

RESEARCH

Open Access



Hungarian university students' perceptions of plagiarism

Balázs Fajt^{1*} and Emese Schiller²

*Correspondence:

Balázs Fajt

fajt.balazs@uni-bge.hu

¹Budapest Business University,

Budapest, Hungary

²Eötvös Loránd University,

Budapest, Hungary

Abstract

Academic dishonesty and plagiarism have been a serious problem worldwide in academia. This study examines Hungarian university students' attitudes towards and perceptions about plagiarism in higher education, utilizing the quantitative research paradigm ($n=607$). The paper investigates the potential significant differences in terms of gender, scholarship status, employment, note-taking habits, academic aspirations, and the importance of meeting teachers' expectations. The findings indicate that males, non-working students, and those focused on good grades are more likely to justify plagiarism and perceive its severity differently. Correlations among these scales and background variables were also analysed. The answers to open-ended questions yielded themes such as the complexity of plagiarism rules, fear of severe penalties, and the need for better education and awareness. The pedagogical implications of the study are the importance of nuanced approaches to address academic dishonesty, suggesting tailored educational interventions and clearer guidelines to mitigate plagiarism.

Keywords Academic dishonesty, Plagiarism, Academic ethics, Cheating, Scholarly conduct

Introduction

Academic integrity is a cornerstone of educational institutions worldwide (Bretag 2016; Stephens 2019), underscoring the importance of honesty, trust, and ethical behaviour in the pursuit of knowledge (Nesterova et al. 2019; Susilawati et al. 2022). However, academic dishonesty and plagiarism present significant challenges, undermining the credibility and value of academic qualifications (e.g., Awasti 2019; Singh and Remenyi 2016). These behaviours not only tarnish individual reputations but also compromise the integrity of educational systems and institutions (e.g., Aluede et al. 2006; Nucci and Turiel 2009; Söylemez 2023). The rise of digital technologies and the increasing accessibility of information have exacerbated these issues, making it easier for students to engage in dishonest practices and harder for institutions to detect and prevent them (e.g., Cotton et al. 2024; Scott 2024; Strannegård 2023; Surahman 2022).

Despite the extensive research on academic dishonesty and plagiarism, gaps remain in our understanding of the specific factors that influence these behaviours in different



© The Author(s) 2025. **Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

contexts. For instance, what role the academic environment plays in either mitigating or exacerbating willingness to plagiarise (Chiang et al. 2022). This study aims to address these questions by exploring the attitudes and perceptions of university students towards plagiarism within a specific academic environment, namely in the Hungarian tertiary educational context. Currently, there is little empirical research on plagiarism in Hungary (e.g., Doró 2018; Orosz et al. 2012; Orosz et al. 2015), highlighting the need for more recent studies. Consequently, this study aims to provide a deeper understanding of the root causes of academic dishonesty and plagiarism, offering insights that can inform the development of more effective strategies to promote academic integrity in other educational contexts, too.

The first section of the paper examines the definitions and various forms of academic dishonesty and plagiarism, as well as the factors influencing these behaviours among university students. Next, the paper presents an empirical research project investigating Hungarian university students' attitudes and perceptions of plagiarism. First the methodology is introduced and then the results are presented. Finally, the paper concludes with pedagogical implications, offering potential recommendations for educators and policymakers on how to effectively promote academic integrity and mitigate dishonest behaviours in higher education.

Theoretical background

This section explores what academic dishonesty and plagiarism are, and the different forms they can take. It also looks at the various factors that lead students to engage in these behaviours, based on research and scholarly views. The application of diverse theoretical frameworks is crucial for a thorough understanding of academic dishonesty and plagiarism (Curtis and Clare 2023). To achieve this, we explored various perspectives, including the *theory of planned behaviour* (Beck and Ajzen 1991). This theory is particularly pertinent, as it explicates how attitudes towards plagiarism, perceived social norms, and perceived behavioural control influence students' intentions and behaviours concerning academic integrity (Alleyne and Phillips 2011). Moreover, the presupposition of *individual differences psychology* (Zeigler-Hill and Shackelford 2020) was also deemed crucial. This theory posits that individuals possess enduring personality traits that may predict their propensity to engage in particular behaviours, including academic misconduct (Lee et al. 2020). These explorations of academic dishonesty and plagiarism thus highlight the complex interplay of individual, social, and institutional factors that can contribute to these behaviours. In the following subchapters, we will delve deeper into these influential factors, examining how they shape academic misconduct within the context of higher education.

Defining academic dishonesty and plagiarism

Academic dishonesty can be defined as the act of gaining an unfair advantage in academic work through unethical means. This includes cheating on exams, plagiarising or aiding peers in dishonest practices (Anderman and Murdock 2011; Colnerud and Rosander 2009; Moeck 2002; Whitley and Keith-Spiegel 2002). Such behaviour is widely regarded as a universal issue of right and wrong and is increasingly seen as an epidemic influenced by various factors such as culture, gender, age, and campus environment (Carducci 2006; Clinciu et al. 2021; Salleh et al. 2011). Academic dishonesty

encompasses perceived behavioural control and subjective norms, which vary across different contexts (Maloshonok and Shmeleva 2019; Smyth and Davis 2004). Furthermore, technology has also exacerbated these unethical behaviours, indicating a correlation between academic and professional dishonesty (Chiang 2022; Harper 2006).

Plagiarism, a specific form of academic dishonesty, occurs when an individual uses another's intellectual property without proper acknowledgment (McCabe et al. 2001). This includes both intentional and unintentional instances (Greenberger et al. 2016; Park 2003). According to Carroll (2007), within the context of higher education, plagiarism essentially involves presenting another's work as one's own original creation, thereby misappropriating intellectual property.

Several forms of plagiarism exist. Saunders (2010) describes it as the complete copying of a book, study, or any intellectual work, typically for financial gain. Similarly, claiming ownership of media content, such as a photograph, that belongs to someone else constitutes plagiarism. Even seemingly minor actions, such as copying a sentence or passage without proper citation, qualify as plagiarism. Additionally, self-plagiarism occurs when an individual submits the same work for credit in multiple courses (also in Weber-Wulff 2014).

Influential factors of academic dishonesty and plagiarism

Academic dishonesty and plagiarism are not isolated occurrences; rather, they stem from a complex interplay of factors. Nevertheless, there are several factors that can influence these instances within a higher educational context (Jereb et al. 2018a; Kampa et al. 2024). Previous research found a connection between certain personality traits and the likelihood of academic misconduct (Eshet et al. 2022). In addition to that, for post-graduate students, laziness, poor time management, and inadequate writing skills can be contributing factors that exacerbate plagiarism (Selemani et al. 2018). Furthermore, motivational factors may act as significant factors related to academic performance (Anderman and Koenka 2017) that can either exacerbate or reduce the tendency to engage in dishonest practices (Eshet et al. 2022).

Additionally, gender differences also influence such attitudes, with female students generally perceiving plagiarism more negatively (Guo 2011; Tran et al. 2022; Witmer and Johansson 2015). Nevertheless, others report no significant difference or even a female prevalence (Walker 2010; Eret and Gokmenoglu 2010), which underscores the context-dependent nature of academic dishonesty (Ehrich et al. 2015).

Educational background also shapes student perceptions. The type of high school students attend, reasons for pursuing university education, and career aspirations can influence views on the perceived severity of plagiarism and the appropriateness of sanctions (Erguvan 2022). In addition, existing knowledge about plagiarism can also influence students' attitudes towards plagiarism in general (Colnerud and Rosander 2009). Previous research on plagiarism shows that first-year students often have a limited understanding of plagiarism, leading to misinterpretations and misapplications of the rules (Locquiao and Ives 2020). Hence, students' self-efficacy regarding academic skills and knowledge of citation techniques significantly impact plagiarism. It was also revealed that a stronger understanding of citation rules minimises reliance on coping strategies. Improving such knowledge can be thus instrumental in reducing plagiarism (Festas et al. 2022).

Furthermore, the learning environment can also influence students' perceptions on plagiarism (Tindall et al. 2021). It was found that environments that foster dissatisfaction, stress, or a perceived ease of cheating can be conducive to dishonest behaviour. Conversely, institutions that implement clear policies and promote student engagement can mitigate these issues (Eshet et al. 2022). Hence, inconsistent or unclear plagiarism policies at the institutional level may also contribute to academic dishonesty. A more nuanced approach towards implementing academic integrity measures, along with effective policy interpretation and appropriate penalties, can be thus a crucial influencing factor (Akbar and Picard 2019).

Research methods

This study employed a quantitative approach to investigate participants' attitudes towards and perceptions of plagiarism in higher education. In line with the research aims, the following research questions (RQs) were formulated:

RQ1 Do Hungarian university students' attitudes towards plagiarism differ significantly between males and females, considering factors that exacerbate plagiarism, the justifications for plagiarism and the perceived severity and penalties of plagiarism?

RQ2 Is there a significant relationship between Hungarian university students' academic behaviours (e.g., note-taking habits, time spent studying) and their attitudes towards plagiarism?

RQ3 Is there a significant relationship between academic aspirations and the importance placed on meeting teachers' expectations and Hungarian university students' views on plagiarism?

RQ4 Is there a significant correlation between factors that exacerbate plagiarism, justifications for plagiarism, and the perceived severity and penalties among Hungarian university students?

RQ5 What are some of the issues Hungarian university students face in understanding and dealing with plagiarism?

Participants

The study investigated Hungarian university students, all of whom were majoring in business. Convenience and snowball sampling methods were employed to recruit the 607 respondents for this research. All participants attended the same university, which was important to explore university students' attitudes and perceptions of plagiarism within a specific academic context. The sample consisted of 41.7% males ($n = 253$) and 58.3% females ($n = 354$), with an average age of 20 years and 3 months ($SD = 1.57$). While all students were enrolled in the same academic program, they came from a variety of social and cultural backgrounds, representing diverse regions of Hungary and various socioeconomic statuses. While our sample aimed to reflect the general population

of business students at the university, further comparison with university demographics suggests a slight overrepresentation of females, but the distribution was generally similar.

Instrument

The research instrument employed in this study was adapted from Howard et al. (2014) (see Appendix for the questionnaire). In their work, Howard et al. (2014) utilized the original Attitudes towards Plagiarism questionnaire by Mavrinac et al. (2010). However, they re-assessed the psychometric properties of the original instrument using Rasch analysis and identified certain misfitting items, which were subsequently removed. Following this validation process, the revised questionnaire consisted of 22 items. The instrument included three scales designed to measure various aspects of plagiarism:

1. **Factors that exacerbate plagiarism:** This scale consisted of 8 items ($\alpha = 0.802$) and assessed students' perceptions of conditions that may lead to plagiarism;
2. **Justification for plagiarism:** This scale included 6 items ($\alpha = 0.682$) and evaluated the extent to which students rationalize engaging in plagiarism;
3. **Severity and penalty:** This scale comprised 8 items ($\alpha = 0.712$) and gauged students' views on the seriousness of plagiarism and the appropriateness of penalties.

Participants responded to these items using a 5-point Likert scale, ranging from 1 (Strongly disagree) to 5 (Strongly agree). In addition to these scales, the survey collected demographic information and other background variables, including gender (male or female), scholarship status (scholarship holders or tuition fee payers), employment status (yes or no), note-taking habits (yes or no), academic aspirations (yes or no), the importance placed on meeting teachers' expectations (yes or no), the frequency of attending lectures (4-point Likert scale ranging from never to always), participants' perceived maximalism (5-point Likert scale ranging from 1 (not at all) to 5 (very much)), and the average time spent studying a week (in hours). Besides, two open-ended questions were included to gather qualitative insights into students' perceptions and experiences related to plagiarism. These questions aimed to uncover deeper issues and personal experiences that are not easily captured by closed-ended questions. Regarding scale reliability, while Cronbach's alphas greater than 0.80 are generally preferred, DeVellis (2012) suggests that values above 0.60 can still be acceptable, particularly in exploratory research or when measuring complex constructs. Consequently, we included all three subscales in this paper.

Data collection and data analysis

Data for this study were collected through an online survey administered to Hungarian university students in their mother tongue from the second half of June 2024 to the beginning of July. The survey was distributed via university email lists. While the initial distribution was facilitated through official university channels, convenience sampling was employed as the survey was sent to a broad, non-random segment of the student population, and students were encouraged to share the survey link with their peers. This resulted in a combination of convenience and snowball sampling methods. The potential limitations of these sampling techniques, including selection bias and the non-random nature of the sample, are discussed in the limitations section. The survey response rate

was approximately 12% and although this response rate may be considered low, it aligns with typical response rates for online surveys distributed via email (Nulty 2008). Regarding missing information, all questions were mandatory (except for the open-ended ones), ensuring that every respondent completed the survey in its entirety, and there were no issues related to missing values in the dataset.

Participation was completely voluntary, and respondents were assured of the confidentiality and anonymity of their responses. Approval was obtained from the ethics committee (Ethics approval number: 2024/06/02). The procedures used in this study adhere to the tenets of the Declaration of Helsinki. The data from the closed-ended questions were analysed using SPSS 28.0. For the analysis, several statistical procedures were used including descriptive statistics involving the calculation of mean scores and standard deviations for each scale to highlight participants' general attitudes towards plagiarism. In addition, (two-tailed) independent samples t-tests (at the $p < .05$ level of statistical significance) were run to examine significant differences in perceptions based on demographic and background variables such as gender, scholarship status, employment status, note-taking habits, academic aspirations, and the importance placed on meeting teachers' expectations. Finally, Pearson's correlation coefficients were calculated to explore the relationships among the scales measuring attitudes towards plagiarism and various background variables, including age, time spent studying per week, maximalism, and attending lectures. Regarding the analysis of the answers to the open-ended questions, thematic analysis (e.g., Clarke and Braun 2017) was utilised using ATLAS.ti (Soratto et al. 2020).

Results

This section presents the findings from both closed-ended and open-ended questions regarding students' attitudes and perceptions of plagiarism in higher education. The results from the closed-ended questions include mean scores and standard deviations across various scales, highlighting participants' general views on factors exacerbating plagiarism, justifications for plagiarism, and the perceived severity and penalties associated with it. Additionally, the section examines significant differences in perceptions based on variables such as gender, scholarship status, employment status, note-taking habits, academic aspirations, and the importance placed on meeting teachers' expectations. Correlations among these scales and background variables are also explored. The results from the open-ended questions provide qualitative insights into students' experiences and concerns about plagiarism.

Results of closed-ended questions

The mean scores in Table 1 reveal participants' attitudes towards plagiarism in higher education.

The mean score for factors that exacerbate plagiarism is 2.80, indicating a moderate acknowledgment of certain contributing factors, suggesting that while students recognize some influences, these factors are not overwhelmingly perceived as triggers. In contrast, the justification for plagiarism has a higher mean score of 3.58, indicating that students are more inclined to rationalize their dishonest behaviour. The severity and penalty mean score of 3.27 reflects a general consensus among students that plagiarism is a relatively serious offense warranting substantial penalties. However, this mean score

Table 1 Mean scores and standard deviations of scales

Scales	Mean	Standard deviation
Scale 1: Factors that exacerbate plagiarism	2.80	0.77
1. Short deadlines or a heavy workload give me the right to plagiarise a bit.	2.47	1.22
2. A plagiarised paper does no harm to the value of a university degree.	2.80	1.22
3. Those who say they have never plagiarised are lying.	3.78	1.24
4. Plagiarism can be justified if I currently have more important obligations or tasks to do.	2.27	1.12
5. Sometimes, it is necessary to plagiarise.	3.24	1.16
6. I am tempted to plagiarise if I have permission from a friend to copy his or her work.	2.84	1.21
7. I am tempted to plagiarise if I currently have more important obligations or tasks to do.	2.85	1.20
8. I am tempted to plagiarise because, even if caught, the punishment will be light (the reward outweighs the risk).	2.17	1.12
Scale 2: Justification for plagiarism	3.58	0.69
1. Sometimes you cannot avoid using other people's words, because there are only so many ways to describe something.	3.95	0.95
2. It is justified to use previous descriptions of a concept or theory, because they remain the same.	3.51	1.02
3. Self-plagiarism is not punishable because it is not harmful (you cannot steal from yourself).	4.03	1.08
4. Undergraduate students, because they are just learning the ropes, should receive milder punishment for plagiarism.	3.57	1.20
5. It is justified to use your own previous work, without providing citation, in order to complete the current work.	3.42	1.21
6. Since plagiarism is taking other people's words rather than tangible assets, it should not be considered a serious offence.	3.00	1.18
Scale 3: Severity and penalty	3.27	0.63
1. Plagiarised parts of a student's paper should be ignored if the paper is otherwise of high quality.	3.03	1.10
2. Self-plagiarism should not be punishable in the same way as plagiarism is.	4.10	1.04
3. If you cannot write well because of unfamiliarity with the topic area, it is justified to copy parts of a paper already published in that area in order to accurately represent those ideas.	2.92	1.25
4. Given a commonly perceived decline in moral and ethical standards, it is important to discuss issues like plagiarism and self-plagiarism.	3.76	1.02
5. Plagiarism is as bad as stealing an exam.	3.39	1.17
6. Plagiarism undermines independent thought.	2.90	1.24
7. Since plagiarism is taking other people's words rather than tangible assets, it should not be considered a serious offence.	3.00	1.18
8. Plagiarism is not a big deal.	3.10	1.11

Table 2 Significant differences between male and female participants

Scales	Male (n = 253)		Female (n = 354)		t	df	p	d
	M	SD	M	SD				
1. Factors that exacerbate plagiarism	2.94	0.81	2.70	0.72	3.81	605	< 0.001*	0.31
2. Justification for plagiarism	3.65	0.69	3.53	0.69	2.11	605	0.035*	0.17
3. Severity and penalty	3.35	0.63	3.22	0.63	2.57	605	0.010*	0.21

t = t-statistic; df = degree of freedom; p = level of statistical significance; d = effect size

*p < .05 level of statistical significance

is not that high, therefore, participants may not necessarily realize the very seriousness of plagiarism.

Next, gender differences in perceptions of plagiarism were investigated by running independent samples t-tests (Table 2).

Table 3 Significant differences between participants holding a scholarship and those who do not

Scales	Yes (n = 386)		No (n = 221)		t	df	p	d
	M	SD	M	SD				
1. Factors that exacerbate plagiarism	2.81	0.77	2.79	0.77	0.39	605	0.693	0.03
2. Justification for plagiarism	3.62	0.67	3.51	0.71	1.84	605	0.066	0.16
3. Severity and penalty	3.27	0.61	3.28	0.67	0.29	605	0.768	0.02

t = t-statistic; df = degree of freedom; p = level of statistical significance; d = effect size

*p < .05 level of statistical significance

Table 4 Significant differences between participants who work besides their studies and those who do not

Scales	Yes (n = 270)		No (n = 337)		t	df	p	d
	M	SD	M	SD				
1. Factors that exacerbate plagiarism	2.75	0.76	2.84	0.77	1.43	605	0.154	0.12
2. Justification for plagiarism	3.52	0.64	3.63	0.72	2.06	605	0.040*	0.17
3. Severity and penalty	3.21	0.61	3.32	0.65	2.01	605	0.044*	0.16

t = t-statistic; df = degree of freedom; p = level of statistical significance; d = effect size

*p < .05 level of statistical significance

For the scale assessing factors that exacerbate plagiarism, males reported a significantly higher mean score compared to females' mean score. Similarly, males showed a significantly higher mean score for justification of plagiarism, compared to females' mean score. For the severity and penalty scale, males again demonstrated a significantly higher mean score than females. These findings indicate that males are more likely than females to recognize factors exacerbating plagiarism, justify such behaviour, and perceive penalties as appropriate.

As a next step, differences in perceptions of plagiarism between participants holding a scholarship and those who do not were investigated by running independent samples t-tests (Table 3).

The analysis and the results in Table 3 revealed that no significant differences were identified between participants holding a scholarship and those who do not in their perceptions of plagiarism. These results suggest that scholarship status does not influence how students perceive the various aspects of plagiarism.

Next, differences in perceptions of plagiarism between participants who work besides their studies and those who do not were investigated by running independent samples t-tests (Table 4).

Regarding the scale assessing factors that exacerbate plagiarism, no significant difference was identified. However, for the justification of plagiarism scale, working students had a significantly lower mean score than non-working students' and, similarly, for the severity and penalty scale, working students reported a significantly lower mean score than non-working students.

Next, differences in perceptions of plagiarism between participants who take notes in lectures and those who do not were investigated by running independent samples t-tests (Table 5).

For the scales assessing factors that exacerbate plagiarism, and the justification of plagiarism scale, no statistically significant differences were found. However, for the severity and penalty scale, note-taking students reported a significantly higher mean score

Table 5 Significant differences between participants who take notes in lectures and those who do not

Scales	Yes (n = 68)		No (n = 539)		t	df	p	d
	M	SD	M	SD				
1. Factors that exacerbate plagiarism	2.92	0.79	2.79	0.76	1.35	605	0.178	0.17
2. Justification for plagiarism	3.71	0.65	3.56	0.69	1.58	605	0.113	0.20
3. Severity and penalty	3.50	0.63	3.24	0.62	3.13	605	0.002*	0.40

t = t-statistic; df = degree of freedom; p = level of statistical significance; d = effect size

*p < .05 level of statistical significance

Table 6 Significant differences between participants who want to have good grades and those who do not

Scales	Yes (n = 519)		No (n = 88)		t	df	p	d
	M	SD	M	SD				
1. Factors that exacerbate plagiarism	2.77	0.76	2.96	0.81	2.11	605	0.036*	0.24
2. Justification for plagiarism	3.55	0.69	3.77	0.67	2.86	605	0.004*	0.33
3. Severity and penalty	3.24	0.62	3.45	0.66	2.90	605	0.004*	0.33

t = t-statistic; df = degree of freedom; p = level of statistical significance; d = effect size

*p < .05 level of statistical significance

compared to non-note-taking students' mean score. This result shows that students who take notes during lectures perceive the severity of plagiarism and the appropriateness of penalties more strongly than those who do not take notes.

Next, differences in perceptions of plagiarism between participants who want to have good grades and those who do not were investigated by running independent samples t-tests (Table 6).

For the scale assessing factors that exacerbate plagiarism, students aiming for good grades reported a significantly lower mean score compared to those not focused on good grades. As far as the justification of plagiarism scale is concerned, students wishing to obtain good grades had a significantly lower mean score than students' who are not interested in obtaining a good grade. Similarly, for the severity and penalty scale, students wanting good grades reported a significantly lower mean compared to those less concerned with grades. These results suggest that students who prioritize good grades are less likely to recognize factors that exacerbate plagiarism and justify plagiarism, but they also perceive the severity and penalties for plagiarism as less important compared to those who do not prioritize grades.

Next, differences in perceptions of plagiarism between participants who find it important to meet their teachers' expectations and those who do not were investigated by running independent samples t-tests (Table 7).

The analysis and the results in Table 7 revealed that no significant differences were identified between participants who find it important to meet their teacher's expectations and those who are not interested in it.

Finally, the analysis in Table 8 highlights the significant correlations among various scales related to plagiarism and certain background variables (only significant correlations are reported).

The data reveal a moderate positive correlation between factors that exacerbate plagiarism and justification for plagiarism ($r(605)=0.46$), indicating that students who

Table 7 Significant differences between participants who find it important to meet their teachers' expectations

Scales	Yes (<i>n</i> = 441)		No (<i>n</i> = 166)		<i>t</i>	<i>df</i>	<i>p</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
1. Factors that exacerbate plagiarism	2.77	0.73	2.88	0.84	1.56	605	0.119	0.14
2. Justification for plagiarism	3.55	0.69	3.66	0.70	1.66	605	0.098	0.15
3. Severity and penalty	3.26	0.63	3.29	0.63	0.49	605	0.620	0.04

t = *t*-statistic; *df* = degree of freedom; *p* = level of statistical significance; *d* = effect size

**p* < .05 level of statistical significance

Table 8 Significant correlations among scales

Scales	1	2	3	4	5	6	7
1. Factors that exacerbate plagiarism	1						
2. Justification for plagiarism	0.46*	1					
3. Severity and penalty	0.54*	0.69*	1				
4. Age	−0.10*	−0.03	−0.03	1			
5. Time spent learning a week	−0.14*	−0.04	−0.15*	−0.04	1		
6. Maximalism	−0.07	−0.05	−0.03	0.02	0.21*	1	
7. Attending lectures	−0.13*	−0.08*	0.09*	−0.15*	0.28*	0.07	1

*significant at the *p* < .05 level of statistical significance

acknowledge factors that exacerbate plagiarism are also more likely to justify such behaviour. A stronger positive correlation exists between justification for plagiarism and severity and penalty ($r(605) = 0.69$), suggesting that students who justify plagiarism are also more aware of its severity and the associated penalties. Similarly, there is a moderate positive correlation between factors that exacerbate plagiarism and severity and penalty ($r(605) = 0.54$), indicating a relationship between recognizing exacerbating factors and perceiving the seriousness of plagiarism. Age shows a negligible negative correlation with factors that exacerbate plagiarism ($r(605) = -0.10$), but no significant correlation with justification for plagiarism or severity and penalty. Time spent learning per week negatively correlates with factors that exacerbate plagiarism ($r(605) = -0.14$) and severity and penalty ($r(605) = -0.15$), indicating that students who spend more time studying are less likely to see exacerbating factors and perceive the severity of plagiarism as less significant. Maximalism shows a slight positive correlation with time spent learning per week ($r(605) = 0.21$), suggesting that students who adopt a maximalist approach tend to spend more time studying. However, there are no significant correlations between maximalism and factors related to plagiarism. Attending lectures shows slight negative correlations with factors that exacerbate plagiarism ($r(605) = -0.13$), justification for plagiarism ($r(605) = -0.08$), and severity and penalty ($r(605) = -0.09$), indicating that regular attendance may slightly reduce the likelihood of engaging in academic dishonesty or justifying plagiarism and slightly increase recognizing its severity. There is also a moderate positive correlation between attending lectures and time spent learning per week ($r(605) = 0.28$), suggesting that students who attend lectures regularly tend to spend more time studying.

Thematic analysis of responses to open-ended questions

Supplementing the closed-ended questionnaire, a free-response section invited participants to elaborate on their perceptions of plagiarism. Despite the smaller sample size

Table 9 Qualitative findings on participants’ understanding and perceptions of plagiarism

Confusion and Anxiety Around Plagiarism	Complexity of plagiarism rules	“This is a very complex and difficult question; sometimes I’m not even sure if something counts as plagiarism.” (Participant no. 135)
	Anxiety over penalties	“Due to the strict punishments, I have fears of plagiarism accusations even if I haven’t plagiarized. I think the penalties are too severe, which makes me terrified while writing my submission, fearing I might be accused.” (Participant no. 372)
	Fear of unintentional plagiarism	“I find it somewhat intangible and frightening because it’s possible that someone came up with the same idea that someone else has already written down.” (Participant no. 83)
Need for improved education and awareness	Need for increased awareness	“The consequences and seriousness of this should be more widely promoted.” (Participant no. 326)
	Need for education on avoiding plagiarism	“I think many people don’t realize they’ve plagiarized and don’t know how to process material in a way that isn’t considered plagiarism.” (Participant no. 118)

(*n* = 30), the in-depth nature of the qualitative data allowed for a rich analysis. The analysis was performed utilising ATLAS.ti (Soratto et al. 2020).

The qualitative data were analysed using thematic analysis (Braun and Clarke 2020; Clarke and Braun 2017; Maguire and Delahunt 2017) to capture the nuances of participant experiences. The coding process, as outlined by Braun and Clarke (2006), followed a rigorous iterative approach. This involved an initial immersion in the data to gain a comprehensive understanding, followed by the generation of initial codes that captured key concepts. These codes were then systematically refined and organised into potential themes. A critical review and refinement stage ensured the themes accurately reflected the data and captured both core and subordinate concepts (Stockmann et al. 2017). To ensure a normalised comparison of inductive element frequency across analytical units with varying citation counts, we calculated their ratio to the total number of citations within each core unit, aligning with our established research methodology. This analysis aimed to understand the relative prominence of inductive elements compared to other coded constructs within each central unit (cf. Schiller et al. 2023). Finally, the identified themes were clearly defined and reported alongside illustrative examples, providing a rich tapestry of participant experiences. The trustworthiness of the thematic analysis was enhanced through a rigorous peer coding process. This process involved two rounds of coding and subsequent discussions to ensure consistency in code application and mitigate potential coder bias (O’Connor and Joffe 2020).

The analysis of data from the investigated participants identified two key themes concerning the issues the participating Hungarian university students face in understanding and dealing with plagiarism (Table 9).

The first core theme concerned confusion and anxiety surrounding plagiarism. Several participants reported difficulties understanding the complexities of plagiarism rules (Ratio = 0.66) emphasising the topic’s complexity. They also expressed anxiety about potential penalties (Ratio = 0.20), fearing accusations even for unintentional plagiarism (Ratio = 0.13). The latter suggests that the fear of unknowingly replicating existing ideas heightened respondents’ anxiety. The second core theme centred around the need for improved education and awareness about plagiarism. Participants stressed the importance of increased awareness regarding the seriousness and consequences of plagiarism (Ratio = 0.66). They also highlighted the need for education on proper paraphrasing techniques to avoid unintentional plagiarism (Ratio = 0.33). These findings underscore the crucial need for improved communication and educational initiatives that provide

clearer explanations of source attribution rules and potential consequences for misuse. Enhanced communication about plagiarism rules and potential consequences can alleviate student anxieties and foster a more informed approach.

Discussion

The overarching aim of our study was to comprehensively explore Hungarian university students' perceptions of plagiarism and the challenges they face in navigating this issue. Our first research question (RQ1) specifically investigated these students' attitudes towards plagiarism, revealing a high level of diversity that aligns with previous research emphasising gender as a significant factor (e.g., Guo 2011; Tran et al. 2022; Witmer and Johansson 2015). Research by Jensen et al. (2002), Davis et al. (1992), Smyth and Davis (2004), and Brown and Choong (2005) aligns with our findings, indicating that men are more likely to plagiarise and view it as a less severe ethical violation compared to women. Meta-analyses by Whitley (1998) and Whitley et al. (1999), as well as studies by Selwyn (2008); Smith et al. (2007); Roig and Caso (2005); Jereb et al. (2018b), also suggest that gender differences in plagiarism are detectable, with men more frequently admitting to academic dishonesty. However, there are contradictions in the literature regarding gender differences, as Hu and Lei (2014) did not find any significant gender differences in attitudes towards plagiarism. Nevertheless, it is worth mentioning that some studies, such as those by Ellery (2008) and De Jager and Brown (2010), found that plagiarism is relatively rare among students at South African universities. According to De Jager and Brown (2010), these findings can be partly explained by the limitations of self-report questionnaires, as respondents may be reluctant to admit past plagiarism. Taking this into account, the data used to measure plagiarism should always be treated with some degree of caution. In light of these findings, similar to the study by Orosz et al. (2012) conducted in Hungary, we can hypothesise that acceptance of plagiarism will be higher among men than women, making it essential to examine gender differences in further research. Beyond gender, our study uncovered that employability concerns and a focus on achieving high grades also significantly influence students' justification of plagiarism and their perceptions of its severity. These findings extend the understanding of plagiarism to include personal motivations and contextual pressures, suggesting that students who are concerned about their future job prospects and those facing intense academic pressure may rationalise dishonest behaviours as coping mechanisms. Consequently, academic integrity policies and educational interventions must address these influences by developing targeted education programs that highlight the long-term consequences of dishonesty and by establishing support systems, such as academic counselling and career services, to help students navigate their academic and professional paths with integrity.

Our second research question (RQ2) investigated the link between Hungarian university students' academic behaviours and their attitudes towards plagiarism. Prior research has shown that educational background (e.g., Erguvan 2022) and certain learning attitudes or skills (e.g., Anderman and Koenka 2017; Selemani et al. 2018) may influence how students perceive the severity of plagiarism. In our study, we identified further specific academic behaviours, namely, frequent note-taking during lectures and increased dedicated study time, that directly correlate with a decreased propensity to justify plagiarism and a heightened awareness of its seriousness.

Building on these findings, the third and fourth research questions (RQ3 and RQ4) investigated the relationship between academic aspirations and the importance placed on meeting teachers' expectations, specifically in relation to Hungarian university students' views on plagiarism. This aligns with existing research that underscores the importance of learning attitudes (Erguvan 2022) and the influence of the learning environment in fostering academic integrity (Eshet et al. 2022). Furthermore, our study identified a specific link between academic aspirations and the perceived importance of fulfilling academic expectations, emphasising their critical role in shaping students' attitudes toward plagiarism. Interestingly, our study found that the willingness to engage in plagiarism and attitudes towards it did not significantly differ based on employment status or the form of funding for their studies. This suggests that the propensity to plagiarise is not dependent on whether students are working alongside their studies or how their education is financed. These results contrast with those of Jereb et al. (2018b), who found that students who work while studying are more likely to plagiarise. Similarly, Doró (2018) found that the motivation to avoid financial penalties can drive students to commit plagiarism, indicating that financial considerations play a significant role for some students. In contrast, our findings indicate that the pursuit of good grades, inconsistent with previous research (Jereb et al. 2018b), is associated with a lower propensity to engage in plagiarism. This motivation to achieve high grades can decrease the likelihood of dishonest behaviours, even though drive for academic success could be linked to competition among peers, as noted by Orosz et al. (2012). By highlighting the critical influence of academic aspirations and the pressure to meet teachers' expectations, our study reinforces the need for educational institutions to develop comprehensive strategies that address both academic motivations and the ethical challenges students face. Positively, research carried out by Orosz et al. (2015) suggests that teachers' enthusiasm can reduce students' propensity to cheat and plagiarise. This indicates that fostering a passionate and engaging teaching environment could be a key strategy in promoting academic integrity and reducing dishonest behaviours among students.

Our final research question (RQ5) focused on the issues Hungarian university students face in understanding and dealing with plagiarism. Through thematic analysis of open-ended responses, we uncovered significant confusion and anxiety among students regarding plagiarism rules. They expressed a strong need for better education and awareness about proper citation practices and the consequences of plagiarism, a finding that aligns with prior research (e.g., Eshet et al. 2022; Colnerud and Rosander 2009), which emphasises the necessity for institutions to provide clear guidelines and educational resources. This confusion and anxiety highlight a critical gap in academic integrity education that, if addressed, could significantly reduce incidents of plagiarism.

Addressing these issues effectively requires a multifaceted approach. Research by Newton et al. (2014) and Obeid and Hill (2017) underscores the importance of skills training and specific knowledge (e.g., on how to paraphrase, cite sources appropriately, etc.) in reducing plagiarism. Additionally, prior research has shown potential connection between students' attitudes toward plagiarism and their actual engagement in plagiarism-related behaviours (e.g.; Farooq and Sultana 2022; Husain et al. 2017; Memon and Mavrinac 2020). These studies suggest that when students are equipped with the necessary skills and knowledge, they are less likely to engage in dishonest practices.

Furthermore, Mostofa et al. (2021) discuss the role of awareness and the impact of plagiarism detection tools in shaping relevant policies to prevent plagiarism in educational institutions. By increasing awareness and utilising detection tools, institutions can create a more robust framework for academic integrity. Combining clear guidelines, educational resources, skills training, and technological tools provides a comprehensive strategy to help students navigate the complexities of academic honesty, ultimately fostering a culture of integrity and reducing the prevalence of plagiarism (Miranda-Rodríguez et al. 2024).

Conclusion

Academic dishonesty and plagiarism are pervasive issues that challenge the integrity of higher education systems worldwide (e.g. Carroll 2007; Jereb et al. 2018a; Kampa et al. 2024). This study aimed to investigate Hungarian university students' attitudes and perceptions toward plagiarism. By examining the definitions, forms, and contributing factors of academic dishonesty and plagiarism, this research sheds light on the complexities and nuances surrounding these unethical practices. Our investigation into Hungarian university students' attitudes towards plagiarism revealed several key findings. Notably, personal characteristics and situational factors were found to significantly influence these attitudes. Furthermore, students who employ active learning strategies were found to demonstrate a substantially stronger commitment to academic integrity. Finally, student responses emphasised the critical need for educational initiatives designed to cultivate a culture of academic honesty.

Nevertheless, this paper has its limitations (Krásničan et al. 2022). The sample was limited to a specific context, i.e., a Hungarian university, which may not fully represent the attitudes and behaviours of all Hungarian university students or those from other countries (e.g. Keresztes et al. 2020). Another significant limitation is the overrepresentation of female respondents, which could potentially skew the results and limit the generalizability of the findings (Dickinson et al. 2012). Additionally, the use of convenience and snowball sampling methods introduces potential biases. Convenience sampling, where participants are selected based on accessibility rather than randomness, may not provide a representative sample of the broader student population (Kriska et al. 2013). Similarly, snowball sampling, where participants refer to others, could result in a homogenous group, as individuals within social networks may share similar attitudes or behaviours. This limits the generalizability of the findings to the wider university or student body (Parker et al. 2019). Moreover, the use of self-reported data may also introduce biases (Bauhoff 2011), as students might underreport their engagement in dishonest practices, especially because of the topic (cf. social desirability bias). This issue is further compounded by concerns about voluntary participation, where respondents' trust in the anonymity of the process could influence their honesty and openness. A lack of confidence in anonymity may lead to additional underreporting or skewed responses, further affecting the integrity of the data (Dube et al. 2014). Moreover, the study may encounter challenges stemming from the absence of clear and consistent definitions for key terms among participants, potentially leading to misunderstandings and misinterpretations. This could undermine the study's validity (Krásničan et al. 2022). The study also exhibited target group bias, as it focused exclusively on students, even though plagiarism is a broader issue involving educators, who were not included in this research.

(cf. Denney et al. 2021). The cross-sectional nature of the study, while allowing us to analyse the relationship between two variables, limits our ability to establish causation (Savitz and Wellenius 2023).

Nonetheless, this study lays the groundwork for future research endeavours that could explore the impact of targeted educational interventions on reducing plagiarism among university students. Longitudinal studies could examine how students' attitudes towards plagiarism evolve over time with continued exposure to academic integrity education. Additionally, cross-cultural research initiatives encompassing the investigated university's domestic and international student populations could yield valuable insights into how cultural differences influence perceptions and behaviours related to academic dishonesty and plagiarism.

Appendix

Subscale 1: Factors that exacerbate plagiarism (8 items).

1. 1. Short deadlines or a heavy workload give me the right to plagiarise a bit.
2. 2. A plagiarised paper does no harm to the value of a university degree.
3. 3. Those who say they have never plagiarised are lying.
4. 4. Plagiarism can be justified if I currently have more important obligations or tasks to do.
5. 5. Sometimes, it is necessary to plagiarise.
6. 6. I am tempted to plagiarise if I have permission from a friend to copy his or her work.
7. 7. I am tempted to plagiarise if I currently have more important obligations or tasks to do.
8. 8. I am tempted to plagiarise because, even if caught, the punishment will be light (the reward outweighs the risk).

Subscale 2: Justification for Plagiarism (6 items).

9. 1. Sometimes you cannot avoid using other people's words, because there are only so many ways to describe something.
10. 2. It is justified to use previous descriptions of a concept or theory, because they remain the same.
11. 3. Self-plagiarism is not punishable because it is not harmful (you cannot steal from yourself).
12. 4. Undergraduate students, because they are just learning the ropes, should receive milder punishment for plagiarism.
13. 5. It is justified to use your own previous work, without providing citation, in order to complete the current work.
14. 6. Since plagiarism is taking other people's words rather than tangible assets, it should not be considered a serious offence.

Subscale 3: Severity and Penalty (8 items).

15. 1. Plagiarised parts of a student's paper should be ignored if the paper is otherwise of high quality.
16. 2. Self-plagiarism should not be punishable in the same way as plagiarism is.

- 17.3. If you cannot write well because of unfamiliarity with the topic area, it is justified to copy parts of a paper already published in that area in order to accurately represent those ideas.
- 18.4. Given a commonly perceived decline in moral and ethical standards, it is important to discuss issues like plagiarism and self-plagiarism.
- 19.5. Plagiarism is as bad as stealing an exam.
- 20.6. Plagiarism undermines independent thought.
- 21.7. Since plagiarism is taking other people's words rather than tangible assets, it should not be considered a serious offence.
- 22.8. Plagiarism is not a big deal.

Abbreviations

M	Mean
SD	Standard deviation
RQ	Research question

Author contributions

All authors contributed equally to the study conception and design, data collection and analysis, and writing up the manuscript. All authors approved the final manuscript.

Funding

Open access funding provided by Budapest Business University.

Data availability

The datasets used and/or analysed during the current study are available from the corresponding author upon reasonable request.

Declarations

Competing interests

The authors declare no competing interests.

Received: 18 July 2024 / Accepted: 6 October 2024

Published online: 03 February 2025

References

- Akbar A, Picard M (2019) Understanding plagiarism in Indonesia from the lens of plagiarism policy: lessons for universities. *Int J Educ Integr* 15(1):1–10. <https://doi.org/10.1007/s40979-019-0044-2>
- Alleyne P, Phillips K (2011) Exploring academic dishonesty among university students in Barbados: an extension to the theory of planned behaviour. *J Acad Ethics* 9(4):323–338. <https://doi.org/10.1007/s10805-011-9144-1>
- Aluede O, Omoregie EO, Osa-Edoh GI (2006) Academic dishonesty as a contemporary problem in higher education: how academic advisers can help. *Read Impr* 43(2):97–106
- Anderman EM, Koenka AC (2017) The relation between academic motivation and cheating. *Theory Pract* 56(2):95–102. <https://doi.org/10.1080/00405841.2017.1308172>
- Anderman EM, Murdock TB (2011) Psychology of academic cheating. Academic, New York
- Awasti S (2019) Plagiarism and academic misconduct: a systematic review. *J Libr Inf Technol* 39(2):94–1000. <https://doi.org/10.14429/djlit.39.2.13622>
- Bauhoff S (2011) Systematic self-report bias in health data: impact on estimating cross-sectional and treatment effects. *Health Serv Outcomes Res Method* 11:44–53. <https://doi.org/10.1007/s10742-011-0069-3>
- Beck L, Ajzen I (1991) Predicting dishonest actions using the theory of planned behavior. *J Res Pers* 25:285–301. [https://doi.org/10.1016/0092-6566\(91\)90021-H](https://doi.org/10.1016/0092-6566(91)90021-H)
- Braun V, Clarke V (2006) Using thematic analysis in psychology. *Qual Res Psychol* 3(2):77–101. <https://doi.org/10.1191/1478088706qp0630a>
- Braun V, Clarke V (2020) One size fits all? What counts as quality practice in (reflexive) thematic analysis? *Qual Res Psychol* 1–25. <https://doi.org/10.1080/14780887.2020.1769238>
- Bretag T (ed) (2016) Handbook of academic integrity. Springer, Singapore. <https://doi.org/10.1007/978-981-287-098-8>
- Brown BS, Choong P (2005) An investigation of academic dishonesty among business students at public and private United States universities. *Int J Manag* 22(2):201–214
- Carducci R (2006) UCLA community college bibliography: Community college governance - contemporary challenges & opportunities. *Community Coll J Res Pract* 30(8):675–681
- Carroll J (2007) A handbook for deterring plagiarism in higher education. Oxford Centre for Staff and Learning Development, Oxford
- Chiang FK, Zhu D, Yu W (2022) A systematic review of academic dishonesty in online learning environments. *J Comput Assist Learn* 38(4):907–928. <https://doi.org/10.1111/jcal.12656>
- Clarke V, Braun V (2017) Thematic analysis. *J Posit Psychol* 12(3):297–298

- Cliniciu AI, Cazan AM, Ives B (2021) Academic dishonesty and academic adjustment among the students at university level: an exploratory study. *SAGE Open* 11(2):1–10. <https://doi.org/10.1177/21582440211021839>
- Colnerud G, Rosander M (2009) Academic dishonesty, ethical norms and learning. *Assess Eval High Educ* 34(5):505–517. <https://doi.org/10.1080/0260293080215526>
- Cotton DRE, Cotton PA, Shipway JR (2024) Chatting and cheating: ensuring academic integrity in the era of ChatGPT. *Innov Educ Teach Int* 61(2):228–239. <https://doi.org/10.1080/14703297.2023.2190148>
- Curtis G, Clare J (2023) Academic integrity scholarship: the importance of theory. In: Eaton SE (ed) *Second handbook of academic integrity*. Springer, Cham, pp 1651–1669. https://doi.org/10.1007/978-3-031-54144-5_164
- Davis SF, Grover CA, Becker AH, McGregor LN (1992) Academic dishonesty: prevalence, determinants, techniques, and punishments. *Teach Psychol* 19:16–20. https://doi.org/10.1207/s15328023top1901_3
- De Jager K, Brown C (2010) The tangled web: investigating academics' views of plagiarism at the University of Cape Town. *Stud High Educ* 35(5):513–528. <https://doi.org/10.1080/03075070903222641>
- Denney V, Dixon Z, Gupta A et al (2021) Exploring the perceived spectrum of plagiarism: a case study of online learning. *J Acad Ethics* 19:187–210. <https://doi.org/10.1007/s10805-020-09364-3>
- DeVellis RF (2012) *Scale development: theory and applications*. Sage, Newbury Park, CA
- Dickinson ER, Adelson JL, Owen J (2012) Gender balance, representativeness, and statistical power in sexuality research using undergraduate student samples. *Arch Sex Behav* 41:325–327. <https://doi.org/10.1007/s10508-011-9887-1>
- Doró K (2018) Student perceptions of fraud and plagiarism - the role of context and student training [A csalás és a plágium hallgatói megítélése – a kontextus és a hallgatói képzés szerepe]. *Iskolakultúra* 28(10–11):25–38. <https://doi.org/10.14232/ISKULT.2018.10-11.25>
- Dube L, Mhlongo M, Ngulube P (2014) The ethics of anonymity and confidentiality: reading from the University of South Africa policy on research ethics. *Indilinga Afr J Indig Knowl Syst* 13(2):210–213. <http://hdl.handle.net/10500/22229>
- Ehrich J, Howard S, Tognolini J, Bokosmaty S (2015) Measuring attitudes toward plagiarism: issues and psychometric solutions. *J Appl Res High Educ* 7(2):243–257. <https://doi.org/10.1108/jarhe-02-2014-0013>
- Ellery K (2008) An investigation into electronic-source plagiarism in a first-year essay assignment. *Assess Eval High Educ* 33(6):607–617. <https://doi.org/10.1080/02602930701772788>
- Eret E, Gokmenoglu T (2010) Plagiarism in higher education: a case study with prospective academicians. *Procedia - Soc Behav Sci* 2(2):3303–3307. <https://doi.org/10.1016/j.sbspro.2010.03.505>
- Erguvan ID (2022) An attempt to understand plagiarism in Kuwait through a psychometrically sound instrument. *Int J Educ Integr* 18(1):26–38. <https://doi.org/10.1007/s40979-022-00120-1>
- Eshet Y, Steinberger P, Grinautsky K (2022) Does statistics anxiety impact academic dishonesty? Academic challenges in the age of distance learning. *Int J Educ Integr* 18(1):1–10. <https://doi.org/10.1007/s40979-022-00117-w>
- Farooq R, Sultana A (2022) Measuring students' attitudes toward plagiarism. *Ethics Behav* 32(3):210–224. <https://doi.org/10.1080/10508422.2020.1860766>
- Festas I, Seixas A, Matos A (2022) Plagiarism as an academic literacy issue: the comprehension, writing and consulting strategies of Portuguese university students. *Int J Educ Integr* 18(1):1–10. <https://doi.org/10.1007/s40979-022-00119-8>
- Greenberger S, Holbeck R, Steele J, Dyer T (2016) Plagiarism due to misunderstanding: online instructor perceptions. *J Sch Teach Learn* 16(6):72–84. <https://doi.org/10.14434/josotl.v16i6.20062>
- Guo X (2011) Understanding student plagiarism: an empirical study in accounting education. *Acc Educ* 20(1):17–37. <https://doi.org/10.1080/09639284.2010.534577>
- Harper MG (2006) High tech cheating. *Nurse Educ Today* 26(8):672–679. <https://doi.org/10.1016/j.nedt.2006.07.012>
- Howard SJ, Ehrich JF, Walton R (2014) Measuring students' perceptions of plagiarism: modification and Rasch validation of a plagiarism attitude scale. *J Appl Meas* 15(4):372–393
- Hu G, Lei J (2014) Chinese university students' perceptions of plagiarism. *Ethics Behav* 25(3):233–255. <https://doi.org/10.1080/10508422.2014.923313>
- Husain FM, Al-Shaibani GKS, Mahfoodh OHA (2017) Perceptions of and attitudes toward plagiarism and factors contributing to plagiarism: a review of studies. *J Acad Ethics* 15:167–195. <https://doi.org/10.1007/s10805-017-9274-1>
- Jensen LA, Arnett JJ, Feldman SS, Cauffman E (2002) It's wrong, but everybody does it: academic dishonesty among high school and college students. *Contemp Educ Psychol* 27(2):209–228. <https://doi.org/10.1006/ceps.2001.1088>
- Jereb E, Perc M, Lämmlein B, Jerebic J, Urh M, Podbregar I, Šprajc P (2018a) Factors influencing plagiarism in higher education: a comparison of German and Slovene students. *PLoS ONE* 13(8). <https://doi.org/10.1371/journal.pone.0202252>
- Jereb E, Urh M, Jerebic J, Šprajc P (2018b) Gender differences and the awareness of plagiarism in higher education. *Soc Psychol Educ* 21:409–426. <https://doi.org/10.1007/s11218-017-9421-y>
- Kampa RK, Padhan DK, Karna N, Gouda J (2024) Identifying the factors influencing plagiarism in higher education: an evidence-based review of the literature. *Acc Res* 1–16. <https://doi.org/10.1080/08989621.2024.2311212>
- Keresztes N, Piko BF, Howard-Payne L, Gupta H (2020) An exploratory study of Hungarian university students' sexual attitudes and behaviours. *Int J Emot Educ* 12(1):83–87
- Krásničan V, Foltýnek T, Dlabolová DH (2022) Limitations of contract cheating research. In: Eaton SE, Curtis G, Stoesz BM, Rundle K, Clare J, Seeland J (eds) *Contract cheating in higher education: global perspectives on theory, practice, and policy*. Palgrave Macmillan, Cham
- Kriska SD, Sass MM, Fulcomer MC (2013) Assessing limitations and uses of convenience samples: A guide for graduate students. *JSM Proceedings, Section on Statistical Education*, pp 2828–2834. <https://scholarworks.waldenu.edu/facpubs/783/>
- Lee SD, Kuncel NR, Gau J (2020) Personality, attitude, and demographic correlates of academic dishonesty: a meta-analysis. *Psychol Bull* 146(11):1042–1058. <https://doi.org/10.1037/bul0000300>
- Locquiao J, Ives B (2020) First-year university students' knowledge of academic misconduct and the association between goals for attending university and receptiveness to intervention. *Int J Educ Integr* 16(1):1–10. <https://doi.org/10.1007/s40979-020-00054-6>
- Maguire M, Delahunt B (2017) Doing a thematic analysis: a practical, step-by-step guide for learning and teaching scholars. *AISHE-J* 9:3351–33514. <http://ojs.aishe.org/index.php/aishe-j/article/view/3354>
- Maloshonok N, Shmeleva E (2019) Factors influencing academic dishonesty among undergraduate students at Russian universities. *J Acad Ethics* 17:313–329. <https://doi.org/10.1007/s10805-019-9324-y>

- Mavrinac M, Brumini G, Bilic-Zulle L, Petroveck M (2010) Construction and validation of attitudes towards plagiarism questionnaire. *Croatian Med J* 51:195–201
- McCabe DL, Treviño LK, Butterfield KD (2001) Cheating in academic institutions: a decade of research. *Ethics Behav* 11(3):219–232. <https://doi.org/10.1207/S15327019EB110>
- Memon AR, Mavrinac M (2020) Knowledge, attitudes, and practices of plagiarism as reported by participants completing the AuthorAID MOOC on research writing. *Sci Eng Ethics* 26:1067–1088. <https://doi.org/10.1007/s11948-020-00198-1>
- Miranda-Rodríguez RA, Sánchez-Nieto JM, Ruiz-Rodríguez AK (2024) Effectiveness of intervention programs in reducing plagiarism by university students: a systematic review. *Front Educ* 9:1357853. <https://doi.org/10.3389/educ.2024.1357853>
- Moock PG (2002) Academic dishonesty: cheating among community college students. *Community Coll J Res Pract* 26(6):479–491. <https://doi.org/10.1080/02776770290041846>
- Mostofa S, Tabassum M, Ahmed S (2021) Researchers' awareness about plagiarism and impact of plagiarism detection tools – does awareness affect the actions towards preventing plagiarism? *Digit Libr Perspect* 37(3):257–274. <https://doi.org/10.1108/dlp-10-2020-0100>
- Nesterova O, Nakazny M, Berdnyk L, Sorokina N, Cherkashchenko O, Medvedovskaya T (2019) Responsibility Development as Academic Integrity Tool for Translation and Public Administration Students. *Cypriot J Educ Sci* 14(3):436–444. <https://elibrary.ru/item.asp?id=43219437>
- Newton F, Wright J, Newton J (2014) Skills training to avoid inadvertent plagiarism: results from a randomised control study. *High Educ Res Dev* 33(6):1180–1193. <https://doi.org/10.1080/07294360.2014.911257>
- Nucci L, Turiel E (2009) Capturing the complexity of moral development and education. *Mind Brain Educ* 3(3):151–159. <https://doi.org/10.1111/j.1751-228X.2009.01065.x>
- Nulty DD (2008) The adequacy of response rates to online and paper surveys: what can be done? *Assess Eval High Educ* 33(3):301–314. <https://doi.org/10.1080/02602930701293231>
- Obeid R, Hill D (2017) An intervention designed to reduce plagiarism in a research methods classroom. *Teach Psychol* 44(2):155–159. <https://doi.org/10.1177/0098628317692620>
- O'Connor C, Joffe H (2020) Intercoder reliability in qualitative research: debates and practical guidelines. *Int J of Qual Meth* 19. <https://doi.org/10.1177/1609406919899220>
- Orosz G, Jánvári MI, Salamon J (2012) Cheating and competition in the Hungarian education [Csalás és versengés a felsőoktatásban]. *Pszichológia* 32(2):153–171. <https://doi.org/10.1556/Pszicho.32.2012.2.5>
- Orosz G, Tóth-Király I, Bóthe B, Kusztor A, Üllei Zs, Jánvári M (2015) Teacher enthusiasm: a potential cure of academic cheating. *Front Psychol* 4:87:1–12. <https://doi.org/10.3389/fpsyg.2015.00318>
- Park C (2003) In other (people's) words: Plagiarism by university students – literature and lessons. *Assess Eval High Educ* 28(5):471–488. <https://doi.org/10.1080/02602930301677>
- Parker C, Scott S, Geddes A (2019) Snowball sampling. In: Atkinson P, Delamont S, Cernat A, Sakshaug JW, Williams RA (eds) *SAGE Research methods foundations*. SAGE, London, pp 1–13
- Roig M, Caso M (2005) Lying and cheating: fraudulent excuse making, cheating, and plagiarism. *J Psychol* 139(6):485–494. <https://doi.org/10.3200/JRPL.139.6.485-494>
- Salleh MIM, Hamid HA, Alias NR, Ismail MN, Yusoff Z (2011) The influence of gender and age on the undergraduates' academic dishonesty behaviors. In: Tao F (ed) *Sociality and economics development*, vol 10. International Association of Computer Science & Information Technology Press-lacsit Press, pp. 593–597. <https://www.webofscience.com/wos/woscc/full-record/WOS:000303284800111>
- Saunders J (2010) Plagiarism and the law. *Learn Publ* 23(4):279–292. <https://doi.org/10.1087/20100402>
- Savitz DA, Wellenius GA (2023) Can cross-sectional studies contribute to causal inference? It depends. *Am J Epidemiol* 192(4):514–516. <https://doi.org/10.1093/aje/kwac037>
- Schiller E, Dorner H, Szabó ZA (2023) Developing older adults' learner autonomy through one-to-one counselling: exploratory results of a longitudinal investigation. *System* 115. <https://doi.org/10.1016/j.system.2023.103030>
- Scott I (2024) Rising to meet the challenge of generative AI. *J Leg Stud Educ* 41(1):29–37. <https://doi.org/10.1111/jlse.12141>
- Selemani A, Chawinga WD, Dube G (2018) Why do postgraduate students commit plagiarism? An empirical study. *Int J Educ Integr* 14(1):1–15. <https://doi.org/10.1007/s40979-018-0029-6>
- Selwyn N (2008) Not necessarily a bad thing ... a study of online plagiarism among undergraduate students. *Assess Eval High Educ* 33(5):465–479. <https://doi.org/10.1080/02602930701563104>
- Singh S, Remenyi D (2016) Plagiarism and ghostwriting: the rise in academic misconduct. *S Afr J Sci* 112(5/6):36–42. <https://doi.org/10.17159/sajs.2016/20150300>
- Smith M, Ghazali N, Minhad SFN (2007) Attitudes towards plagiarism among undergraduate accounting students: Malaysian evidence. *Asian Rev Acc* 15(2):122–146. <https://doi.org/10.1108/13217340710823350>
- Smyth ML, Davis JR (2004) Perceptions of dishonesty among two-year college students: academic versus business situations. *J Bus Ethics* 51(1):63–73. <https://doi.org/10.1023/B:0000032347.79241.3c>
- Soratto J, Pires DEPD, Friese S (2020) Thematic content analysis using ATLAS.ti software: potentialities for researches in health. *Rev Bras Enferm* 73(3). <https://doi.org/10.1590/0034-7167-2019-0250>
- Söylemez NH (2023) A problem in higher education: academic dishonesty tendency. *Bull Educ Res* 45(1):23–48. [https://search.ebscohost.com/login.aspx?direct=true&db=ehh&AN=164603741\(=hu&site=ehost-live](https://search.ebscohost.com/login.aspx?direct=true&db=ehh&AN=164603741(=hu&site=ehost-live)
- Stephens JM (2019) Natural and normal, but unethical and evitable: the epidemic of academic dishonesty and how we end it. *Change: Mag High Learn* 51(4):8–17. <https://doi.org/10.1080/00091383.2019.1618140>
- Stockmann T, Wood L, Enache G, Withers F, Gavaghan L, Razzaque R (2017) Peer-supported Open Dialogue: a thematic analysis of trainee perspectives on the approach and training. *J of Ment H* 28(3):312–318. <https://doi.org/10.1080/09638237.2017.1340609>
- Strannegård L (2023) Generative AI - a threat or an opportunity for universities. *Crit Law Indep Leg Stud* 15(2):19–22. <https://doi.org/10.7206/kp.2080-1084.591>
- Surahman E, Wang T (2022) Academic dishonesty and trustworthy assessment in online learning: a systematic literature review. *J Comput Assist Learn* 38(6):1535–1553. <https://doi.org/10.1111/jcal.12708>
- Susilawati E, Lubis H, Kesuma S, Pratama K, Khaira I (2022) The mediating role of moral self-regulations between automated essay scoring adoption, students' character and academic integrity among Indonesian higher education sector. *Eurasian J Educ Res* 102(102):54–71. <https://doi.org/10.14689/ejer.2022.102.004>

- Tindall IK, Fu KW, Tremayne K, Curtis GJ (2021) Can negative emotions increase students' plagiarism and cheating? *Int J Educ Integr* 17:25. <https://doi.org/10.1007/s40979-021-00093-7>
- Tran MN, Hogg L, Marshall S (2022) Understanding postgraduate students' perceptions of plagiarism: a case study of Vietnamese and local students in New Zealand. *Int J Educ Integr* 18(1):1–10. <https://doi.org/10.1007/s40979-021-00098-2>
- Walker J (2010) Measuring plagiarism: researching what students do, not what they say they do. *Stud High Educ* 35(1):41–59. <https://doi.org/10.1080/03075070902912994>
- Weber-Wulff D (2014) False feathers: a perspective on academic plagiarism. Springer, Berlin. <https://doi.org/10.1007/978-3-642-39961-9>
- Whitley BE Jr (1998) Factors associated with cheating among college students: a review. *Res High Educ* 39:235–274. <https://doi.org/10.1023/A:1018724900565>
- Whitley BE, Keith-Spiegel P (2002) Academic dishonesty: an educator's guide. Lawrence Erlbaum, Mahwah
- Whitley BE Jr, Nelson AB, Jones CJ (1999) Gender differences in cheating attitudes and classroom cheating behavior: a meta-analysis. *Sex Roles* 41(9–10):657–680. <https://doi.org/10.1023/A:1018863909149>
- Witmer H, Johansson J (2015) Disciplinary action for academic dishonesty: does the student's gender matter? *Int J Educ Integr* 11(1):1–10. <https://doi.org/10.1007/s40979-015-0006-2>
- Zeigler-Hill V, Shackelford TK (eds) (2020) *Encyclopedia of personality and individual differences*. Springer, Cham

Publisher's note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.