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Attitude Toward Plagiarism Among Chemistry and Biology Students in Algeria

Djanette Blizak-Meriem[1]
Université M'Hmed Bougara de Boumerdes, Algeria
Fahim Hamidouche[2]
Université M'Hmed Bougara de Boumerdes, Algeria
Meryem Briki[3]
Université M'Hmed Bougara de Boumerdes, Algeria

CORRESPONDENCE
Email: d.blizak@univ-boumerdes.dz

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Abstract: *Improvements are needed in promoting scientific integrity and ethical practices in academic work, particularly in recognising the contributions of other authors. And wherever academics use other authors' work, they are faced with the possibility of engaging in plagiarism. Therefore, it is essential to know the different attitudes of students towards it. Therefore, in the current study, a quantitative descriptive method was adopted to identify attitudes towards plagiarism of chemical and biological students. We randomly sampled 252 students studying at the Chemical and Biological Departments of Boumerdes University in Algeria in the first semester of the academic year of 2022-2023. Descriptive statistics (frequency, percentage, and average), t-test and ANOVA were carried out using SPSS software. To compare the data, the significance level was accepted at a .05 level of significance. In addition, ATP (Attitudes Toward Plagiarism) questionnaire, after being translated and adapted to the Algerian context. The findings of this study revealed that students generally displayed a favourable attitude towards plagiarism. Gender was found to have no significant impact on attitudes and subjective norms concerning plagiarism. However, educational level was observed to play a role, as higher levels of education correlated with decreased positive attitudes and increased negative attitudes. Moreover, subjective norms have been identified as a powerful predictor of attitudes. It was, therefore, recommended that the importance of universities in addressing the issue of plagiarism among students.*

Keywords: Attitude, plagiarism, ethics, chemistry students, biology students.

1. Introduction

Ethical issues in universities are important because it is the best way to guide students to attain principles of honesty, probity, trust and other good qualities that protect them from unethical deviation. Furthermore, science cannot be separated from ethics, as they are two sides of the same coin. However, how students search for knowledge should be distinguished by the qualities of moral values (Mthiyane & Mudadigwa, 2021) inherent in the student's conduct.

In recent years, the growth of plagiarism has been significant due to the development of technology and the facilities for obtaining information via the Internet. Several researchers (Fisher & Levinger, 2008; Mabrouk, 2016) claimed a significant increase in copying passages from the internet and pasting them into their personal works without providing and acknowledging the sources (Hussein, 2022). This phenomenon is known as plagiarism as defined by Oxford Dictionary (n. d) as "…to copy another person's ideas, words or work and pretend that they are your own". Fisher and Levinger (2008, p. 796) also argued that, "Plagiarism is usually considered to be taking the writings or ideas of another and representing them as one's own" Besides, using someone else's original ideas, results and processes without acknowledging by giving appropriate credit is also considered plagiarism (Mabrouk, 2016). Furthermore, even if a person "borrows" their ideas from their later published work without citing the source, it is considered self-plagiarism or academic fraud (Bonnell et al.,

2012). As Baruchson (2004) confirms, the types of students who plagiarise are submitting work written by another, involving 'patch-writing', failing to cite the references, and failing to use quotation marks. In the same vein, the ministerial order No. 933 of the Algerian Ministry of Higher Education and Scientific Research (MESRS, 2016, p. 3) considers the following acts as plagiarism if:

- Quotation Total or partial reformulation of ideas or information, text, or paragraph taken from a published article or taken from a book, magazine, study, report or website without mentioning their sources and authors.
- Quoting extracts from a document without putting them in brackets and without mentioning their sources and authors.
- The use of particular data without specifying the source and the authors.
- The use of artistic production or the insertion of geographical maps, images, graphic curves, statistical tables, and diagrams in a text or article without reference to its origin, source, and authors.

Based on the above literature, we argue that plagiarism is a situation where students use ideas, phrases, words, images, or data as sources of information without reference to the property of others, which has a detrimental effect on academic integrity and the quality of learning in general.

Empirically, Mabrouk (2016) found that among the most frequently encountered ethical dilemmas with undergraduate chemistry and biology research, students were issues of plagiarism attribution. However, legally, plagiarism was not regulated until the 18th century to preserve authors' interests (Guibert & Michaut, 2011). Many studies showed that students tend to engage in plagiarism when feeling overwhelmed or stressed, lacking the necessary skills to complete a task, unable to take proper notes, or unaware of appropriate citation practices (Nwosu & Chukwuere, 2020; Yi et al., 2020; Ma et al., 2022). Rezanejad and Rezaei (2013, p. 286) listed 13 reasons why students commit plagiarism, ranking them according to their frequency from most to least common. The most prevalent reasons are presented below:

- Easiness of plagiarising.
- Not having a good command of the language.
- No training in universities on the issue of plagiarism.
- Lack of time to meet the deadlines.
- Lack of attention from professors to term projects.
- More confidence & belief in the original text.
- Not being aware of the severity of plagiarism and its subsequent consequences.
- Lack of clarity of university regulations.
- Lack of attention from professors to detection of plagiarism.
- The same treatment to those who plagiarise and those who don't.
- No difference in teachers' evaluation of the plagiarised and non-plagiarised projects.
- Because everyone else is doing it.
- Just for fun.

Attitudes are important in the life of individuals in general because they reflect their desires, influencing their actions and choices. Consequently, psychologists, sociologists, and educators became interested in studying the attitudes of members of society, especially students, in different contexts. The concept of "attitude" is defined by the American Psychological Association (APA), alongside the Dictionary of Psychology, that "attitudes provide summary evaluations of target objects and are often assumed to be derived from specific beliefs, emotions, and past behaviours associated with those objects. Ajzen and Fishbein (2000) showed that attitudes could determine human behaviour and/or how they believe and feel about an issue and the ability to predict what they will do about it. In the same vein, Husain et al. (2017, p. 190) pointed out that "attitudes are enhanced by beliefs which are the cognitive component, and often attract strong feelings which are the emotional component". In an attempt to better understand and define the concept of attitude,

several researchers (Calder & Lutz, 1972; Fazio & Towles-Schwen 1999; Schiffman & Kanuk, 2004; Jain, 2014) have proposed different models: Vector Model, Attitude-behaviour processes, Cognitive-Affective-Conative Model and Three-Dimension Model of Attitude. Most of them focus on three components of attitude, namely: The affective component (our feelings), the behavioral component (our behaviour) and the cognitive component (our beliefs) (Schiffman & Kanuk, 2004). The current study uses the last component because it is very important when targeting people's attitudes in an academic environment.

Universities are vital pillars for global scientific research and production. They are educational institutions that foster the development of the next generation of scientists, professors, writers, and leaders. Therefore, plagiarism is considered an ethical misconduct that must be discouraged. Several researchers around the world have been interested in the attitudes of university`s students towards plagiarism.

To solicit the opinions of students, and members of the ACS (American Chemical Society), on research ethics, Mabrouk and Schelble (2018) use an interactive poster model. They state that the main ethical concerns expressed by graduate students are only plagiarism and data-related. The study of Nwosu and Chukwuere (2020) aimed to determine the attitude of South African university students towards plagiarism in online and blended learning. It showed that there is confusion among students in understanding the concept of plagiarism and the penalties attached to it. Nevertheless, Hussein's (2022) study found that postgraduate students at Taif University have an average level of understanding of the different forms of plagiarism and high awareness of its causes. Alhadlaq et al. (2020) conducted a cross-sectional study on attitudes and perceptions of plagiarism among medical students in Riyadh, Saudi Arabia. They demonstrate that students who study medical ethics and have taken training on authoring a publication have a negative attitude towards plagiarism. Ei Mon et al. (2022) conducted an exploratory study to determine the self-reported knowledge, attitudes, and practices related to plagiarism among postgraduate students in universities in Myanmar; their study showed that most of the 217 students who participated had moderate attitudes towards the disapproval of plagiarism. Babelghaith et al. (2022) conducted a study to explore attitudes towards plagiarism, the result showed that pharmacy students at King Saud University in Saudi Arabia had overall positive attitudes towards plagiarism and agreed that plagiarised articles do not harm science.

Additionally, some studies suggested that certain demographic factors, such as being a foreign student, gender, and academic level, may also affect a student's attitude towards plagiarism (Hussein, 2022). Numerous studies have been conducted on plagiarism, as a negative attitude towards it is crucial for upholding academic integrity among university students. Despite this, there is a lack of developed research specifically focused on students studying chemistry and biology. Therefore, this study aims to partially fill the current deficit in this field and identify the attitudes of students enrolled in the chemistry and biology departments at an Algerian university towards plagiarism. To realise this work, we have focused on the following two main research questions:

- Q1: What is the nature of the attitudes of students studying in the chemistry and biology departments at an Algerian university towards plagiarism?
- Q2: Are there statistically significant differences in attitudes towards plagiarism among students enrolled in chemistry and biology departments due to demographic variables such as gender (female, male), field of studies (chemistry, biology) and level of studies (bachelor, master, doctorate)?

2. Methods

The purpose of this study is to examine the attitudes of chemistry and biology students towards plagiarism. To achieve this purpose, we have used the descriptive approach due to the nature of the

research. In this case, closed-ended questions are one of the most common data collection methods. That it's why the Attitudes Toward Plagiarism questionnaire (ATP) (Mavrinac et al. 2010) is adopted. The ATP is translated into French, which is the language of study at technical universities in Algeria and is modified to align with the Algerian context. The original ATP questionnaire comprises 29 items, but the Algerian version has been adapted to contain 22 questions. These questions have been divided into three factors: Positive attitude toward plagiarism (e.g., the names of the authors who plagiarise should be disclosed to the scientific community), negative attitude toward plagiarism (e.g., I could not write a scientific paper without plagiarising), and subjective norms toward plagiarism (e.g., I keep plagiarising because I haven't been caught yet.). The items in the questionnaire are evaluated using a five-dimensional graded Likert scale consisting of five answers: 1 (strongly disagree), 2 (disagree), 3 (neither agree nor disagree), 4 (agree), and 5 (strongly agree).

The Algerian version of the ATP has been adopted after being revised by four chemistry and science education experts. The questionnaire also includes questions related to individual socio-demographic factors, which we use to explore potential correlations between these factors and students' attitudes towards plagiarism. The socio-demographic factors considered included gender (male and female), age, speciality (chemistry and biology), and academic level (bachelor, master, and PhD). The ATP in the Algerian version exhibits strong internal consistency, reflected by Cronbach's alpha values of the three factors shown in Table 1. The findings demonstrate that all consistency coefficients (positive: 0.88, negative: 0.83, subjective norms: 0.78) are greater than 0.75. These results indicate that all factors of the questionnaire possess an acceptable degree of internal consistency. Upon comparing these values with those of the Croatian version, we discover that they are just as acceptable as the values identified by Mavrinac et al. (2010).

Table 1: *Cronbach's alpha coefficient values for ATP factors*

Factors	Number of items	Cronbach's α (this study)	Cronbach's α[1]
Positive attitude toward plagiarism	(9 items)	0.88	0.83
Negative attitude toward plagiarism	(5 items)	0.83	0.79
Subjective norms toward plagiarism	(8 items)	**0.78**	0.85

To interpret the range scores of the student's responses to the items of the scale, the statistical standard indicated in **Table 2** is used, where the following relation calculates the length of the category: (5-1)/3=1. Knowing that, the levels that indicate a favourable attitude from the point of view of academic integrity are: High for the factor "Negative attitude" and low for the factors "Positive attitude" and "Subjective norms".

Table 2: *The categorisation of students' attitude level toward plagiarism*

Mean Score	1 to 2.33	2.34 to 3.67	3.68 to 5
Level	Low	Moderate	High

A representative sample of 252 students from the chemistry and biology departments at Boumerdes University in Algeria are randomly selected to conduct this study. They study several specialities: Analytical Chemistry, Materials Chemistry, Pharmaceutical Chemistry, Biochemistry, Petrochemistry, Biology of organisms, Environmental health and safety, Oil and Gas Processing Technology, Microbiology, Animal Ecotoxicology and Food Science. The students in our sample are between 19 and 29 years old, with an average of 20.17(SD=1.87) years. 74.4% of these students are females. The other demographic characteristics of the sample members are shown in **Figure 1**. The survey was administered anonymously to the students using Google Forms in the first semester of 2022-2023. The statistical analysis for this study involves utilising the SPSS-20 (Statistical Package for

the Social Sciences) software. Descriptive statistics (mean and standard deviation), t-tests and one-way ANOVA tests are conducted.

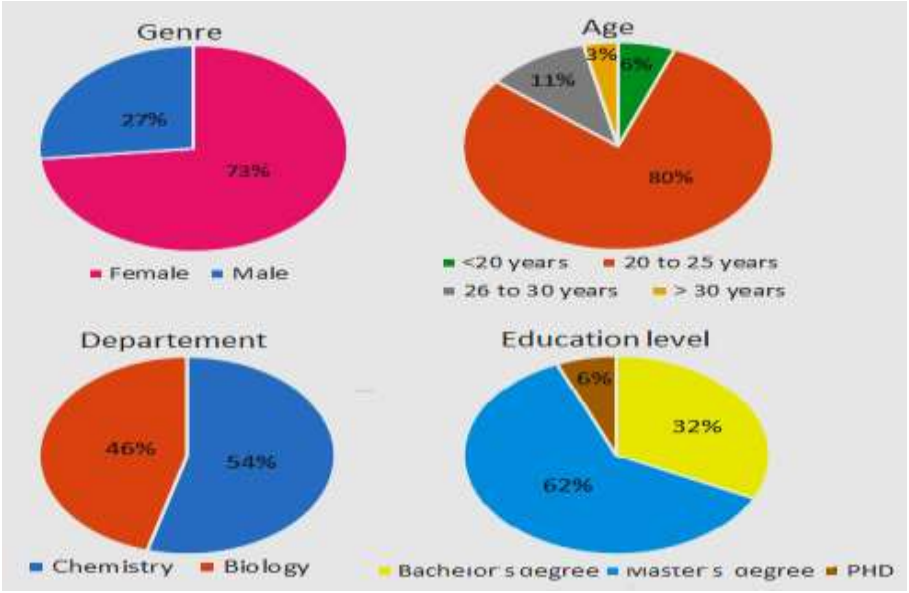

Figure 1: *Demographic characteristics of Sample*

2.1 Ethical Statement

The study represents a spatial manifestation of a scientific research undertaken at Boumerdes University in Algeria. In order to ensure ethical integrity, the study obtained official approval from the relevant authorities, and meticulous adherence to ethical principles was upheld throughout the research process. This included obtaining informed consent from all respondents, guaranteeing their privacy and anonymity, and implementing appropriate measures to protect their identities. Additionally, the study rigorously followed guidelines for data collection, storage, and analysis to ensure the confidentiality and security of the gathered information.

3. Results

3.1 Descriptive statistics of students' responses

Table 3 presents the descriptive statistics for the factors of the ATP questionnaire, including the mean and standard deviation of the students' responses. The results indicate that the surveyed students have a moderate negative attitude (M=2.50, SD=0.42) and subjective norms (M=3.27, SD=0.61) toward plagiarism. A highly positive attitude towards plagiarism is observed, which is considered unfavourable from the point of view of academic integrity.

Table 3: *Descriptive statistics of students' responses to the ATP*

Factors	Mean (M)	Std. Deviation (SD)	Level
Positive attitude toward plagiarism	3.75	.75	High
Negative attitude toward plagiarism	2.41	.83	Moderate
Subjective norms toward plagiarism	3.27	.61	Moderate

3.2 Results related to t-test

To examine the impact of gender and department's attitudes towards plagiarism, a comparative analysis is conducted using the t-test for independent samples. The mean attitude scores are analysed to determine any significant differences between males and females and between the Chemical and Biology departments.

According to the results in Table 4, there is a significant difference between the positive attitudes of students towards plagiarism based on the gender variable (t = 3.170, P< 0.05). The male students have a higher positive attitude towards plagiarism scores (M=3.97, SD=0.65) than female students (M=3.66, SD=0.77). However, there is no clear difference between males and females students regarding negative attitude and Subjective norms toward plagiarism.

Table 4: *Independent Samples t-test analysis by gender*

	Gender	**Mean**	**SD**	**t**	**Sig.**
Positive attitude toward plagiarism	Female	3,66	.77	-3.170	.020
	Male	3.97	.65		
Negative attitude toward plagiarism	Female	2.50	.82	1.630	.102
	Male	2.35	.80		
Subjective norms toward plagiarism	Female	3.26	.65	-.888	.376
	Male	3.32	.46		

Note. S.D. = Standard Deviation; t = The independent sample t-test; Sig = significant.

According to the results in Table 5. There is no statistically significant difference between chemistry and biology students in terms of positive attitude (t = 1.196. P> 0.05), negative attitude (t = 2.489. P> 0.05) and subjective norms toward plagiarism (t = 1.561. P>0.05).

Table 5: *Independent Samples t-test analysis by Department*

	Department	**Mean**	**SD**	**t**	**Sig.**
Positive attitude toward plagiarism	Chemical	3.69	.76	-1.196	.233
	Biology	3.81	.75		
Negative attitude toward plagiarism	Chemical	2.64	.89	2.489	.013
	Biology	2.35	.94		
Subjective norms toward plagiarism	Chemical	3.22	.62	-1.561	.120
	Biology	3.34	.57		

Note. S.D. = Standard Deviation; t = The independent sample t-test; Sig = significant.

3.3 Results related to one way ANOVA

The one-way ANOVA test is used to perform a statistical comparison between the arithmetic means at the significance level (p = 0.05). Table 6 shows that there are statistically significant differences between educational levels (Bachelor, Master and PhD) in terms of positive attitude (F = 41.975,

p<0.05), negative attitude (F = 32.155, p< 0.05) and Subjective norms toward plagiarism (F = 15.710, p < 0.05).

Table 6: *ANOVA comparison of educational level*

	Education level	Mean	SD	F	Sig.
Positive attitude toward plagiarism	Bachelor	4.13	.56	41.975	.000
	Master	3.67	.69		
	PHD	2.53	.66		
Negative attitude toward plagiarism	Bachelor	2.01	.83	32.155	.000
	Master	2.65	.84		
	PHD	3.65	.62		
Subjective norms toward plagiarism	Bachelor	3.43	.46	15.710	.000
	Master	3.26	.61		
	PHD	2.56	.66		

Furthermore, the graph in Figure 2 confirms this difference and shows that the positive attitude and subjective norms toward plagiarism decrease with the level of education. On the other hand, PhD students have a higher level of negative attitude towards plagiarism than Master and Bachelor students.

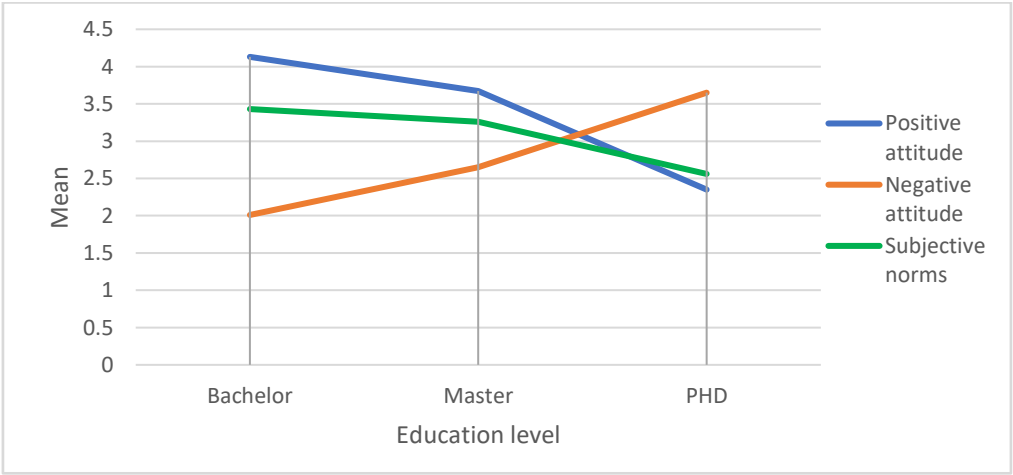

Figure 2: *Variation of the means according to the level of education*

3.4 Results of correlation and regression analysis

Table 7 displays the results of the Pearson correlation analysis between the variables. The findings indicate that the level of education is negatively and significantly associated with "positive attitudes towards plagiarism" and "segment norm toward plagiarism" but positively associated with "attitude negative towards plagiarism." In addition, the higher the students' level of segment norm toward plagiarism, the more positive their attitudes toward plagiarism.

Table 7: *Pearson Correlation*

	Age	Genre	Dept	Education level	Mean positive attitude	Mean negative attitude	Mean segment norm
Age	1						
Genre	-.028	1					
Department	-.057	-.101	1				
Education level	.110	-.171 (**)	-.089	1			
Mean positive attitude	-.186 (**)	.182 (**)	.075	-.470 (**)	1		
Mean negative attitude	.077	-.103	-.156	.446 (**)	-.753 (**)	1	
Mean segment norm	-.143	.048	.097	-.287 (**)	.659 (**)	-.54 (**)	1

** Correlation is significant at the 0.01 level (2-tailed).

To determine the extent to which "segment norm toward plagiarism" predicts positive and negative attitudes towards plagiarism, a regression analysis was conducted, and the results are shown in Table 8. The analysis demonstrated that this factor explains 40% of the variance in students' positive attitudes towards plagiarism and 30% of the variance in students' negative attitudes towards plagiarism.

Table 8: *Regression analysis*

Dependent Variable	R	Adjusted R Square	df
Mean positive attitude	.659(a)	.43	251
Mean negative attitude	.547 (a)	.30	251

a Predictors: Mean segment norm.

4. Discussion

In order to address the research questions, we utilise the Attitudes Toward Plagiarism questionnaire (ATP) developed by Mavrinac et al. (2010). The internal consistency of the ATP's Algerian version. Specifically, its three factors, such as positive attitude, negative attitude, and subjective norms toward plagiarism are found to be highly satisfactory.

Regarding the first research question that concerns the nature of attitudes of students enrolled in the chemistry and biology departments at an Algerian university towards plagiarism. Descriptive statistics show a strong positive trend among Algerian students towards plagiarism. Numerous studies conducted in different countries have reported comparable findings, including research conducted with pharmacy students in Saudi Arabia (Babelghaith et al., 2022), medical students in Pakistan (Rathore et al., 2015), and students at the Craiova University of Medicine and Pharmacy in Romania (Badea-Voiculescu, 2013). Additionally, Enamudu and Akonedo's (2021) study revealed a strong positive attitude towards plagiarism among undergraduate students in the Faculty of Education in Nigeria.

According to previous studies (Nwosu & Chukwuere, 2020; Pandoi & Gupta, 2018; Ma et al., 2022; Rezanejad & Rezaei, 2013), students may resort to plagiarism for a variety of reasons. For instance, some students may be unaware of what constitutes plagiarism or may not know how to cite sources properly, leading to unintentional plagiarism due to ignorance (Nwosu & Chukwuere, 2020).

Additionally, pressures to complete assignments on time or earn good grades., poor writing skills lack of knowledge, and ambiguity in assignment instructions may contribute to intentional plagiarism (Pandoi & Gupta, 2018). Furthermore, the availability of the internet and electronic media has made it easier for students to copy and paste information without proper attribution (Ma et al., 2022). and insufficient time or writing ability may lead to the temptation to choose the easy way out (Rezanejad & Rezaei, 2013). Our results may also be explained by the fact that students in the departments of chemistry and biology at the Algerian university study in French, which is not their native language. Hence, language barrier may affect their understanding of academic concepts, including plagiarism (Franken. 2012).

However, the researchers also noted a moderate trend of negative attitude (M=2.41. SD=0.83). Nevertheless, the researchers consider this result to be close to a low level as the high score obtained by the item. In times of moral and ethical decline, it is important to discuss issues like plagiarism and self-plagiarism which contributed to maintaining the level of negative attitude at a moderate level. Our findings may diverge from those of studies conducted in other countries as it has been noted that students' academic misconduct has a significant impact on their positive attitude towards plagiarism (Mahmud et al., 2019).

Our study finds that the students' subjective norms regarding plagiarism are moderate but tend towards higher levels. As a consequence, the students' survey displays a predominantly positive attitude towards plagiarism. This finding is supported by Whitley's (1998) research on academic dishonesty, which was cited in Pandoi and Gupta's (2018) work. Whitley found a significant correlation between subjective norms and Copy-Paste behaviour among students.

The t-test results show that gender did not significantly impact negative attitudes and subjective norms towards plagiarism in chemistry and biology at an Algerian university. It is important to note that limited research has examined the interaction between subjective norms and demographic variables as highlighted by Tindall and Curtis (2020). However., the study finds that male students have a significantly higher positive attitude towards plagiarism than female students, which is consistent with previous research. Studies by Howard and Davies (2009), Tindall and Curtis (2020)., and Hussein (2022) have also found that male students have a more permissive attitude towards plagiarism than female peers. Interestingly, Tindall and Curtis (2020) found no significant difference between genders regarding subjective norms towards plagiarism. These findings suggest that gender may play a role in shaping students' attitudes towards plagiarism, which could be related to cultural and educational factors. For instance. Hussein (2022) proposed that male students may be better aware of plagiarism's dangers and consequences due to their higher involvement in scientific inquiry and scientific honesty. However. these results differ from those of Alhadlaq and al. (2020) and Badea-Voiculescu (2013) who found no gender differences in attitudes towards plagiarism.

Our results from the analysis revealed no significant differences in attitudes towards plagiarism across the chemistry and biology departments. These findings are consistent with a study by Lee et al. (2019) who also confirm that students' attitudes towards plagiarism are not influenced by the field of study they belong to.

The effect of the level of study (bachelor master, PhD) on students' attitudes towards plagiarism was the final factor examined in this study. The one-way ANOVA test results reveal statistically significant differences in attitudes towards plagiarism between students at different educational levels including a positive attitude., negative attitude and subjective norms. Also, the correlation analysis indicates that education level is negatively associated with positive attitudes towards plagiarism and segment norm towards plagiarism but positively associated with negative attitudes towards plagiarism. Notably, students with a lower level of education were found to have more permissive attitudes towards plagiarism, while PhD students were found to have a more positive attitude towards academic ethics. This finding is consistent with prior research, such as a study by

Ehrich et al. (2016) found that postgraduate students had more negative attitudes towards plagiarism than undergraduate students. Additionally, Ampuni et al. (2020) study found that graduate students were more likely to exhibit a stronger moral code with regard to academic integrity than their undergraduate counterparts.

Contrary to the results of previous studies conducted in undergraduate contexts, Ehrich et al. (2016) revealed confusion or shallow comprehension of plagiarism where postgraduate students exhibited negative attitudes towards plagiarism. And viewing it as deceitful and tantamount to theft (Tran & Marshall. 2022).

The regression analysis indicates that segment norm towards plagiarism significantly predicts attitudes towards plagiarism. This finding suggests that subjective norms strongly impact students' attitudes towards plagiarism. As subjective norms increase among students. Their negative attitude towards plagiarism also increases, leading to a decrease in plagiarism behaviour. In other words, students with high subjective norms are likelier to avoid plagiarism (Pandey & Gupta. 2018).

5. Conclusion and recommendation

Dewing from the above discussion, the results revealed a predominantly positive attitude towards plagiarism, alongside a moderate inclination towards negative attitudes. Gender was not found to significantly impact negative attitudes and subjective norms regarding plagiarism. Moreover, no noteworthy differences in attitudes towards plagiarism were detected between the chemistry and biology departments. However, there were variations in attitudes based on educational level, with higher levels of education correlating with lower positive attitudes and higher negative attitudes and subjective norms. Notably, subjective norms emerged as a substantial predictor of attitudes towards plagiarism, suggesting that an increase in subjective norms is likely to coincide with more negative attitudes and a decrease in plagiarism behaviour.

The study also emphasises the importance of universities addressing the issue of plagiarism among their students. The findings underscore the need to develop effective strategies that promote academic integrity within the chemistry and biology departments, considering students' varying educational levels. Tailoring interventions based on the specific educational level is vital. For instance, efforts aimed at undergraduate students should prioritise raising awareness and fostering an understanding of the negative consequences associated with plagiarism. Conversely, interventions targeting graduate students should focus on cultivating a stronger sense of academic ethics and professionalism.

Furthermore, additional research is required to understand better the factors that influence students' attitudes towards plagiarism. We must acknowledge other factors, such as students' cultural backgrounds and educational experiences, may still impact their attitudes towards plagiarism and require further exploration in future studies. Therefore, universities should continue to examine their policies and practices related to academic integrity and ensure that they effectively address plagiarism among students.

6. Conflict of Interest: Authors declare no conflict of interest whatsoever.

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