

*A Multi-factorial Approach Towards Tackling Plagiarism:  
A Comparison Between Attitudes and Perceptions Towards Plagiarism at Undergraduate  
and Postgraduate Taught Level*

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**Abstract**

Academic integrity is a fundamental value of higher education institutions and is a recognised priority in institutional learning and teaching strategies. Plagiarism is an ongoing problem in the HE sector and factors contributing to this complex phenomenon may differentially impact students at different academic levels of study, but this is under-researched. This study aimed to address the identified gap through an investigation of differences in behaviour and attitudes towards plagiarism between undergraduate (UG) and post-graduate taught (PGT) level. Using an inter-subjective, pragmatic and mixed-methods approach, (i) analysis of senate data on levels of plagiarism cases, (ii) an online survey with UG (n= 18) and PGT (n = 32) students and (iii) focus groups with students (n=4) and staff (n=7) were analysed. This paper presents key findings from quantitative analyses of (i) senate data, where statistically significant differences were observed between demographic sub-categories, and (ii) online survey data, where a statistically significant difference was observed between UG and PGT students with respect to academic writing workshops to prevent plagiarism. It further outlines findings from qualitative thematic analyses of open survey questions and focus group discussions – nine common themes between students and staff, and four unique themes for students and staff respectively were identified. Particular areas of concern surrounded (i) student transitions, and (ii) institutional barriers. The paper finishes with an overview of the key recommendation from this work: an eight-point, multi-factorial approach to address the problem of plagiarism, and key implications for educators.

Keywords: Plagiarism, Undergraduate, Post-graduate Taught

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# **1. Introduction**

## **1.1 Definition**

When trying to understand the multi-factorial and highly complex phenomenon of plagiarism, it is first important to define what it is. Academic integrity relates to upholding the standards and values of an ethical code of conduct, whereas academic misconduct relates to a breach or violation of this code and behaviour that lacks honesty (Mahmud & Ali, 2023). While there is still discourse in the academic community regarding a precise definition of plagiarism, the working definition used for the purpose of this study is that plagiarism is as a sub-set of academic misconduct that involves someone taking text or ideas from someone else then passing them off as their own without acknowledging the original author or source. (Eaton, 2021; Husain et al., 2017).

## **1.2 Underlying Motivation for, Types, and Consequences of Plagiarism**

With respect to underlying motives for plagiarism, it is accepted that while some cases of plagiarism are deliberate, in a lot of cases it can be accidental or unintentional. Gullifer & Tyson (2014, p. 1203) note that “students are genuinely perplexed about the concept of plagiarism”. Furthermore, Yang et al. (2019, p. 589) highlight that “plagiarism is often the result of students’ misunderstanding of the rules for using and citing sources, rather than deliberate theft of others’ ideas and writing”. There is also acknowledgement in the literature that some students have difficulty with expressing ideas and concepts in their own words (Jereb et al., 2018).

Plagiarism is known to manifest in various forms, which have been categorised as being ‘simple’, where they can be easily detected using computer software, or ‘complex’ in cases where they cannot be detected by such software (Perkins et al., 2019, p. 2-4). Simple plagiarism includes: (i) copying without acknowledgement, (ii) self-plagiarism – submitting the same work to different courses, (iii) directly/verbatim copying work of another student (with or without consent); (iv) patchwriting – minimal editing from original texts; (v) quoting, summarising or paraphrasing without citing the associated source. Complex plagiarism includes: (i) collusion with others, (ii) copying translated text, (iii) referring to a source cited in an article that was not itself directly accessed, (iv) technical tricks to bypass plagiarism detection software; (v) use of a third party (e.g. essay mill service) to complete the assessment (also called contract cheating or ghost writing).

Plagiarism has consequences and implications at three levels: 1. for students – not only does plagiarism impact their learning in a negative manner (Halak & El-Hajjar, 2019), the process and consequences of being disciplined for plagiarism can have emotional, psychological, social and economic impacts e.g. being expelled and unable to complete their degree programme could greatly affect their future employment prospects; 2. for staff – plagiarism results in increased workload and emotional strain from referring cases to senate and having to re-grade assignments (Vehviläinen et al., 2018; Wang, 2023), and can also impact the lecturer-student relationship; 3. for the institution – plagiarism can impact the reputation of the University, it de-values the worth of a degree, and it necessitates cost and resources in terms of staff and computer software to help police it (Collins et al., 2007; Orluwene & Magnus-Arewa, 2020).

### **1.3 The Scale of the Problem and Underlying Reasons for Plagiarism**

Plagiarism continues to be a significant issue not just at the University of Glasgow but in higher education institutions worldwide (Jereb *et al.*, 2018). The exact incidence of plagiarism is unknown but levels of academic misconduct among students are documented as being from as small as 1% to as much as 90% (Harris *et al.*, 2020; ICIA, n.d.). There are various factors which have been identified in the literature as contributing to plagiarism behaviour. Mbutho & Hutchings (2021, p. 68) recognise that plagiarism is affected by “.... culture, politics, context, historical, social, ideological and language conditions”. Furthermore, a systematic literature review conducted by Husain *et al.* (2017) identified five factors that contribute to plagiarism behaviour: (i) institutional factors relating to educational teaching practice and policies on plagiarism; (ii) academic factors linked to students’ knowledge, skills and ability to understand course material and complete their assignments; (iii) external pressures linked to factors out with students’ academic studies; (iv) personal factors associated with individual traits, tendencies and behaviours of students; and (v) technological elements relating to the influence of information technology and the internet on student behaviour.

It is important to consider that different factors may differentially affect plagiarism levels among students at different levels of study, but this is not adequately addressed in the literature. Furthermore, it is acknowledged that post-graduate taught (PGT) cohorts are under-researched in the literature (Coneyworth *et al.* 2020) and there are few studies comparing plagiarism between undergraduate (UG) and PGT level. One previous study by Sheard *et al.* (2003), which compared cheating behaviours between UG and graduate information technology (IT) students, found that student maturity and motivation were key differentiating factors between UG and graduate students. However, many questions remain unanswered.

### **1.4 Study Aim, Research Questions and Hypothesis**

The aim of this project was to investigate differences in plagiarism between undergraduate (UG) and post-graduate taught (PGT) level in MVLS at the University of Glasgow. The specific research questions were to:

1. Investigate the incidence and broad demographics of plagiarism in MVLS since 2014/15 academic session according to:
  - a) Academic level (UG vs PGT)
  - b) Age
  - c) Nationality
  - d) Gender
  
2. Compare MVLS student (UG and PGT) and staff perceptions regarding:
  - a) The types of plagiarism which are occurring.
  - b) The underlying reasons for plagiarism behaviour.
  - c) Whether knowledge and understanding of what constitutes plagiarism and its policing influences the occurrence of plagiarism.
  - d) The level of support which is available and how this should be offered to help reduce plagiarism.

The hypothesis was that on balance, there may be no significant difference in plagiarism incidence between UG and PGT students because although PGT students are more mature and experienced than UG students, they also face additional unique challenges. However, it is likely that differences exist between the two cohorts with respect to their attitudes and perceptions of plagiarism. The collective output from the research was expected to provide novel insights for how to prevent plagiarism.

## 2. Methodology

### 2.1 Theoretical Stance and Methodological Approach

My research is framed in the ontological position of pragmatism and epistemological position of inter-subjectivism. Shannon-Baker (2016, p. 322) defines pragmatism as a process of “shared meaning-making in order to create practical solutions to social problems”. Maarouf (2019, p. 6) defines inter-subjectivism as “being subjective and objective at the same time, accepting both the existence of one reality and that individuals have multiple interpretations of this reality”. Plagiarism is a very complex phenomenon, with many influencing factors – it cannot be broken down into a series of elements that could be viewed as a part of a simple mathematical-style problem. A practical approach is required to consider different perspectives, viewpoints and factors that impact plagiarism.

Both quantitative and qualitative data is required to address the research questions of this study and pragmatism provides the reasoning and justification for adopting a mixed-methods approach (Maarouf, 2019). The mixing of approaches allows for triangulation and complementarity, enabling a more wholistic understanding of the phenomenon while mitigating limitations compared to using either approach alone (e.g. Bryman, 2006; Watkins & Gioia, 2015).

### 2.2 Mixed Methods Research Study Design

This mixed methods study adopted a mixture of convergent and explanatory sequential design (Creswell and Plano Clark, 2018) (Figure 1). Initially, both quantitative and qualitative data were collected and analysed together, followed by collection and analysis of additional qualitative data to further explain the findings of the initial data. In the final stage, the data was interpreted collectively.

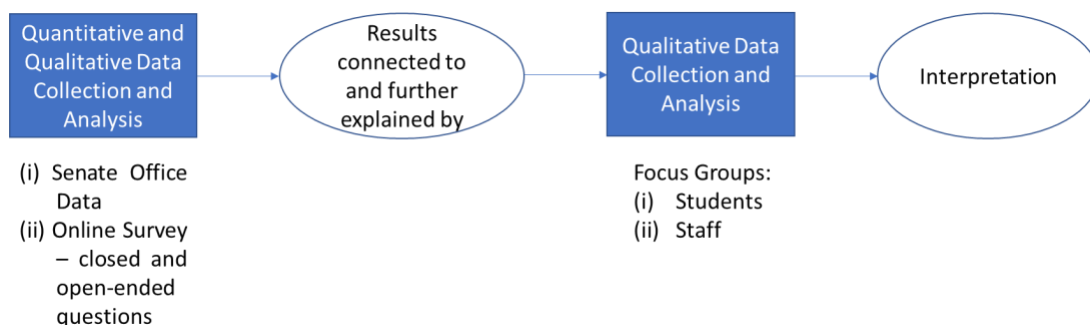


Figure 1 – Mixed methods study design

Quantitative data (from Senate Office) and a mixture of Quantitative and Qualitative data (from online survey) were collected and analysed together before further qualitative data was collected (from focus groups with students and staff) and analysed to help explain the initial data. The entirety of data collected was evaluated and interpreted as a whole at the end.

### 2.3 Ethical Approval

Relevant guidelines on ethics for educational research studies (e.g. British Educational Research Association (BERA), 2018; Cleaver et al., 2014; Cohen et al., 2018) were consulted as part of the project design process and ethical approval for the study was applied for and obtained from the School of Education Research Ethics Committee at the University of Glasgow before research commenced.

### 2.4 Senate Office Data

Senate Office data was requested (Table 1) on incidence of plagiarism from 2014-15 to 2021-22 academic sessions. In accordance with GDPR regulations, no personal data or data which could cumulatively lead to the identification of an individual could be released. For this reason, data obtained for the demographic categories of age, nationality and gender were for the combined cohort of UG and PGT students because additional breakdown of plagiarism cases into UG and PGT sub-categories could potentially have led to identification of participants.

Question	Data Requested
1	Can you provide detail of the total number of UG and PGT students which were enrolled in MVLS in each year from 2014/15 to 2021/22.
2	Can you provide detail of the total number of cases of plagiarism among UG and PGT students in MVLS in each year from 2014/15 to 2021/22.
3	Can you provide breakdown for points 1 and 2 regarding: (i) the level of study (UG or PGT), (ii) the age of the students [whether they were not mature ( $\leq 25$ years) or mature ( $> 25$ years)]; (iii) their nationality (UK, EU or other international); and (iv) their gender (according to male, female)

Table 1 – Senate Office Data Request

### 2.5 Online Survey

An online survey was selected to address aspects of the second research question by obtaining quantitative, standardized, numerical data. Such data allows differences to be analysed between variables/groups to determine if these are statistically significant (Cohen et al., 2018).

I based my own questionnaire upon adaptation of three previously published instruments (Jereb et al., 2018; Maxwell et al., 2008; Sheard et al., 2003), as these are tried and tested tools, ensuring the validity of collected data (Cohen et al., 2018). Sheard et al.'s (2003) and Maxwell et al.'s (2008) instruments required participants to identify cheating or plagiarism behaviour from lists of provided scenarios. These scenarios were relevant to the present study and the papers highlighted the suitability of the approach of using scenarios to examine students knowledge of this issue. Lickert-style statements in the instruments by Sheard et al. (2003) and Jereb et al. (2018) were connected to factors identified in the literature that are implicated in plagiarism behaviour and thus were relevant for the second research question in this study.

The final questionnaire comprised a mixture of (i) closed, Lickert-type questions, to enable quantification of participant responses to provided statements (Bishop & Herron, 2015), and (ii) open-ended questions to allow students to add detail relating to the reason for their choice

of answers to some of the lickert-type questions (George & Cowan, 1999). A summary of the key themes/questions is presented in Table 2.

Question Number	Theme	Theme/Questions
1-2	Participant Consent	Acknowledge have read plain language statement (Q1) and upload completed consent form (Q2).
3-8	Generic Participant Information	<ul style="list-style-type: none"> <li>• UG or PGT (Q3)</li> <li>• Year of study (UG only) (Q4)</li> <li>• School/research institute (Q5)</li> <li>• Not mature/mature (Q6)</li> <li>• Gender (Q7)</li> <li>• Nationality (Q8)</li> </ul>
9-10	Knowledge and Understanding of Types of Plagiarism	<ul style="list-style-type: none"> <li>• Are provided scenarios plagiarism? (Lickert; 14 scenario statements) (Q9)</li> <li>• Which is most serious and why? (Open) (Q10)</li> </ul>
11-17	Reasons for Plagiarism	<ul style="list-style-type: none"> <li>• IT and internet (Lickert; 7 statements) (Q11)</li> <li>• Academic skills (Lickert; 5 statements) (Q12)</li> <li>• Pressures (Lickert; 10 statements) (Q13)</li> <li>• Pride (Lickert; 8 statements) (Q14)</li> <li>• Teacher factors (Lickert; 5 statements) (Q15)</li> <li>• Any other factors not covered? (Open) (Q16)</li> <li>• What is major reason underlying plagiarism and why? (Open) (Q17)</li> </ul>
18-19	Policing of plagiarism	<ul style="list-style-type: none"> <li>• Factors relating to policing of plagiarism (Lickert; 7 statements) (Q18)</li> <li>• Any other factors not covered? (Open) (Q19)</li> </ul>
20-22	Prevention of plagiarism	<ul style="list-style-type: none"> <li>• Factors relating to prevention of plagiarism (Lickert; 10 statements) (Q20)</li> <li>• What is most important factor and why? (Open) (Q21)</li> <li>• Any other way to prevent plagiarism not outlined? (Open) (Q22)</li> </ul>

Table 2 – Summary of Online Survey Question Themes

## 2.6 Focus Groups

Focus groups were chosen to address the research question components concerning participant perceptions because these involve the collection of in-depth, qualitative data (Cohen et al., 2018). Student and staff focus groups were approximately 1hr 15 min in duration and took place synchronously online via Zoom. The emphasis of the focus groups was to seek clarification of and extend upon online survey results and student focus group findings (staff focus group only). A series of guiding questions were prepared in advance of student and staff focus groups – these related to the themes in the online survey (Table 2; Q9-22). An additional topic was also raised at both focus groups – that of staff attitudes towards plagiarism.

## 2.7 Participant Recruitment

For the student survey and focus group, the population of interest was current UG and PGT students in MVLS at the University of Glasgow (5,246 UG and 1,659 PGT students; 2021-22). I adopted a convenience sampling approach due to the relative ease of access to this total population (Cohen *et al.*, 2018) via mass e-mail. This chosen sampling approach presumes that only a certain proportion of the total number of students would volunteer to participate in the study and so a limitation to acknowledge is that the final sample may not be generalizable to the total population. Final student participant numbers and demographic distribution for the online survey and focus group are outlined in Table 3 and Table 4 respectively.

	Academic Level of study		Age		Nationality			Gender	
	UG	PGT	≤25	>25	UK	EU	Other International	Male	Female
	18 (36%)	32 (64%)	27 (54%)	23 (46%)	24 (48%)	6 (12%)	20 (40%)	14 (28%)	36 (72%)
<b>TOTAL</b>	50 (100%)		50 (100%)		50 (100%)			50 (100%)	

Table 3 – Sample distribution of student survey participants according to academic level of study, age nationality and gender.

	Academic Level of study		Age		Nationality			Gender	
	UG	PGT	≤25	>25	UK	EU	Other International	Male	Female
	0 (0%)	4 (100%)	0 (0%)	4 (100%)	1 (25%)	0 (0%)	3 (75%)	1 (25%)	3 (75%)
<b>TOTAL</b>	50 (100%)		50 (100%)		50 (100%)			50 (100%)	

Table 4 – Sample distribution of student focus group participants according to academic level of study, age nationality and gender.

For the staff focus group, my population of interest was staff who teach at UG and PGT level in MVLS. I decided to adopt a purposive sampling strategy (Cohen *et al.*, 2018) to selectively target degree programme co-ordinators/directors (28 UG and 65 PGT staff) because they are likely to be experienced members of staff who act as advisors of study and will have encountered plagiarism during their academic career. A total of 7 participants (1 UG; 6 PGT) took part in the staff focus group.

## 2.8 Data Analysis

### 2.8.1 Quantitative Data Analysis

The proportions of the numbers of cases of plagiarism for the combined cohort of UG and PGT students within demographic sub-categories [level of study (UG, PGT); age (≤25, >25); nationality (UK, EU, other international); gender (male, female)] according to the total numbers of students within these demographic sub-categories were calculated for each academic session from 2014-15 to 2021-22 and converted to percentages by multiplying by a factor of 100. Bar plots of percentage data for each of the demographic categories were generated using Microsoft Excel.

Chi-square test was used to evaluate differences in plagiarism incidence between sub-groups within demographic categories (Cohen et al., 2018). However, in some comparisons, the expected values in some cells in Chi-square analyses were  $<5$  and so Fisher Exact test was used instead for those comparisons (Cohen et al., 2018; McDonald, 2009). R (Version 4.2.1) and R studio (Version 2022.07.1+554) (R Core Team, 2022) were employed using the functions ‘chisq.test’ and ‘fisher.test’ to perform the analyses. Benjamini-Hochberg false discovery rate method is accepted for adjusting p values in the case of multiple comparisons (Lee & Lee, 2018) – this was employed for nationality demographics as there were three independent variables.

SPSS software (Version 26) was employed to analyse data from the Lickert-style questions in my survey following recognised guidelines (e.g. Hartas, 2010). After input of gathered data, variables were categorised (e.g. nominal, ordinal, scale) and data transformed (e.g. the 5 point Lickert scale responses from Strongly Disagree to Strongly Agree were converted to numerical values from 1-5) to allow further analysis. Data was initially investigated using ‘cross-tabs’ function to evaluate frequencies, range and median of responses according to specified variables e.g. level of study (UG or PGT). The Shapiro-Wilk test was chosen to evaluate normality of data distribution (Cohen et al., 2018) and because my data had a non-normal distribution, the non-parametric Kruskal-Wallis test was employed to evaluate the differences between variables and calculate p values (Buckler & Moore, 2023). Graphs were automatically generated in SPSS as part of analyses which were performed.

For all statistical analyses, the significance level Alpha was set at 0.05 as the 5% level is generally accepted as the maximum threshold at which to determine statistical significance and reject the null hypothesis in favour of the alternative hypothesis (Cohen et al., 2018). This means that p values  $< 0.05$  were considered as significant.

### **2.8.2 Qualitative Data Analysis**

Thematic analysis was employed to analyse qualitative data from open survey questions and focus group transcripts as this is an established and recognised method for analysing such data (e.g. Braun & Clarke, 2006). I followed the three main stages and processes of thematic analysis, as described by Castleberry & Nolen (2018), namely compiling, disassembly and reassembly. The associated steps I performed are outlined in Table 5.



Stage	Process	Description
1	Compiling	<ul style="list-style-type: none"> <li>• Data was transformed into a suitable format for its analysis <ul style="list-style-type: none"> <li>○ Open survey responses were exported from Microsoft Forms to Microsoft Excel</li> <li>○ Automatically generated transcripts from Microsoft Zoom were reviewed and corrected using Microsoft Word.</li> </ul> </li> </ul>
2	Disassembly	<ul style="list-style-type: none"> <li>• Transformed qualitative data from Stage 1 (from focus group transcripts or open survey responses) was manually annotated with ‘codes’ [words or short sentences that indicated the key point and meaning which I derived from that piece of data (Saldaña, 2014)] in Microsoft Word by highlighting relevant text and adding a comment with the code, or in Microsoft Excel by adding the codes in a new column next to the original responses.</li> <li>• In all cases, I read over the original text several times until no new codes could be assigned.</li> </ul>
3	Reassembly	<ul style="list-style-type: none"> <li>• Codes were manually grouped together under the headings of broader ‘categories’ using Microsoft Excel</li> <li>• Categories were next linked to each other to formulate wider ‘themes’ which reflected the meaning I inferred from the data (Lichtman, 2014) manually using Microsoft Excel.</li> </ul>

Table 5 – Summary of Thematic Analysis Stages and Processes

### 3. Results

#### 3.1 Senate Data

Quantitative analysis of senate office data was employed to generate an overall impression of plagiarism occurrence in MVLS from 2014-15 to 2021-22. The data was evaluated by determining proportion (%) of plagiarism that occurred in in each academic session in the following demographic sub-categories: academic level, maturity, nationality and gender (Figure 2).

With respect to academic level, Figure 2(A) indicates a tendency for higher levels of plagiarism among PGT compared to UG students in all academic sessions. There is also a visible trend that plagiarism levels in UG and PGT students have increased substantially from academic session 2016-17 to 2021-22, with levels rising from 0.19% to 0.64% for UG and 1.56% to 8.12% for PGT students between these two years respectively.

Looking at student maturity, Figure 2(B) indicates a general pattern of higher levels of plagiarism in students who are mature (> 25 years) compared to those who are not mature (≤ 25 years) in all academic sessions. Again, there appears to be a steep rise in the number of plagiarism cases in both mature and not mature students from academic session 2016-17 to 2021-22. Levels have risen from 0.22% to 1.33% for not mature and from 1.61% to 10.92% for mature students between these two years respectively.

With regards to participant nationality, Figure 2(C) illustrates a trend of higher incidence of plagiarism among EU and other international students compared to UK students in all academic sessions. Furthermore, there appears to be overall trends for rising levels of plagiarism from 2016-17 to 2021-22 in all nationality categories. Levels have risen from 0.19% to 1.07% (UK), 0.94% to 3.3% (EU) and 0.93 to 5.64 % (other international) between these two years respectively.

Finally, with regards to student gender, Figure 2(D) suggests that there are no obvious major differences in levels of plagiarism according to male or female gender. As with other demographic characteristics, there is a trend of increasing levels of plagiarism in both males and females from academic session 2016-17 to 2021-22, with levels rising from 0.57% (males) and 0.27 to 2.43 % (females) between these two years respectively.

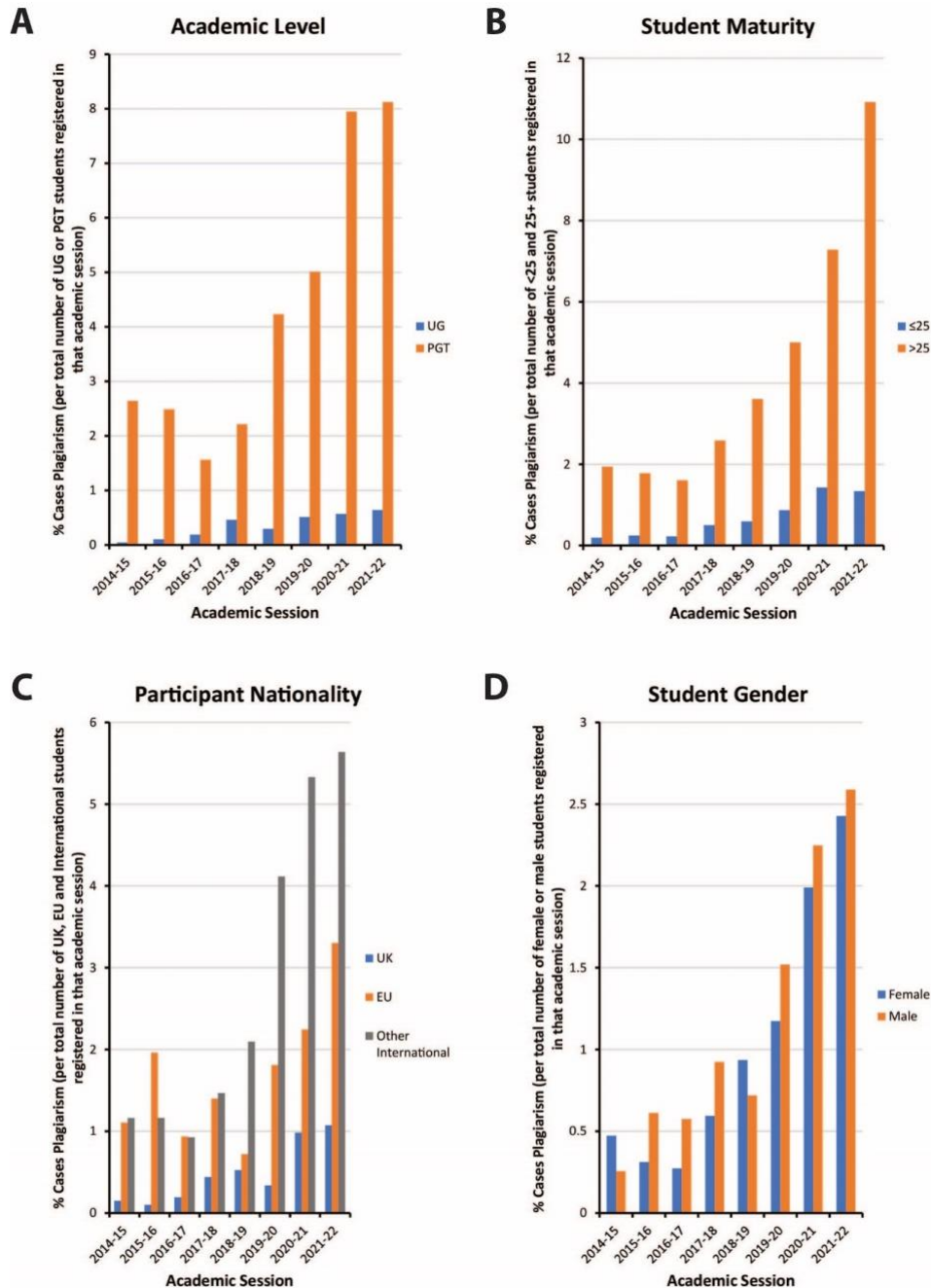


Figure 2 – Incidence of Plagiarism in MVLS

Analysis of reported cases of plagiarism in MVLS from academic sessions 2014-15 to 2021-22 according to (A) level of academic study [Undergraduate (UG) or Post-graduate taught (PGT)]; (B) student maturity ( $\leq 25$  yrs or  $> 25$  years); (C) student nationality (UK, EU or Other International) and (D) student gender (Female and Male). In all case bars represent % of reported cases of plagiarism within the stated sub-categorisations with respect to the total number of students enrolled in MVLS within each sub-categorisation in the stated academic session.

To investigate the statistical significance of observed differences in proportions of levels of plagiarism (i) between demographic sub-categories and (ii) within demographic sub-categories over time, two proportion Chi-square or Fisher exact tests (where expected cell counts were <5) were performed. The year 2016-17 was used as a baseline, because counts for cases of plagiarism within some demographic sub-categories were <5 in previous academic sessions and so they could not be used, and 2021-22 was used for comparison as this was the year where levels were highest.

Results indicate statistically significant higher levels of plagiarism at both 2016-17 (Table 6) and 2021-22 (Table 7) time points in: UG vs PGT students, mature vs younger students, and UK vs both EU and other international students (p values are <0.05 for all comparisons). This suggests that differences which were present in 2016-17 continue to be present in 2021-22. There were no statistically significant differences in levels of plagiarism between males and females or between EU and other international students at either time point (p values were >0.05 for all comparisons here).

Demographic	Chi Square			Fisher Exact Test		
	X <sup>2</sup>	df	p value	Estimate: Odds Ratio	95% CI	p value/ adjusted p value <sup>a</sup>
<b>Level of Study</b>						
UG vs PGT	N/A			4.595024	(2.369999, 9.766401)	<b>2.75e-07****</b>
<b>Age</b>						
≤25 vs >25	N/A			7.346327	(2.784679, 19.134540)	<b>3.08e-05****</b>
<b>Nationality</b>						
UK vs EU	N/A			4.903602	(1.076039, 18.394197)	<b>0.03**<sup>a</sup></b>
UK vs Other International	N/A			4.847208	(1.655222, 14.481143)	<b>0.0051***<sup>a</sup></b>
EU vs Other International	N/A			0.9883259	(0.2739551, 4.4165688)	1 <sup>a</sup>
<b>Gender</b>						
Male vs Female	2.3053	1	0.1289	N/A		

Table 6 – Chi Square/Fisher exact test statistics comparing levels of plagiarism between demographic characteristics in year 2016-17

Notes: p values in bold are statistically significant

(\* Significant at p<0.05; \*\* Significant at p<0.01; \*\*\*\* Significant at p<0.0001)

<sup>a</sup> these are adjusted p values with Benjamini Hochberg FDR correction for multiple comparisons

Demographic	Chi Square			Fisher Exact Test		
	X <sup>2</sup>	df	p value	Estimate: Odds Ratio	95% CI	p value/ adjusted p value <sup>a</sup>
<b>Level of Study</b>						
UG vs PGT	288.54	1	<b>1.04e-64****</b>	N/A		
<b>Age</b>						
≤25 vs >25	266.89	1	<b>5.39e-60****</b>	N/A		
<b>Nationality</b>						
UK vs EU	N/A			3.147934	(1.461459, 6.212454)	<b>0.00304***</b>
UK vs Other International				5.505682	(3.872142, 7.923570)	<b>4.02e-24*****</b>
EU vs Other International				1.748463	(0.925437, 3.648957)	0.0846 <sup>a</sup>
<b>Gender</b>						
Male vs Female	0.0966	1	0.756	N/A		

Table 7 – Chi Square/Fisher exact test statistics comparing levels of plagiarism between demographic characteristics in year 2021-22

Notes: p values in bold are statistically significant  
(\*\* Significant at p<0.01; \*\*\*\* Significant at p<0.0001)

<sup>a</sup> these are adjusted p values with Benjamini Hochberg FDR correction for multiple comparisons

Looking at changes in plagiarism levels over time, results in Table 8 indicate that there are statistically significant higher levels of plagiarism among students within all demographic sub-categories (UG, PGT, younger (≤25), mature (>25), UK, EU, other international, male, female) when comparing proportions of plagiarism cases in 2016-17 to those in 2021-22 (p values for Chi-square tests are <0.05 for all comparisons).

Demographic	Chi Square		
	X <sup>2</sup>	df	p value
<b>Level of Study</b>			
UG	11.237	1	<b>0.0008019***</b>
PGT	38.704	1	<b>4.93e-10****</b>
<b>Age</b>			
≤25	39.544	1	<b>3.21e-10****</b>
>25	46.265	1	<b>1.03e-11****</b>
<b>Nationality</b>			
UK	24.677	1	<b>6.78e-07****</b>
EU	4.2617	1	<b>0.03898*</b>
Other International	35.588	1	<b>2.44e-09****</b>
<b>Gender</b>			
Male	24.162	1	<b>8.86e-07****</b>
Female	63.911	1	<b>1.30e-15****</b>

Table 8 – Chi Square test statistics comparing levels of plagiarism within demographic sub-categories between years 2016-17 to 2021-22.

*Note:* p values in bold are statistically significant  
 (\*\*\*) Significant at  $p < 0.001$ ; \*\*\*\* Significant at  $p < 0.0001$ )

### 3.2 Online Survey

To assess students' knowledge and understanding of plagiarism, one of the online survey questions (Q9) provided participants with a list of scenarios (Appendix 1; Table A1) and they were asked if they considered these to be plagiarism or not, or if they were not sure. Responses indicated that the majority (range of >45% to >70%) of UG and PGT students correctly identified scenarios of plagiarism and the one scenario that was not plagiarism (statement 9.3) (Figure 3A). There were no statistically significant differences between UG and PGT responses for all statements.

Participants were asked which scenario they felt was the most serious and why (Q10). The highest proportions of UG (33.3%) and PGT (21.9%) students considered scenarios 8 (paraphrasing without acknowledgement) and 14 (hiring someone else to sit an exam) to be the most serious respectively (Figure 3B). The main reasons underlying this were that these represent poor academic practice, and that the use of a third party is a deliberate act. For example, one survey participant stated "As a scientist we need to give a credits for another scientist invention/work by citing the source properly." Referring to the scenario of a third party sitting an exam on a students behalf, another participant wrote:

".... because 100% of the work assignment is completed by someone else. I feel this is more serious than paraphrasing 5% of the assignment without a reference - that could just be an accident or forgetting to reference something appropriately. It is still plagiarism .... but the reason for the plagiarism is not blatantly malicious."

### Scenarios - Identification of Plagiarism

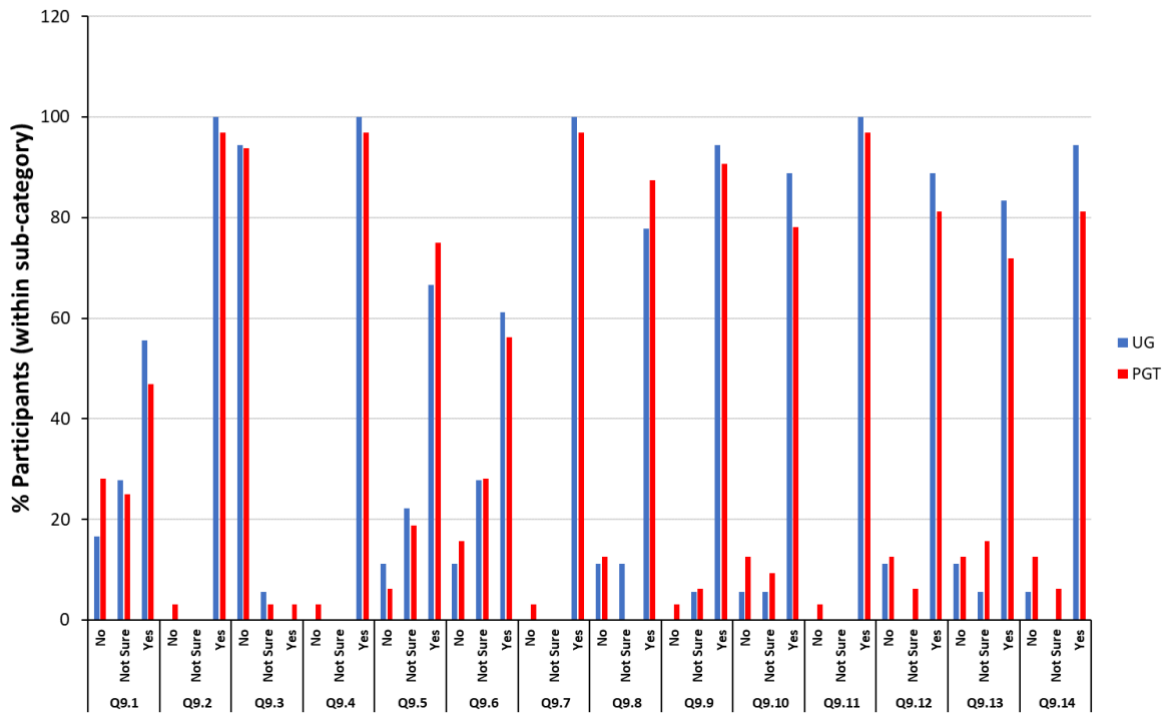


Figure 3A

### Perceived Worst Scenario

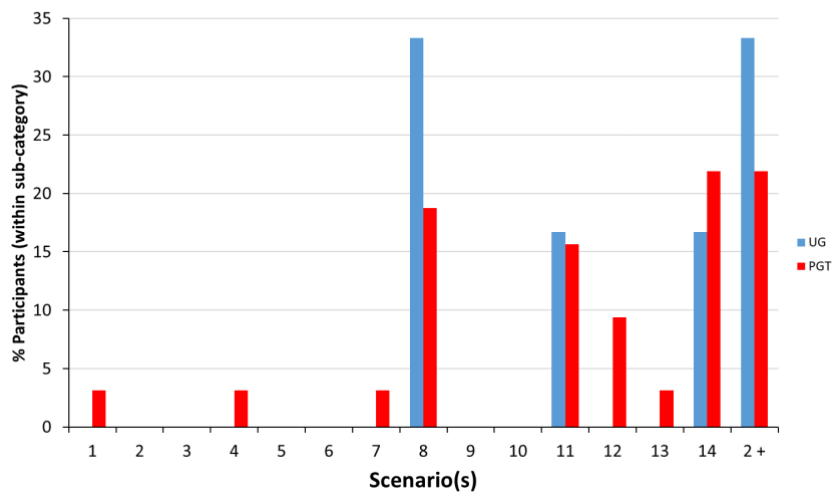


Figure 3B

Figure 3A, 3B – Students knowledge of plagiarism based on presented scenarios  
 (A) Analysis of students’ knowledge of scenarios of plagiarism according to participant level of study. Bars represent % of students within each sub-categorisation who opted for each of the three possible responses (No; Not Sure; Yes). (B) Analysis of students’ perception of which was the worst scenario from the provided list. Bars represent % of students within each sub-categorisation who stated specified scenarios. 2+ = students who stated 2 or more scenarios. For A and B, UG n = 18; PGT n = 32.

From the responses to lickert-style questions (Q11-15, 18, 20), only one statistically significant difference was found between UG and PGT students – PGT students agreed more strongly (median = 4) compared to UG students (median = 3.5) that academic writing workshops could help prevent plagiarism ( $p = 0.025$ ) (Figure 4, Table 9).

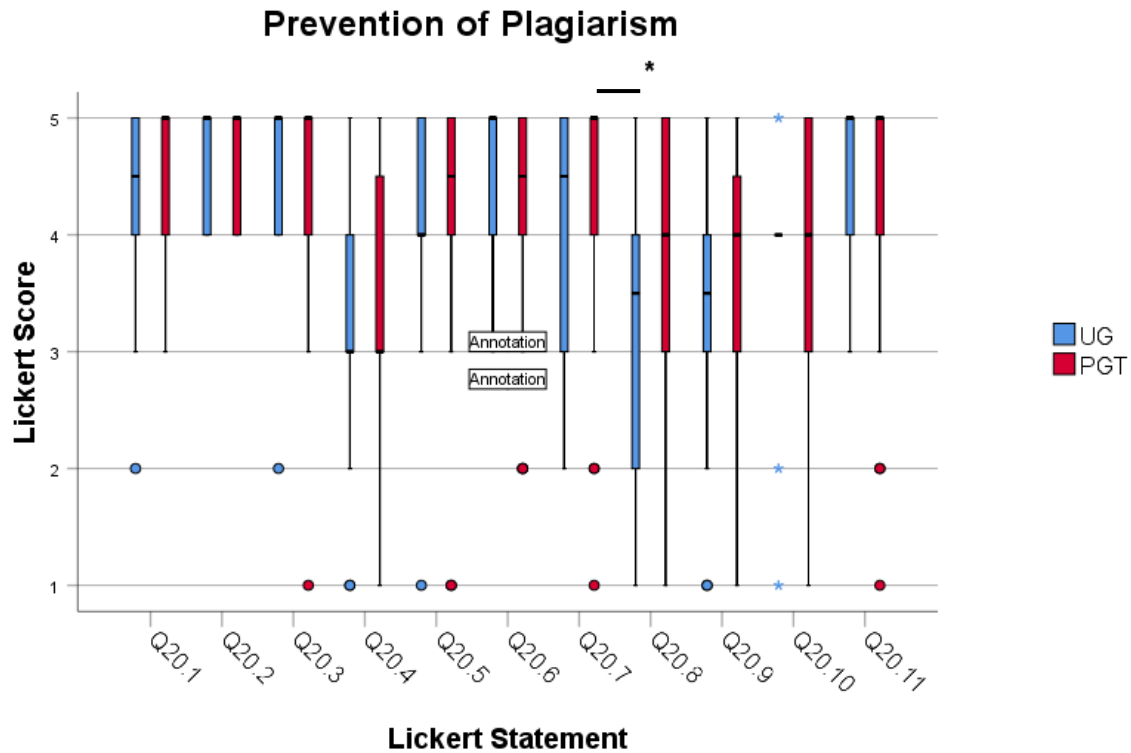


Figure 4 – Student perceptions relating to prevention of plagiarism  
 Analysis of students’ perceptions relating to prevention of plagiarism according to participant level of study (blue = UG; red = PGT). Shown is a box-whisker plot of Lickert question responses. Score represents level of agreement/disagreement with statements which students were asked to consider (1 = strongly disagree; 2 = disagree; 3 = neither agree nor disagree; 4 = agree; 5 = strongly agree). Solid line represents the median; upper and lower quartiles are represented by the coloured boxes; whiskers extend to non-outlying values; outliers are represented by data points (filled circles); extreme cases are represented by blue asterisk. Kruskal Wallis test was used to compare UG and PGT responses and calculate p values (See Table 17) and those with significance are shown. Black asterisk indicates  $p < 0.05$ .

Statements: Prevention of Plagiarism		UG		PGT		Kruskal Wallis	
		Median	IQR	Median	IQR	<i>H</i>	<i>p</i>
20.1	Pride in own original work	4.5	1	5	1	0.299	0.585
20.2	Can get good marks without plagiarising	5	1	5	1	0.068	0.795
20.3	Against moral values	5	1	5	1	0.431	0.511
20.4	Against religious beliefs	3	1	3	2	0.102	0.749
20.5	Fear of humiliation by peers/staff/family if found out	4	1	4.5	1	0.058	0.810
20.6	Penalties are too high if was referred to senate for plagiarism	5	1	4.5	1	1.832	0.176
20.7	Clear guidance from academic staff on what constitutes plagiarism would prevent me breaking the rules	4.5	2	5	1	0.292	0.589
20.8	Attendance at academic writing workshops	3.5	2	4	2	5.025	<b>0.025*</b>
20.9	Attendance at stress management workshops	3.5	1	4	2	0.934	0.334
20.10	Attendance at time and priority management workshops	4	1	4	2	0.064	0.800
20.11	Ability to run a draft of an assignment through Turnitin before submission of the final entry	5	1	5	1	0.378	0.539

Table 9 – Statistical analysis of Q20

*Note:* p values in bold are statistically significant (\* Significant at  $p < 0.05$ )



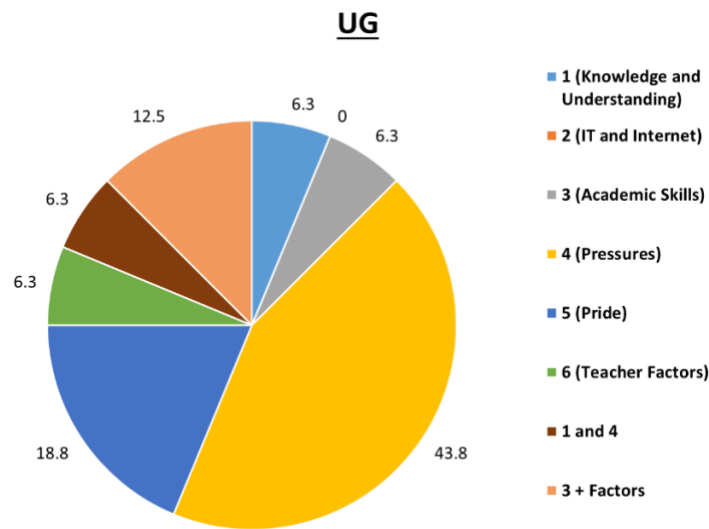


Figure 5A

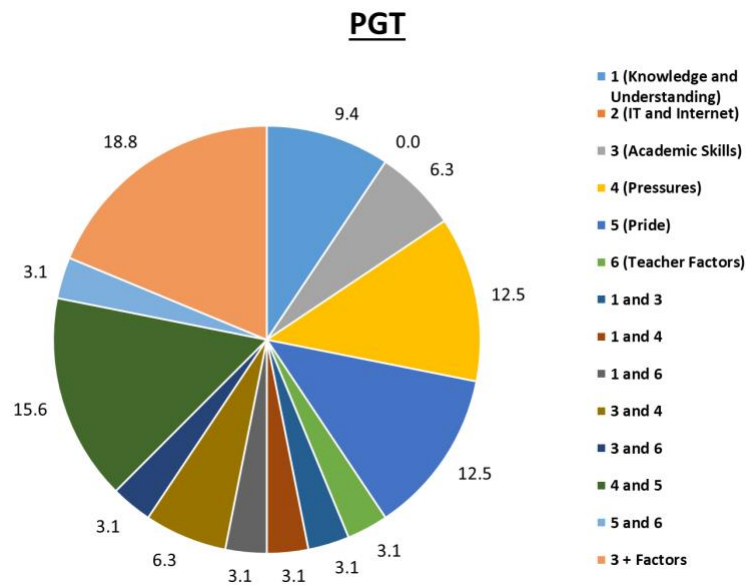


Figure 5B

Figure 5A, 5B – Student perceptions of the most significant contributing factors to plagiarism behaviour  
 Pie charts representing the percentage of (A) UG (n = 16) and (B) PGT (n = 32) participants whose responses matched to the five categories from survey Questions 11-15 – IT and internet (1); Academic skills (2), Pressures (3); Pride (4) and Teacher Factors (5) or combinations of these factors.

From the supporting quotes (Table 10), it can be seen that pressures included: time pressures to complete assignments; pressure to pass, financial pressures, and mental health issues. With regards to pride, the perception was that plagiarism can occur because students lack pride in their own work – they only want to put in minimal effort to pass without trying to synthesise their own ideas and can be indifferent to the potential of misconduct being identified.

<b>Factor</b>	<b>Supporting Quotes</b>
Pressures	<p><i>“.... pressures of turning assignments in on time. Students will be afraid of failure, especially at higher levels of education, and this will impact on their judgement.”</i></p> <p><i>“Pressure to succeed and not to fail (from a variety of sources including self), especially given the financial implications of failing/having to re-sit a year.”</i></p> <p><i>“If a student is struggling with mental health, has anxiety and is very afraid that they will not be able to fit the standards .... it might cause them to plagiarise.”</i></p>
Pride	<p><i>“In general, students have become very lazy to think deeper and generate their own ideas based on information from others.”</i></p> <p><i>“.... looking for an easy way to complete assignments for credit - just wanting to pass.”</i></p> <p><i>“.... in my experience there is a certain amount of nonchalance in that [plagiarism] will never be found out and I totally disagree with that. Simply make the effort do the reading and submit your own work and take pride in your submissions.”</i></p>

Table 10 – Supporting Quotes for Pressures and Pride as Key Contributing Factors for Plagiarism Behaviour

Students were asked in the online survey what they felt was the most important factor that would prevent plagiarism behaviour and why (Q21). Responses were coded (a total of 21 codes emerged) and the number of times a particular code was stated was analysed quantitatively according to participant level of study (Table 11). The top codes by rank (highlighted in red in the table) for UG students were: 1. pride in own work (25%), 2. being able to submit a draft of an assignment to Turnitin (25%), 3. clear assessment guidance (12.5%) and 4. penalties not being worth the risk (12.5%). In contrast, the top codes by rank for PGT students were: 1. clear guidance about what constitutes plagiarism (29.03%), 2. clarity about penalties for plagiarism (25.81%) and 3. pride in own work (19.35%).

Code	% Respondents For Stated Factor	
	UG (n=16)	PGT (n=31)
<b>Clear Guidance On What Constitutes Plagiarism</b>	6.25	<b>29.03</b>
<b>Pride In Own Work</b>	<b>25</b>	<b>19.35</b>
<b>Clarity About Penalties</b>	0	<b>25.81</b>
<b>Turnitin Draft</b>	<b>25</b>	3.23
<b>Clear Assessment Guidance</b>	<b>12.5</b>	9.68
Academic Writing Workshops	6.25	9.68
<b>Penalties Not Worth Risk</b>	<b>12.5</b>	3.23
Examples	0	6.45
Support Originality	0	6.45
Academic Skills Development	6.25	3.23
Support For Students Experiencing Difficulties	6.25	3.23
Time Management Guidance	6.25	3.23
Controlled Exam Environment	6.25	0
Personal Values and Beliefs	0	3.23
In-person Lessons	6.25	0
Self-identity	0	3.23
Can Get Good Marks Without Plagiarism	0	3.23
Longer Time Period for MSc studies	0	3.23
Less Workload	6.25	0
Alternative/Authentic Assessments	0	3.23
Additional Support For Using Turnitin	6.25	0

Table 11 – Analysis of ‘open’ survey Q21

### 3.3 Student and Staff Focus Groups

To gain a more in-depth understanding of student perceptions of plagiarism behaviour and how these aligned with the views of staff, thematic analysis was conducted as outlined in the methodology section on data from student ‘open-ended’ online survey responses (Question 10, 16, 17, 19, 21, 22) and student and staff focus group discussions. During the analyses, it became clear that there were common categories between student and staff data but also some which were unique to each group. These categories were sorted into themes which were common for both students and staff (a total of nine) and those which were unique to either students (a total of four) or staff (a total of four) (Figure 6).

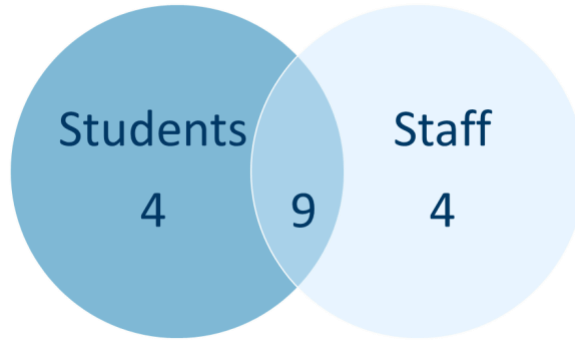


Figure 6 – Results of Thematic Analyses

Venn diagram indicating the number of themes which were identified from student open survey responses and focus group discussions, staff focus group discussions and common themes between students and staff.

The identified themes, which will be described in more detail in the following section, are outlined in Table 12 and supporting quotes are provided in Appendix 2 (Table A2-A5).

Unique to Students	Unique to Staff	Common Between Staff and Students
<ul style="list-style-type: none"> <li>1. Plagiarism is a wrongful behaviour.</li> <li>2. Need for good signposting and regular reminders of support infrastructure</li> <li>3. Discussions with peers are a source of learning</li> <li>4. Mentor scheme</li> </ul>	<ul style="list-style-type: none"> <li>1. Subject-specific considerations</li> <li>2. Time limitations</li> <li>3. Lack of certainty about referrals for plagiarism</li> <li>4. Variation in stringency among staff regarding plagiarism</li> </ul>	<ul style="list-style-type: none"> <li>1. Plagiarism is poor academic practice – it is not always intentional.</li> <li>2. Negative impact of plagiarism upon student learning</li> <li>3. Student transitions (from overseas to UK and from UG to PGT)</li> <li>4. Pressures faced by students</li> <li>5. Good assessment and feedback practice can help prevent plagiarism</li> <li>6. Necessity for staff to have strict attitude towards plagiarism</li> <li>7. Turnitin barriers</li> <li>8. Institutional barriers</li> <li>9. Current provision of guidance is not effective</li> </ul>

Table 12 – Summary of common and unique themes among students and staff identified from qualitative analysis

### **3.3.1 Unique Student Themes**

Theme 1 was that plagiarism is a wrongful behaviour. Strong negative language terms were used e.g. 'stealing', 'illegal', 'fraudulent' with respect to perceptions of this behaviour. It was also voiced that plagiarism can have consequences and impact other students where someone's work was copied.

Theme 2 identified a need for signposting and regular reminders of support infrastructure. The perception was that support for academic studies and personal wellbeing is needed before and after referral to senate and that reminders should be provided throughout the programme of study.

Theme 3 indicated that student discussions with their peers are a source of learning. Such discussions were perceived to promote learning, providing boundaries are not crossed and can even help raise self-awareness of plagiarism.

Theme 4 highlighted that a mentor scheme for students would be of benefit to help prevent plagiarism. Students voiced the opinion that they would feel more comfortable asking for advice about plagiarism from a more experienced student than from a member of academic staff.

### **3.3.2 Unique Staff Themes**

Theme 1 for staff was that there are subject specific considerations for plagiarism. For example, in computing disciplines, the re-use of code is encouraged but that is contradictory to the concept of avoiding plagiarism. It is also very difficult to detect plagiarism of computer codes.

Theme 2 was time limitations faced by staff. Concerns were raised about (i) the time it takes to check Turnitin reports, complete paperwork and resolve problems relating to senate referrals, (ii) the capacity of staff to make new resources to help prevent plagiarism, (iii) discussing plagiarism during class time when the curriculum takes up the full allocated time.

Themes 3 and 4 highlighted that staff have a lack of certainty about plagiarism referrals and that there is a variation in stringency among staff regarding plagiarism respectively. Staff are not sure which cases should be referred to senate, have a range of perceptions concerning the seriousness of plagiarism, and differ with respect to how strict they are about the issue.

### **3.3.3 Common Themes Between Staff and Students**

The first common theme for students and staff was that while plagiarism is perceived as poor academic practice, it is not always intentional. It was voiced that although all types of plagiarism are encountered in all types of assessment, some cases of plagiarism can genuinely be accidental because students are unfamiliar with good academic writing conventions.

Theme 2 identified the negative impact of plagiarism upon student learning. It can be indicative that students lack understanding subject material, concepts and intended learning outcomes (ILOs). It also associates with a lack of criticality, which was highlighted as a key differentiating factor between UG and PGT level.

Theme 3 concerned student transitions, from overseas to UK and from UG to PGT level. Students and staff recognised the diversity of educational and cultural backgrounds of students, especially at PGT level. International students face a language barrier, may lack prior training on plagiarism, and it is difficult for them to break cultural norms where it is seen as a mark of respect to use the words of others who are held in esteem. Any gap between UG and PGT studies was also highlighted as an area of concern.

In keeping with survey results, theme 4 concerned pressures faced by students. It was acknowledged that there are significant pressures which are faced by students during their period of study, including: additional life pressures e.g. having a family, caring responsibilities; the pressure to pass; time pressures due to the intensive nature of 1 year PGT study. It was also highlighted that it is difficult for students to learn about plagiarism at the same time as studying.

Theme 5 identified good assessment and feedback practice can help prevent plagiarism. Clear assessment guidelines and diverse, authentic assessments without exemplars were perceived to encourage student originality, criticality and pride in their own work. A need for alternatives to online exams and the use of feedback as opposed to referral for minor cases of plagiarism were voiced.

Theme 6 was the necessity for staff to have a strict attitude towards plagiarism. It was highlighted that students are taught academic skills and about plagiarism, with the perception that staff having a strict attitude towards this issue highlights to students how important and serious it is.

Theme 7 related to barriers encountered with Turnitin. Both students and staff indicated they have a lack of prior experience and/or training in using Turnitin. Students experience difficulties with interpreting Turnitin reports, particularly surrounding the scores that are generated. When technical issues occur with the software, these can be poorly communicated by the institution. Staff have uncertainty about where responsibility lies for checking the Turnitin reports.

Theme 8 identified institutional barriers. It was perceived that (i) there is a need for clear and fair policies on plagiarism, (ii) the institution should raise awareness of the penalties of plagiarism and (iii) there is a lack of resources/support to tackle plagiarism when faced with increasing student numbers.

The ninth and final theme highlighted that current provision of guidance is not effective. In-class discussions on this area are too short and students lack understanding of detail surrounding plagiarism. Furthermore, the timing of guidance provision is not ideal for PGT students and should be at start of the degree programme. It was perceived that more support is needed than signposting to the central Student Learning Development (SLD) service and that resources on this topic could have more active learning components.

#### **4. Key Recommendations**

Plagiarism is a complex phenomenon and the results in this study indicate a multi-factorial approach involving students, staff and the institution is required to address this issue. A series of eight key recommendations for such an approach are outlined in Table 13. These

approaches are supported by other studies in literature but the key argument of this study is that all of these are required – no single approach will be sufficiently effective.

<b>Recommendation</b>	<b>Reason</b>	<b>Supporting Literature</b>
1. Educational/corrective approach	<ul style="list-style-type: none"> <li>• To enhance students' knowledge and understanding of plagiarism and how to avoid it</li> </ul>	<ul style="list-style-type: none"> <li>• Babaii &amp; Nejadghanbar (2017)</li> <li>• Kashian et al. (2015)</li> <li>• Liu et al. (2018)</li> <li>• Perkins et al. (2019)</li> </ul>
2. Raising awareness of the issue.	<ul style="list-style-type: none"> <li>• To highlight the moral/ethical dimension of the seriousness of the issue</li> </ul>	<ul style="list-style-type: none"> <li>• Babaii &amp; Nejadghanbar, (2017)</li> <li>• Kashian et al. (2015)</li> <li>• Selemeni et al. (2018)</li> </ul>
3. Sanctioning approach with policing (e.g. using Turnitin) and appropriate penalties	<ul style="list-style-type: none"> <li>• To act as a deterrent.</li> </ul>	<ul style="list-style-type: none"> <li>• Hillermann (2023)</li> <li>• Kashian et al. (2015)</li> </ul>
4. Policy-driven approach	<ul style="list-style-type: none"> <li>• To ensure rules are fair, clear, well signposted and consistently applied</li> </ul>	<ul style="list-style-type: none"> <li>• Bašić et al. (2019)</li> <li>• Bing et al. (2012)</li> <li>• Levine &amp; Pazdernik (2018)</li> </ul>
5. Assessment-focused strategies	<ul style="list-style-type: none"> <li>• To design out opportunities for plagiarism</li> <li>• To enhance student assessment feedback literacy</li> <li>• To encourage student pride in their own work</li> </ul>	<ul style="list-style-type: none"> <li>• Bretag et al. (2019)</li> <li>• Macdonald &amp; Carroll (2006)</li> <li>• Verhoef &amp; Coetser, (2021)</li> </ul>
6. Provision of academic writing skills training	<ul style="list-style-type: none"> <li>• To enhance students' skills and ability to synthesize ideas and write in their own words</li> <li>• To encourage student pride in their own work</li> </ul>	<ul style="list-style-type: none"> <li>• Levine &amp; Pazdernik (2018)</li> <li>• Mbutho &amp; Hutchings, (2021)</li> </ul>
7. Institutional support for staff professional development	<ul style="list-style-type: none"> <li>• To help overcome barriers linked to reporting of plagiarism</li> </ul>	<ul style="list-style-type: none"> <li>• De Maio et al. (2020)</li> <li>• Morris (2018)</li> <li>• Perkins et al. (2019)</li> </ul>
8. Enhanced scaffolding of support for students	<ul style="list-style-type: none"> <li>• To help students cope with pressures they are facing to mitigate them resorting to plagiarism</li> </ul>	<ul style="list-style-type: none"> <li>• Gravett &amp; Kinchin, (2020)</li> </ul>

Table 13 – Summary of Key Recommendations of this Study and Supporting Literature.

## 5. Conclusion

In conclusion, this study identifies that plagiarism is more prevalent at PGT than UG level in MVLS at the University of Glasgow. Student nationality and age are key influencing demographics, with plagiarism being more prevalent in international and mature students compared to domestic and younger students respectively. While closed question survey results did not reveal any major differences in perceptions of plagiarism between UG and PGT students, open survey responses and focus group results highlighted specific challenges faced by (i) PGT international students and (ii) for students who have had a long gap in study, who are more likely to be mature. Further research is warranted with these specific cohorts of students to gain more detailed insight of their support needs.

There is a need for additional and more timely provision of support to bring international PGT students in particular to the same level of knowledge and understanding about plagiarism, as many have not received prior training. Not only do students require additional

education on plagiarism, but there is a need for the institution to (i) support students with development of their academic skills, wellbeing and (ii) support staff by providing training, development and resource to enable them to tackle the issue of plagiarism fairly and consistently. It is also critical that we as staff design authentic assessments that allow students to fulfil their academic potential and have pride in their own work, particularly in the face of fast-paced developments in the field of generative AI.

## **6. Acknowledgements**

I would like to acknowledge the Senate Office, Freedom of Information (FOI) office and Planning, Insight and Analytics Department for providing essential data for this project.

I would like to acknowledge support from Mr Jack Scott in MVLS administration for assistance with contacting undergraduate programme leads with regards to staff focus group recruitment and also for help with information relating to undergraduate cases which are dealt with at school level.

I would like to acknowledge advice and support from Dr Michael McEwan, George Vazenelis and Dr Jo Ferrie regarding statistical analyses of senate data.



## Appendices

### Appendix 1 – Online Survey Q9 Statements

Statement	Options
1. Student A and Student B collaborate on an assignment that is meant to be completed individually.	Yes; No; Not Sure
2. Student A does some work themselves on an assignment but copies the majority of the assignment from Student B.	Yes; No; Not Sure
3. Student A is having difficulties with their assignment – they contact the lecturer and show them what they have done to ask for guidance.	Yes; No; Not Sure
4. Student A submits a friend's (Student B) assignment from a previous year the course ran.	Yes; No; Not Sure
5. Student A re-submits an assignment from course X which they completed last year for course Y which they are currently studying.	Yes; No; Not Sure
6. Student A copies a sentence directly from text book, journal article or website into their assignment. The student acknowledges the author and date of publication or website in brackets after the sentence but they do not include quotation marks or a page number.	Yes; No; Not Sure
7. Student A copies material directly from a book, journal article or website into their assignment but does not acknowledge the author and date of publication or website after the sentence or use quotation marks.	Yes; No; Not Sure
8. Student A reads some information from a journal article and paraphrases it before writing it in their assignment without acknowledging the source of information.	Yes; No; Not Sure
9. Student A experiences technical difficulties for a tutorial assessment (worth 5%) and so uses their classmate, student B's answer.	Yes; No; Not Sure
10. Student A gets student B to complete a coursework assignment on their behalf.	Yes; No; Not Sure
11. Student A and Student B meet for lunch. Student B has to step aside temporarily for a phone call. While student B is distracted, student A takes a copy of student B's work and subsequently submits it as their own.	Yes; No; Not Sure
12. Student A has to write an essay for course X and goes to the internet – they find and subsequently pay a website to write the essay for them.	Yes; No; Not Sure
13. Student A and student B are sitting an online exam. They message each other during the exam to exchange their answers.	Yes; No; Not Sure
14. Student A hires someone to sit an exam on their behalf.	Yes; No; Not Sure

Table A1 – Scenarios Provided in Online Survey Q9

## Appendix 2 – Supporting Quotes for Thematic Analyses

Theme	Supporting Student Quotes
1. Plagiarism is a wrongful behaviour	<p>Terms used in online survey responses included: <i>'theft', 'cheating', 'stealing', 'violation of privacy', 'deceitful', 'deception', 'dishonest', 'fraudulent', 'betrayal of trust', 'unfair leveraging of wealth', 'ruined the integrity of honours courses', 'cynical', 'cruel', 'ethically reprehensible'</i>.</p> <p><i>"[Referring to copying another students work] .... It's also intentionally plagiarizing isn't it. It's like yeah copying and it's unfair on the other student as well .... It would impact potentially on them as well"</i> (Student A)</p>
2. Need for good signposting and regular reminders of support (academic and wellbeing) infrastructure	<p><i>".... Support's needed more upstream than what at the point of referral to senate, because at that stage it's almost, well it's late for that particular piece of work isn't it ...."</i> (Student A)</p> <p><i>".... Maybe after each module has been completed, also before the assessment, I think a reminder, refresher should also be done."</i> (Student B)</p> <p><i>".... Regular reminders of the support that's out there because what generally happens is that when you've got a key piece of work to submit and if you've got issues, then it all kind of comes to a head around that time of submission. But you want it again more upstream, just a reminder ...."</i> (Student A)</p>
3. Discussions with peers are a source of learning	<p><i>".... If you get the work .... To just get the context, not the full content .... It can be a very good source of learning, especially in peer to-peer study sessions."</i> (Student D)</p>
4. Possibility of a mentor scheme	<p><i>"I think in order to support the student before going to the senate .... Can we just provide the mentorship program .... For the purpose of treating the plagiarism thing .... What is the cause of the problem can be sought out from the student in very comfortable environment. Because we know student and mentor is usually very close compared those student to lecturer."</i> (Student D)</p>

Table A2 – Supporting Quotes for Unique Student Themes

Theme	Supporting Staff Quotes
1. Subject-specific considerations for plagiarism e.g. for computer coding	<p><i>"I teach primarily programming and it's difficult because we, when you teach programming good practice emphasizes code reuse and obviously that's kind of contrary to what we teach them about plagiarism and a lot of the students find it very hard to walk that line."</i> (Staff F)</p> <p><i>"So Turnitin doesn't work for code at all, it just doesn't even return a score."</i> (Staff F)."</p>
2. Time constraints	<p><i>"[Referring to creation of new resources] .... again it's just time, its time and effort .... but we can't do everything, we can't teach everything [Laughs]. I mean and at what point do, where do we do it."</i> (Staff D).</p> <p><i>"[Referring to senate referrals for minor cases] And it's just difficult and then it's like the kind of paperwork that's all involved in it ...."</i> (Staff D)</p> <p><i>"[Referring to existing resources] .... that's part of the reason that I've shied away from revisiting a lot of it in class .... within that kind of valuable class time that we've got for our content."</i> (Staff G)</p> <p><i>"[Referring to a problem with Turnitin] .... we've had issues .... But then we have to go through the Turnitin, like every single bit of it you know to check it all. And it's just time, it takes so much time."</i> (Staff E)</p>
3. Lack of certainty about referrals for plagiarism	<p><i>".... it comes back to at what point .... what we should forward on, what we shouldn't forward on .... if .... there's one sentence in it that's paraphrased badly, is that the same or is that the case to be referred to senate or not"</i> (Staff D)</p> <p><i>"[Referring to a suspected case of accidental plagiarism] .... do you just give them a warning or what do you do with that? So I think that's where the blurred lines are a bit, you know, how far do you take it through the processes?"</i> (Staff E)</p>
4. Variation in stringency among staff regarding plagiarism	<p><i>".... sometimes I feel what I might deem as not that serious, someone else may say that is clearly serious."</i> (Staff E)</p> <p><i>".... I'm very much like no, you should not get credit for something that is not yours. But .... I have colleagues .... who would be much more like 'oh yeah that's something I should do isn't it'"</i> (Staff A)</p>

Table A3 – Supporting Quotes for Unique Staff Themes

Theme	Supporting Student Quotes
1. Plagiarism is poor academic practice - it is not always intentional	<i>".... there is like intentional plagiarism and various, there is one like we can call like the unintentional plagiarism"</i> (Student C)
2. Negative impact of plagiarism upon student learning	<i>"Because like student who plagiarise like other student work like lost opportunity to gain understanding by stealing research .... it's very, very serious problem .... how to train your critical thinking if you like plagiarise like other student work?"</i> (Student C)
3. Student transitions (from overseas to UK and from UG to PGT)	<p><i>".... students that are .... from developing countries .... don't have the idea of plagiarism, which affects them when they're coming to the UK for studies .... it's actually challenging for developing .... countries that were not exposed during their undergraduate level coming to postgraduate studies ...."</i> (Student B)</p> <p><i>".... there is a big gap between .... undergraduate and doing like the post-graduate.... So, like maybe we don't know about oh, this is how to write very colourfully how to paraphrase and how to reference. Because .... there is like very, very long time for the gap .... So I thought it's not different between undergraduate and postgraduate student then."</i> (Student C)</p>
4. Pressures faced by students	<i>".... they are trying to learn at same time as plagiarism. Which, you may be exhausted with you know, as a post-graduate student some might be having families and having some other issues you know. It does contribute and affect you psychologically during the study .... you might find yourself caught and it's just unfortunate."</i> (Student B)
5. Good assessment and feedback practice can help prevent plagiarism	<p><i>".... having clarity of .... key things of what's expected at that level should help and encourage students to be more original perhaps in their writing and just yeah push those boundaries a bit more I'd say."</i> (Student A)</p> <p><i>"The current practice of taking online exams have so many flaws that needs to be addressed."</i> (Survey Participant)</p>
6. Necessity for staff to have strict attitude towards plagiarism	<i>".... our lecturer very, very care .... about the plagiarism because yeah plagiarism is the most important thing in academic .... field, especially for when it comes to writing .... My lecturer is very strict when it's about the plagiarism."</i> (Student C)
7. Turnitin barriers	<i>"I've never actually had anyone run through explaining what the report generated means and have had to work out what to disregard or pay attention to myself."</i> (Survey Participant)
8. Institutional barriers	<i>"I honestly don't know much about the penalties except that you can get in a lot of trouble and likely expelled."</i> (Survey Participant)
9. Current provision of guidance is not effective	<i>"In terms of additional support, the signposting to SLD, it's OK but perhaps more could be done ...."</i> (Student A)

Table A4 – Supporting Student Quotes for Common Themes with Staff

Theme	Supporting Staff Quotes
1. Plagiarism is poor academic practice - it is not always intentional	<p>“.... 99.9% of the time they say “I didn't mean to” ....” (Staff A)</p> <p>“[Referring to a case of self-plagiarism] .... I genuinely don't think the student knew that that would still be classed as plagiarism” (Staff E).</p> <p>“In terms of the in-course assessment, I mean, we have come across everything from collusion to self-plagiarism.” (Staff B)</p> <p>“.... when I used to teach undergrads .... it was very rare that I came across issues with plagiarism .... But as soon as it went to PGT .... it just exponentially blew up” (Staff D)</p>
2. Negative impact of plagiarism upon student learning	<p>“.... sometimes I do think it's a fundamental lack of a grasp of the ILOs that you've got there and so they're taking big chunks of text because they can't express that they haven't understood the ideas” (Staff G)</p>
3. Student transitions (from overseas to UK and from UG to PGT)	<p>“.... the majority of students that we see plagiarising at PGT are students that .... don't have English as a first language and have come from other educational backgrounds. Not always, but I think that probably is the majority of the students that have issues with this.” (Staff B)</p>
4. Pressures faced by students	<p>“.... for some of our international students who've been funded to come here, the pressure to pass is immense and there are like very you know real life consequences for them if they don't successfully complete ....” (Staff G)</p>
5. Good assessment and feedback practice can help prevent plagiarism	<p>“I think there's real ways in which we could be diversifying assessment to allow them to be proud of it, rather than them just writing yet another essay on a topic ....” (Staff D)</p> <p>“.... getting rid of the exemplars is positive in terms of encouraging people to give their own response, you know, and telling them that what we're looking for is critical thinking ....” (Staff G)</p>
6. Necessity for staff to have strict attitude towards plagiarism	<p>“.... I say that it's [referring to plagiarism] a .... serious kind of .... poor academic practice that can affect their grade. I'm very threatening with it to be honest. I say it can affect whether or not they can progress or complete the course” (Staff G).</p>
7. Turnitin barriers	<p>“I found a glitch in Turnitin .... a very you know nondescript message was sent out on Teams .... I felt like there could be loads of course coordinators who didn't even see the message .... glitches in the system don't necessarily get communicated well ....” (Staff A)</p>
8. Institutional barriers	<p>“.... the pressure for increasing student numbers, the more you increase student numbers the less support we can provide. They're not going to equip staff they're not going to hire staff, they're not going to allow staff to provide the time and investment in students ....” (Staff D)</p>
9. Current provision of guidance is not effective	<p>“I think the problem with pointing students to [existing] resources .... they're quite dry .... I don't think they're ideal .... there's a need for better resources as well that students can be actively using rather than just reading a load of text.” (Staff B)</p> <p>“[Referring to academic writing workshops] I don't think those weaker students are going out and taking those additional courses” (Staff C)</p>

Table A5 – Supporting Staff Quotes for Common Themes with Students

## References

- Babaii, E., & Nejadghanbar, H. (2017). Plagiarism Among Iranian Graduate Students of Language Studies: Perspectives and Causes. *Ethics & Behavior*, 27(3), 240–258.
- Bašić, Ž., Kružić, I., Jerković, I., Buljan, I., & Marušić, A. (2019). Attitudes and Knowledge About Plagiarism Among University Students: Cross-Sectional Survey at the University of Split, Croatia. *Science and Engineering Ethics*, 25(5), 1467–1483.
- Bing, M. N., Davison, H. K., Vitell, S. J., Ammeter, A. P., Garner, B. L., & Novicevic, M. M. (2012). An Experimental Investigation of an Interactive Model of Academic Cheating Among Business School Students. *Academy of Management Learning & Education*, 11(1), 28–48.
- Bishop, P. A., & Herron, R. L. (2015). Use and Misuse of the Likert Item Responses and Other Ordinal Measures. *International Journal of Exercise Science*, 8(3), 297–302.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
- Bretag, T., Harper, R., Burton, M., Ellis, C., Newton, P., Rozenberg, P., Saddiqui, S., & van Haeringen, K. (2019). Contract cheating: A survey of Australian university students. *Studies in Higher Education*, 44(11), 1837–1856.
- British Educational Research Association (BERA). (2018). *Ethical Guidelines for Educational Research, fourth edition (2018)*.  
<https://www.bera.ac.uk/publication/ethical-guidelines-for-educational-research-2018>
- Bryman, A. (2006). Integrating quantitative and qualitative research: How is it done? *Qualitative Research*, 6(1), 97–113. <https://doi.org/10.1177/1468794106058877>
- Buckler, S., & Moore, H. (2023). *Essentials of research methods in education* (1st ed.). SAGE Publications Ltd.
- Castleberry, A., & Nolen, A. (2018). Thematic analysis of qualitative research data: Is it as easy as it sounds? *Currents in Pharmacy Teaching and Learning*, 10(6), 807–815.
- Cleaver, E., Lintern, M., & McLinden, M. (2014). What About Ethics and Safety? In E. Cleaver, M. Lintern, & M. McLinden (Eds.), *Teaching and learning in higher education: Disciplinary approaches to educational enquiry* (First edition, pp. 54–71). SAGE Publications Ltd.
- Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education* (Eighth edition). Routledge.
- Collins, A., Judge, G., & Rickman, N. (2007). On the economics of plagiarism. *European Journal of Law and Economics*, 24(2), 93–107.

- Coneyworth, L., Jessop, R., Maden, P., & White, G. (2020). The overlooked cohort? – Improving the taught postgraduate student experience in higher education. *Innovations in Education and Teaching International*, 57(3), 262–273.
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (Third Edition). SAGE Publications Inc.
- De Maio, C., Dixon, K., & Yeo, S. (2020). Responding to student plagiarism in Western Australian universities: The disconnect between policy and academic staff. *Journal of Higher Education Policy and Management*, 42(1), 102–116.
- Eaton, S. E. (2021). *Plagiarism in higher education: Tackling tough topics in academic integrity*. Libraries Unlimited, an imprint of ABC-CLIO, LLC.
- George, J. W., & Cowan, J. (1999). *A handbook of techniques for formative evaluation: Mapping the student's learning experience*. Kogan Page ; Stylus Publishing, Inc.
- Gravett, K., & Kinchin, I. M. (2020). Referencing and empowerment: Exploring barriers to agency in the higher education student experience. *Teaching in Higher Education*, 25(1), 84–97.
- Gullifer, J. M., & Tyson, G. A. (2014). Who has read the policy on plagiarism? Unpacking students' understanding of plagiarism. *Studies in Higher Education*, 39(7), 1202–1218.
- Halak, B., & El-Hajjar, M. (2019). Design and evaluation of plagiarism prevention and detection techniques in engineering education. *Higher Education Pedagogies*, 4(1), 197–208.
- Harris, L., Harrison, D., McNally, D., & Ford, C. (2020). Academic Integrity in an Online Culture: Do McCabe's Findings Hold True for Online, Adult Learners? *Journal of Academic Ethics*, 18(4), 419–434.
- Hartas, D. (Ed.). (2010). *Educational research and inquiry: Qualitative and quantitative approaches*. Continuum.
- Hillermann, A. L. (2023). Factors Influencing Plagiarism Amongst Undergraduate Students at an Institution of Higher Learning: Kwazulu-Natal. In M. Makua, M. Akinlolu, M. Sithole, P. Gumede, & C. Nyondo (Eds.), *Proceedings of The Focus Conference (TFC 2022)* (pp. 60–71). Atlantis Press SARL.
- Husain, F. M., Al-Shaibani, G. K. S., & Mahfoodh, O. H. A. (2017). Perceptions of and Attitudes toward Plagiarism and Factors Contributing to Plagiarism: A Review of Studies. *Journal of Academic Ethics*, 15(2), 167–195.
- ICIA. (n.d.). *Facts and Statistics*. Retrieved May 19, 2023, from <https://academicintegrity.org/resources/facts-and-statistics>

- Jereb, E., Perc, M., Lämmlein, B., Jerebic, J., Urh, M., Podbregar, I., & Šprajc, P. (2018). Factors influencing plagiarism in higher education: A comparison of German and Slovene students. *PLOS ONE*, *13*(8), e0202252.
- Kashian, N., Cruz, S. M., Jang, J., & Silk, K. J. (2015). Evaluation of an Instructional Activity to Reduce Plagiarism in the Communication Classroom. *Journal of Academic Ethics*, *13*(3), 239–258.
- Lee, S., & Lee, D. K. (2018). What is the proper way to apply the multiple comparison test? *Korean Journal of Anesthesiology*, *71*(5), 353–360.
- Levine, J., & Pazdernik, V. (2018). Evaluation of a four-prong anti-plagiarism program and the incidence of plagiarism: A five-year retrospective study. *Assessment & Evaluation in Higher Education*, *43*(7), 1094–1105.
- Lichtman, M. (2014). *Qualitative Research for the Social Sciences*. SAGE Publications, Inc. <https://doi.org/10.4135/9781544307756>
- Liu, G., Lu, H., Lin, V., & Hsu, W. (2018). Cultivating undergraduates' plagiarism avoidance knowledge and skills with an online tutorial system. *Journal of Computer Assisted Learning*, *34*(2), 150–161.
- Maarouf, H. (2019). Pragmatism as a Supportive Paradigm for the Mixed Research Approach: Conceptualizing the Ontological, Epistemological, and Axiological Stances of Pragmatism. *International Business Research*, *12*(9), 1.
- Macdonald, R., & Carroll, J. (2006). Plagiarism—A complex issue requiring a holistic institutional approach. *Assessment & Evaluation in Higher Education*, *31*(2), 233–245.
- Mahmud, S., & Ali, I. (2023). Evolution of research on honesty and dishonesty in academic work: A bibliometric analysis of two decades. *Ethics & Behavior*, *33*(1), 55–69.
- Maxwell, A., Curtis, G. J., & Vardanega, L. (2008). Does culture influence understanding and perceived seriousness of plagiarism? *International Journal for Educational Integrity*, *4*(2), 25–40.
- Mbutho, N. P., & Hutchings, C. (2021). The complex concept of plagiarism: Undergraduate and postgraduate student perspectives. *Perspectives in Education*, *39*(2), 67–81.
- McDonald, J. H. (with Delaware, U. of). (2009). *Handbook of Biological Statistics*. Sparky House Publishing.
- Morris, E. J. (2018). Academic integrity matters: Five considerations for addressing contract cheating. *International Journal for Educational Integrity*, *14*(1), 15.
- Orluwene, G. W., & Magnus-Arewa, A. E. (2020). Attitude of Postgraduate Students towards Plagiarism in University of Port Harcourt. *Asian Journal of Education and Social Studies*, *7*(2), 28–38.



- Perkins, M., Ulas Basar Gezgin, & Gordon, R. D. (2019). Plagiarism in higher education: Classification, causes and controls. *Pan-Pacific Management Science*, 2, 3–20.
- Saldaña, J. (2014). Coding and Analysis Strategies. In P. Leavy (Ed.), *The Oxford Handbook of Qualitative Research* (pp. 580–598). Oxford University Press.
- Selemani, A., Chawinga, W. D., & Dube, G. (2018). Why do postgraduate students commit plagiarism? An empirical study. *International Journal for Educational Integrity*, 14(1), 7.
- Shannon-Baker, P. (2016). Making Paradigms Meaningful in Mixed Methods Research. *Journal of Mixed Methods Research*, 10(4), 319–334.
- Sheard, J., Markham, S., & Dick, M. (2003). Investigating Differences in Cheating Behaviours of IT Undergraduate and Graduate Students: The maturity and motivation factors. *Higher Education Research & Development*, 22(1), 91–108.
- Vehviläinen, S., Löfström, E., & Nevgi, A. (2018). Dealing with plagiarism in the academic community: Emotional engagement and moral distress. *Higher Education*, 75(1), 1–18.
- Verhoef, A. H., & Coetser, Y. M. (2021). Academic integrity of university students during emergency remote online assessment: An exploration of student voices. *Transformation in Higher Education*, 6, a132.
- Wang, X. (2023). Like Riding a Roller Coaster: University Teachers' Emotional Experiences Dealing with Student Plagiarism. *International Journal of Environmental Research and Public Health*, 20(4), 3276.
- Watkins, D., & Gioia, D. (2015). *Mixed Methods Research*. Oxford University Press.
- Yang, A., Stockwell, S., & McDonnell, L. (2019). Writing in your own voice: An intervention that reduces plagiarism and common writing problems in students' scientific writing. *Biochemistry and Molecular Biology Education*, 47(5), 589–598.

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