plagiador de ese mismo grupo de estudiantes. La comparación reveló una falta generalizada de conocimiento sobre qué constituye plagio. En ese sentido, el 37% de los estudiantes consultados declararon desconocer que actividades son consideradas como plagio. Así, algunas de las actividades de plagio más comunes, como la reproducción de obras de Internet, fueron percibidas como moralmente aceptables entre los estudiantes. Para minimizar el plagio, recomendamos la implementación de medidas formativas entre los estudiantes que les proporcionen herramientas conceptuales para evitar y rechazar el plagio. Mejorar el cumplimiento entre los estudiantes y la articulación de castigos graduales y adaptados a los diferentes tipos de plagiadores, también será relevante para reforzar el sistema educativo y reducir las actitudes deshonestas.

KEYWORDS: Plagiarism, Self-plagiarism, Ethics, Deontology, Education.

PALABRAS CLAVE: Plagio, Autoplagio, Ética, Deontología, Educación.

1. Introduction

Plagiarism among college students is a widespread, complex and highly variable phenomenon which has been intensely debated in the academic setting for decades (Doss et al., 2016; Vehviläinen, Löfström & Nevgi, 2018; Whitley, 1998; González-González et al., 2020; Yang, Huang & Chen, 2013; Youmans, 2011).

This type of plagiarism is usually analysed through information derived from plagiarism self-report surveys (McCabe & Trevino, 1997; Tas & Tekkaya, 2010; Williams, Tanner, Beard & Chacko, 2014), by case studies (Curtis et al., 2018; Koh, Scully & Woodliff, 2011; Newton, 2016) and by interviewing students who have been caught cheating (Awdry & Sarre, 2013; Goh, 2013). Although these methods have provided valuable knowledge on the topic, they only consider plagiarism behaviour once an offence has taken place. Students' knowledge of plagiarism or their perception of the seriousness and consequences of cheating in a pre-plagiarism scenario is less well understood. Bridging this gap will bring a broader understanding of the phenomena and, consequently, it will be useful in reducing plagiarism impacts in academic assignments, improving compliance and delegitimising dishonest attitudes among students.

Therefore, the main objective of this research is to delve into the knowledge about plagiarism on academic assignments of the students at a Spanish School of Business Administration. It will be counterposing objective data on students' plagiarism behaviours with self-reported information on the issue.

Additionally, the exploratory nature of this work allowed understand the main features of the students' plagiarism in the context of the study, including the most common practices, triggers and information on the moral perception of plagiarism and its potential acceptability among the target students.

To accomplish this objective, novel information was gathered in three different ways: a) a self-reported plagiarism survey which has provided data on the students' perception; b) plagiarism detection software that has brought up objective data on the dishonest practices of the group of scholars analysed and; c) an ad hoc experiment designed to identify cheaters' reaction to the threat of punishment when announcing the detection of plagiarism in their essays. This experiment allowed us not only to obtain more data on the students' plagiarism perception, but also helped to develop a Typology of reaction behaviours to plagiarism, that is a novel contribution to the literature on the matter.

The paper is organised as follows. In the next section, the methodology is introduced, emphasizing the description of the three methods to gather information used in this research. Section 3 introduces the results on plagiarism activities and their trends, students' perception of plagiarism and the identification of incentives for dishonest academic behaviours. The discussion is developed in the fourth section, by addressing the critical need to reduce the effects of plagiarism in the academic setting and suggesting some recommendations to tackle the issue. The Concluding Remarks will end the paper.

2. Methodology

We set up a comparative framework between the reality described by the students and the objective plagiarism that they perform, this was needed in order to gather new information. Therefore, three different ways were used.

2.1. Survey

A survey divided into three parts was the first research method used to gather data. Section A provided information such as students' demographic background and their academic performance. Section B brought information on, a) informer's plagiarism practices; b) incentives for cheating behaviour; c) students' perception of potential measures to minimise plagiarism and; d) punishments for the plagiarists. In section C, some institutional and individual triggers for the plagiarism were identified.

The survey's form is based on several academic works on the issue. In section B, the Comas Forgas and



Sureda-Negre's questionnaires (Comas Forgas & Sureda-Negre, 2007, 2010; Comas Forgas, Sureda-Negre & Oliver Trobat, 2011) were replicated, whereas the questionnaire by Smith, Ghazali and Fatimah Noor Minhad (2007) was used in section C.

The form combines open-ended and closed-ended questions and includes a set of numerical scale and Likert scale questions. Likert questions are concentrated in Sections B and C. While the Likert questions in Section B are type 1-3 or 1-5, in Section C questions were used on a scale 1-4, namely, without a neutral point and with two degrees of disagreement (Weijters, Cabooter & Schillewaert, 2010). The use of Likert (1-4) intended that respondents take a stance mandatorily, minimising the attraction for the neutrality of those informers indifferent to the questionnaire (Nowlis, Kahn & Dhar, 2002). Moreover, these type of Likert questions are methodologically comparable to those of neutral point scales since maintain similar psychometric properties (Leung, 2011).

The statistical universe in this work was the final year students of the Degree in Business Administration of the University of Santiago de Compostela during the 2015/2016 academic year. The number of surveys applied was 168, of which 138 were valid. The sample size of 138 is representative of the universe for an 8% margin error at 95% confidence level.

2.2. Experiment

The second source of information was an experiment that not only allowed, us to determine the different types of plagiarists but also to deepen the general conception of plagiarism among the group of students analysed.

During the course, students had to submit a short essay (200 to 400 words) consisting of a personal reflection on the importance of information and knowledge in companies. The grade of the composition would contribute to the 25% of the final mark of the subject, as part of a group of activities. Given the nature of the work, the students were informed that the text should be original, copied parts or paraphrasing the opinions of others was not allowed. Once received, the essays were analysed with the plagiarism detection software, detecting that some of them had been partially or fully copied.

Once the existence of plagiarism was verified manually, the experiment consisted of creating a decision scenario in which plagiarists should decide whether to confess their actions or not. The first phase of the experiment consisted of announcing that plagiarised works had been identified, but without revealing cheaters identity. Next, it was announced that all plagiarists would be punished, but those who self-report their plagiarism behaviour would be penalised to a lesser degree than those who would not recognise it. In this way, the students that confessed got a 0 in the essay. Those who did not admit the plagiarism would fail the course. Finally, it was prescribed a deadline to inform about plagiarism behaviours and student's reasons for plagiarism.

From the interaction with the students raised 88 e-mails, which brought data on the attitudes of plagiarism.

2.3. Software of plagiarism detection

The last source of information was the plagiarism detection software Plagscan, which allowed us to identify which assignments were plagiarised. Due its short extension, an essay was considered objectively plagiarised when the rate of coincidence offered by the software was > 19.9% of the total word. Thus, the software allowed to produce a variable in which the degree of plagiarism was identified (Plagiarism_Ratio). This information was crucial for the creation of the classification of student behaviours in light of plagiarism (Section 3), in which the self-reported behaviour of the students was compared to the degree plagiarism recorded in the experiment. The comparison allowed to contrast objective and verifiable data with the subjective information provided by the student's perception.

The statistical analysis and data codification were carried out with the SPSS program.

3. Results

3.1. Kind of plagiarism activities self-reported

Table 1 summarises the plagiarism activities identified among the target students.

	Events (%)				
	0	1-2	3-5	5-10	>10
Q.1.1 Copy parts of academic texts from the internet to develop their own works, essays and assignments without citing.	17,40	26,10	31,20	14,50	10,80
Q.1.2. Copy parts of academic texts from printed sources to develop their own works, without citing.	26,80	32,60	23,20	13,80	3,60
Q.1.3. Copy parts of works written and submitted in previous academic years to develop "new" academic assignments.	39,90	36,20	18,80	3,60	1,40
Q.1.4. Compose a work entirely from fragments literally copied from web sites or academic resources on the Internet.	67,40	22,50	5,80	2,90	1,40
Q.1.5. Submit a work done by another student that has already been submitted in previous courses.	68,90	21,70	6,50	2,90	0,00
Q.1.6. Submit a work done by myself, but that has already been submitted in previous courses.	76,80	17,40	3,60	1,40	0,70
Q.1.7. Download academic work from the Internet and submit it without changes.	97,10	2,90	0,00	0,00	0,00

Table 1. Types and Frequencies of Plagiarism. Source: Self-made.

3.2. Plagiarism incentives

The conditioning factors that incentive plagiarism among target students were identified by presenting situations that could promote cheating attitudes. Then the students were asked to categorise them according to their relevance. Therefore, the factors that do not condition plagiarism were labelled as "Little relevant for plagiarism" while those that do so were named as "Relevant for plagiarism". Finally, those factors that most influenced the students in their decision to plagiarise were labelled "Very relevant for plagiarism."

	Assesment of the fact (%)		
	Little relevant	Relevant	Very relevant
Q.3.1. For the easiness of finding information on the internet.	5,00	23,20	71,80
Q.3.15. Due that many assignments have to be submitted in a short time.	10,80	27,50	61,60
Q.3.14. Because it is easier, simpler and convenient than doing the job by myself.	12,30	34,10	53,60
Q.3.2. For the lack of time and must submit many assignments.	13,80	31,90	54,40
Q.3.16. Because I do not know how to do academic work	14,40	24,60	60,90
Q.3.6. For having the habit of doing things at the last moment	18,90	24,60	56,50
Q.3.5. For the knowledge or perception that the lecturer to whom the work is submitted does not read them in depth.	31,90	32,60	35,50
Q.3.9. Because the assignment to be done is very complicated.	31,90	24,60	43,50
Q.3.8. Because the assignment has low influence in the final grade of the subject	32,60	24,60	42,70
Q.3.7. Because the work requested is too theoretical	33,30	26,80	39,80
Q.3.11. Because of the belief that copying something from the Internet is not bad since everything on the Internet is public and can be used.	37,00	26,80	36,20
Q.3.12. Because of the perception that a little or nothing is learned by writing academic works	49,30	23,90	26,80
Q.3.3. Because of the perception that it is difficult for the Lecturer to find out if the students have cheated.	60,20	26,80	13,00
Q.3.13. Because I get better marks than doing the job by myself.	63,10	21,00	15,90
Q.3.4. For the knowledge or feeling that the lecturer to whom the work is submitted is not very proficient in the use of the Internet	67,40	20,30	12,30
Q.3.10. Because all my classmates do it.	72,40	17,40	10,20

Table 2. Plagiarism triggers. Source: Self-made.



Table 2 reveals that opportunistic plagiarism attitudes such as easy access to information on the Internet (Q3.1.), or the easiness of copy a work instead of doing it (Q3.14) are decisive when deciding to plagiarise. In this sense, 95% of respondents in the first case, (Q3.1 = 95%) and 87.7%, in the second (Q3.14 = 87.7%), recognised that the opportunity factor was "Relevant" or "Very relevant" in the decision not to comply with the rules. Also, opportunistically 36.9% of the consulted students recognised that the achievement of better marks by cheating (Q3.13) was a "Relevant" or "Very Relevant" factor to plagiarise.

The second motivation to justify plagiarism was having to submit multiple pieces of work in a short space of time (Q3.15 = 89.2%) or, in the same way, the duty of submitting many assignments in a short period, which overburden the students (Q3.2 = 86.2%). Also, their inability to manage time was indicated by 81.1% of respondents (Q3.6) as another driver for plagiarism.

The perception of lack of academic aptitude was indicated as a "Relevant" or "Very Relevant" incentive for the practice of plagiarism. The students admitted it when they didn't know how to perform the assigned tasks, being recognised by 2.9% of the informers (Q3.16 = 85.6%); or when they considered the task too complicated (Q3.9 = 68.1%).

The lack of interest in the subject or its assignments lead to another set of motivations that can induce plagiarism. That the students feel that the assignments are not important for the subject's final grade (Q3.8 = 67.4%), that the work is too theoretical (Q3.7 = 66.6%) or is of no value (Q3.12 = 51.7%), are perceptions that may promote plagiarism attitudes among the students.

The perception of impunity in light of the act was another factor that can lead to plagiarism. Questions Q3.3, Q3.4 and Q3.5 illustrate that when students identify that the probabilities of being detected and punished are low, the "Relevant" or "Very Relevant" incentives for plagiarism rise (Q3.5 = 68.1%, Q3.3 = 39.8%, Q3.4 = 32.6.1%).

Finally, cultural and moral considerations also influence opinion on plagiarism and the circumstances that lead to it. On one hand, the belief that public access to academic works on the Internet legitimises students to use these as if they were their own (Q3.11) would encourage the practice of plagiarism in 63% of cases. On the other hand, the perception that plagiarism is a widespread and normalised phenomenon among the student group (Q3.10) could serve as a justification for 27.5%.

3.3. Student's appraisal of plagiarism

In this part of the research, the students showed: i) their perception of the plagiarism, and, ii) their moral judgment of the subject.

3.3.1. Perception about the importance of the plagiarism

To understand the degree of seriousness that students attribute to plagiarism, they were asked to assign a punishment to several plagiarism situations according to their degree of importance (Table 3). The sanctions that they can apply were gradual: 1. Verbal Warning; 2. To fail the subject partially. 3. Course Failure; 4. Expulsion from the University.

Acción	Proposed sanction (%)			
	Verbal Warning	Fail the subject partially	Fail the subject	Expulsion
Submit works downloaded from Internet	21,02	49,28	28,98	0,72
Submit someone else's work	23,91	52,90	21,74	1,45
Recycling of own works	68,84	26,81	4,35	0,00
literal reproduction of fragments of books	76,09	19,56	4,35	0,00
Literal reproduction of fragments from Internet	77,54	17,39	5,07	0,00

0,0 100,0

Table 3. Students assessment about the importance of the plagiarism. Source: Self-made.

Table 3 illustrates that students perceive the literal reproduction of fragments of academic works on the Internet and of material in books as a relatively acceptable form of plagiarism. Most of the students considered a lecturer's verbal warning to be enough to punish plagiarists (77.54%) and (76.09%) in each case.

Another aspect of plagiarism perceived as minor was the recycling of own works. In that case, 68.84% of the informers considered an informal warning as enough punishment for the students that were detected presenting their old works as originals. The remaining 31.16% felt that the cheaters should fail the subject partially (26.81%) or fail the course straight away (4.35%).

Most students felt that submitting someone else's work as their own is the most severe form of plagiarism. In this case, the 52.9% of the informers recommended that a partial failing grade of the subject would be a better option than a subject failure (21.74%) and preferable to expulsion from the university (1.45%). On the other hand, the submission of works downloaded from the Internet was the most punishable form of plagiarism for the respondents. In this case, 49.28% of the students recommended that plagiarists should fail partially, while 29.98% considered that course failure was the fairest way to punish them. It is meaningful that, even in the worst case of plagiarism only 0.72%, recommended the cheater's expulsion from the university.

3.3.2. Student's moral assessment of plagiarism

Table 4 synthesises the results on the moral perception of plagiarism among students. The moral evaluation of plagiarism gives insight into situations which could be potentially acceptable or manifestly rejected by the respondents. Plagiarism is perceived as a "Reprehensible" or "Very Reprehensible" practice by students. However, some activities such as copying parts of academic texts from the internet, from printed sources and, especially, the recycling of own old works enjoy a certain indulgence. In this sense, it is important to underline that "To submit a work done by oneself, but that has already been submitted in previous courses." was perceived by almost 50% of the informers as a morally acceptable action.

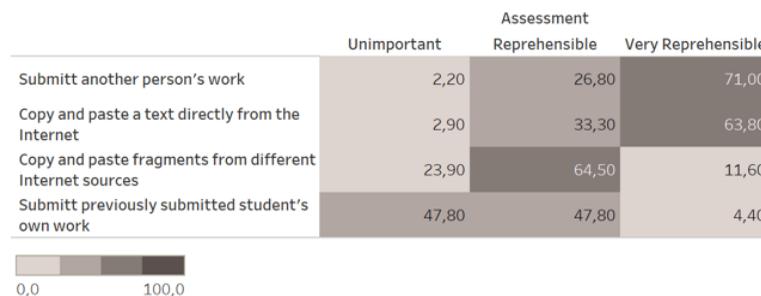


Table 4. Moral perception of plagiarism among students. Source: Self-made.

3.4. Do you know what plagiarism is? Have you been taught to do academic work?

Finally, this case study brought up two questions to explore the intentionality of plagiarism, finding out if students handle the conceptual tools to avoid it. On the one hand, they answered the question: Do you know what plagiarism is? 37% of the students admitted not being clear about what constitutes plagiarism.

On the other hand, they were asked if they had received appropriate training to write academic assignments. The objective of the question was to ascertain if students fully understand how to manage citations correctly. 65.9% of respondents acknowledged that they had not received training on how to write essays, neither at university nor in their pre-university studies.

3.5. Plagiarism detection reactions

The experiment applied in this work proposed to the cheaters a scenario of dichotomous choice, in which



they had to choose between: i) Self-report the plagiarism which would attract only a minor punishment or; ii) Not recognise plagiarism, accepting the possibility of failing the course.

The uncertainty scenario allowed identification of the different attitudes of the students when the detection of plagiarism is announced. The process of identification for these outcomes depended on the use of two variables.

1. The first, (V_Plagiarism), address the student's Self-reported behaviour, that is, informs about the answers to the question: Have you plagiarised?
2. The second variable allows objective identification, whether the students have plagiarised and to what degree (Plagiarism_Ratio).

Crossing both variables, the coherence between the self-reported responses and the result provided by plagiarism detection software of was determined. With this information, aspects of the detection of plagiarism were categorised into four types of behaviour (Figure 1).

Behaviors in a scenario of detection and punishment of plagiarism:

1. Responsible plagiarist. These individuals react to the detection of plagiarism by confessing it and accepting the potential sanction. In this study, 14.5% of the students belong to this category.
2. Deceiver Plagiarist. Those who having plagiarised decide not to recognise it. This group represents 12.3% of the cases analysed in this work.
3. The Insecure Plagiarist. This type of plagiarist doesn't know exactly what plagiarism is. They may recognise dishonest academic behaviours even when it does not apply to them. In this case study, 21.7% of the students belong to this category since they admitted having plagiarised, without having done so.
4. Law-abiding individual. Those who dutifully face academic assignments, they have not plagiarized and know they didn't do so. In this work, 51.5% of the students are into this category.

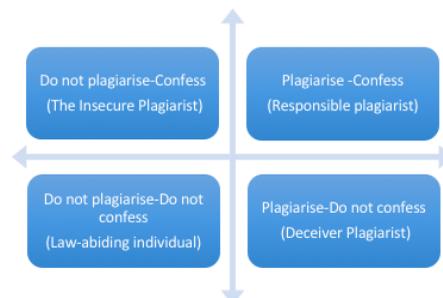


Figure 1. Classification of student's reactions to the Plagiarism detection. Source: Self-made.

4. Discussion

One of the contributions of this work is to have defined plagiarism and self-plagiarism in the context of the study. In that sense, the student's self-reported plagiarism reached 82.6%, surpassing the existing tendencies towards copying in the literature on the subject. In this regard, the meta-analysis conducted by Whitley (1998) from 107 articles published in the period 1970-1996 identified that plagiarism ranged from 3% to 98%, with an aggregate mean value of 47.0%. Youmans (2011) analysed works published between 1980 and 2008 in American universities, concluding that cheating varied between 7% and 55%. Outside the United States, the results of the review by Yang et al. (2013) also show a degree of plagiarism lower than that presented in this study, between 21% and 66.1%. Studies conducted in Spain offer ranges of plagiarism more in tune with the results of this research; in fact, Comas Forgas et al.; Comas Forgas and Sureda-Negre (2010; 2011) reported figures that vary from 70% and 86.6%. Regarding self-plagiarism, the values identified in this article reached 60%, being higher values than those stipulated in recent works, 20% more than Halupa and Bolliger (2015)

and the double that of Hensley, Kirkpatrick and Burgoon (2013).

Although the reported level of plagiarism is high in relation to the literature analysed, this figure should be interpreted cautiously since plagiarism as a transgression cannot be considered as a universal concept and its interpretation depends on multiple elements.

(Power, 2009; Tas & Tekkaya, 2010; Vehviläinen et al., 2018; Williams et al., 2014; Yang et al., 2013). In this regard, McCuen (2008) points out that, on many occasions, plagiarism can be regarded more as "acts of ignorance rather than intentional acts of deception or fraud", so the incidence of dishonest attitudes and their moral implications depend on how it is defined and how it is measured (Barnhardt, 2016).

On this point, one of the critical issues raised in this research is that a large proportion of the students do not know what plagiarism is. In this regard (Löfström & Kupila, 2013) defined unintentional plagiarism as actions guided by insufficient knowledge and lacking of competence. Thus, in a context where 37% of students declared not knowing what actions constitute plagiarism and 66% acknowledged not having received specific training for academic work, unintentional plagiarism can rise to a high frequency. Other evidence in this regard is that, in the experiment it was identified that 27% of essays contained plagiarism, while the number of students who recognised the plagiarism exceeded 41.3%. The existence of 14.3% of students who admitted to copying without having done so, supports the argument of "ignorant" plagiarism pointed out by McCuen (2008) and (Löfström & Kupila, 2013). Therefore, students identify an action as plagiarism when it is intentional (Coarse), as indicated by Ballantine and McCourt Larres (2012), Barnhardt (2016) and East (2010). However, it is difficult for them to pinpoint the plagiarism when it is about a few sentences or general ideas (Bretag & Mahmud, 2009; Gullifer & Tyson, 2010; Park, 2003). The results match with this tendency. Whereas the "soft" behaviours are the most common among the informers (Table I questions Q1.1 and Q1.2). The "coarse" actions are the less legitimised and, consequently, those carried out less frequently by students (Table I questions Q1.4 to Q1.7).

Another contribution is that the opinion of the students shows a tendency to consider some attitudes towards plagiarism as "acceptable", legitimising it. An example of permissiveness is that students tended to moderate punishments when asked to judge the situations of plagiarism proposed in Figure 1. In instances of soft plagiarism, the most appropriate sanction for informers was a verbal warning, exempting the students of any academic punishment. Although in cases of "coarse" plagiarism the tendency to moderate punishment continued, students opted for an academic penalty but applying the least severe sanction (failure of opportunity). Students moderating punishment is in line with the results other works on the subject (Ehrich, Howard, Mu & Bokosmaty, Rakovski & Levy, 2007; Lim & See, 2001; Newton, 2015; Roig & Ballew, 1992).

Regarding the punishment that self-plagiarism deserves, only 31% of the students considered that recycling their work was worthy of an academic sanction. The acceptability of plagiarism emerged again when analysing students' moral assessment of dishonest academic attitudes (Graph 2). In that sense, the highest acceptance value of the study is for self-plagiarism, where 48% of the students did not consider this action morally reprehensible.

The minimisation of the tolerance of "acceptable" plagiarism is essential to combat the normalisation of some dishonest attitudes among students. Compliance theories explain that if students identify plagiarism of any kind as being undesirable, this would be beneficial to combat it since non-compliance attitudes materialise less frequently among those groups that perceive them as totally prohibited or unacceptable, than among those groups that do not censor them (Ballesteros & Rodríguez-Rodríguez, 2018; Ostrom, 2015).

Delegitimising plagiarism would be suitable, among other things, to avoid counterproductive situations linked to tolerance, such as students recommending the "Verbal Warning" as a sanction. From the use of a warning as punishment emerges a lack of distributive justice that, in practical terms, levels the results of all students regardless of whether they plagiarise or not. In this scenario, there are no borders between the right



and the dishonest behaviours, rewarding the plagiarist and generating incentives for cheating attitudes.

In this regard, Tyler (2006) explains that the rules will tend to be more respected when those who must comply with them consider them fair. In this sense, the compliance with the norms depends on how individuals interpret their context identifying those incentives that promote respect for the law. If there is the perception that the rules work (Distributive Justice) and that the processes are adequate (Procedural Justice) there will be a greater willingness to comply with them (Tyler, 2006). In order to promote this stance on plagiarism, it is crucial to establish an adapted sanctions system, which should be proportionate and equitable, making students perceive that honest individuals do not receive the same treatment as cheaters.

The acceptability of plagiarism should be mitigated as an essential step to establishing a strategy that minimises academic dishonesty. For this, it will be necessary to understand the complexity of the sociocultural/institutional context where it occurs. It will be necessary to define where the border between fraudulent plagiarism and an "excusable error" (Ashworth, Bannister, Thorne & Students on the Qualitative Research Methods Course Unit, 1997; Bretag, 2013), the focus should be put on the need to set the rules of the game (Ashworth et al., 1997; Park, 2003) which can reduce the risk of falling into plagiarism (Bretag, 2013; Bruton, 2014; Gullifer & Tyson, 2014; McCabe, Butterfield & Treviño, 2003; Moskovitz, 2016; Robinson, 2014).

5. Conclusions

This work has contributed to the delineation of academic plagiarism by delimiting its extension, the identification of its determinants and the typification of some conducts. Through the experiment carried out, incentives for plagiarism have been identified that have revealed the accurate self-perception of students, which should contribute, firstly, to the classification of plagiarism attitudes and, subsequently, to the definition of specific measures.

Thus, the case of those students who, faced with the possibility of benefiting from a reduction in punishment are self-incriminating reveals a remarkable sensitivity to incentives, so that an increase in "sanctions" could contribute to reducing plagiarism in this group. On the other hand, the case of students who self-incriminate (and assume punishment) without having plagiarised, points out the need for organisational changes that provide these students with the necessary skills to recognise true plagiarism. The success in reducing plagiarism will also depend on honest students not being attracted to undesirable behaviours and that chronic non-compliers be delegitimised through an appropriate sanctions system. In that sense it should be noted that an increase in "sanctions" is necessary to achieve greater distributive justice, that is, that cheating practices have a specific penalty.

In short, it will be necessary to act both on the regulatory and on the organisational scope: improving the coordination of the tasks assigned to the students so that they adapt to their work capacity. Moreover, students must be trained in the organisation of their working time, in how to carry out academic work and on the very concept of plagiarism. It is essential to emphasise the need to act on both areas, not only because of their synergistic relationship but also to avoid that the mere use of sanctioning measures generates a perception of "injustice" among students.

Although the research carried out suggests some lines of action, it is also true that it presents a series of limitations. The main one is the scope of the study, restricted as it is to a single university. The second, common in this type of research, is the existence of a social desirability bias in self-reported research (Nederhof, 1985; van de Mortel, 2008) that is also present when the object of study is dishonest academic attitudes (McCabe, Treviño & Butterfield, 2001). This limitation is assumed by the literature and allows us to compare the results obtained since the results obtained converge, as has happened in this study. Additionally, in future work on this subject, additional variables should be incorporated, which allow delimiting this phenomenon in more detail.

Finally, it should be noted that student's education is not limited to technical training, but also has the objective of training them as citizens to contribute to social development. In that sense, the promotion of a compliance culture could contribute to the improvement of the effectiveness of the learning processes, establishing the bases of the future graduate's ethical behaviours.

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