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How Academic Context Shapes Students' Ethical Behaviour: New Evidence from a Transitional Society

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Background/Purpose: An ongoing problem of the ethical transgression of students poses a fundamental threat to the functioning of higher education institutions and translates to their behaviour in the future workplace. The aim of the paper is to examine the relationship between the academic context in higher education institutions in a transitional society and students' ethical behaviour.
Methods: Two-source empirical research was conducted using samples of 235 students and 112 faculty and administrative staff from 12 higher education institutions in Croatia. Data on the ethical infrastructure of higher education institutions and the ethical behaviour of students and employees were collected from both groups. Descriptive statistics were used to provide insights into various aspects of the academic context and the characteristics of students' and employees' ethical behaviour. Multiple regression analyses were conducted to examine the relationships between the academic context and the ethical behaviour of students and employees.
Results: Perceptions of students and employees differed on a number of aspects of the academic context in their higher education institutions, while the formal ethical framework, individual-level ethics, and witnessing and sanctioning of unethical behaviour are found to be the factors that play a role in shaping students' ethical behaviour. Students enrolled in natural sciences-related programmes are less susceptible to the effects of academic context than those studying programmes in other scientific fields.
Conclusion: The current state of academic context at higher education institutions in a typical transitional society leaves considerable room for improvement in developing ethical infrastructure and promoting a culture of academic integrity and ethical values. Translating the 'words' into 'actions' at both organisational and individual levels is a primary goal for these institutions to establish an effective ethical framework and culture, and to be perceived as ethical by their stakeholders.

Keywords: Academic dishonesty, Organisational ethics, Higher education institutions, Students, Faculty, Croatia

1 Introduction

In the 21st century, ethical transgression is an ongoing problem in higher education (Rothman, 2017), and the lack of student academic integrity is regarded as a serious threat to the fundamental function of educational institutions (MacLeod & Eaton, 2020). A number of scandals involving students' ethical behaviour (EB) at higher education institutions (HEIs), many of which have emerged even at leading HEIs, clearly demonstrate the aforementioned problem (Cronan et al., 2018). The recent rise of artificial intelligence (AI), with all its benefits for teachers, researchers, and students, has also created numerous ethics-related challenges for HEIs, such as academic integrity versus academic misconduct and ethical dilemmas (e.g. cheating and plagiarism), data privacy, transparency, ac-

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countability and security, equity in access to AI, responsible use of AI, etc. (Dabis & Csáki, 2024), further exacerbating 'the ethical transgression problem'. In a globalised world marked by rapid technological advancements and increasing social complexity, where students' motivation and interest in science are constantly declining, HEIs face an even greater challenge of 'getting through to students' on the topics of morals, values, and ethics within the academic environment (Chowdhury, 2016). As a result, ethics in universities, faculties, and schools has become a burdensome issue for institutional leaders and a subject of considerable scholarly attention. Research findings in academic contexts indicate that cheating has been steadily increasing over decades, accompanied by a decline in individuals' perceived severity of dishonest behaviour, resulting in an academic environment where student cheating is a highly persistent and pervasive behaviour (Farnese et al., 2011; Park, 2017; Hendy & Montargot, 2019; Cheng et al., 2021). Following the ethical violations that made headlines (Gupta et al., 2011), HEIs are recognising the need to develop an ethical organisational culture by setting formal ethical standards and ensuring that leaders and employees act ethically, with the ultimate aim of reducing the incidence of unethical behaviour (UB) among both students and employees (Elliot et al., 2013). To foster a culture of academic honesty, HEIs invest significant resources in emphasizing EB, establishing clear frameworks for acceptable and unacceptable behaviour in an academic context, and in developing policies to guide the conduct of students and faculty (MacLeod & Eaton, 2020). Ethical infrastructure in HEIs—a combination of ethical culture, climate, rules, codes of ethics, and EB-related programmes, rewards, and sanctions (Treviño et al., 2014)—needs to move from 'words' to 'actions' at both individual and organisational levels for HEIs and their students to be perceived as ethical (Credo et al., 2010).

Following the above, this study explores the role of the academic context in shaping students' EB in a transitional society, particularly the dimension related to studying, namely academic honesty. The study has several objectives:

(1) to examine the current state of the academic context in HEIs in a transitional society;

(2) to identify key predictors from the HEI's academic context that play a role in shaping faculty's EB;

(3) to identify key predictors from the HEI's academic context that play a role in shaping students' EB; and

(4) to examine the nature of the identified relationships.

Despite the multitude of different approaches, strategies, initiatives, and actions implemented by HEIs, based on the results of many related studies, the students' UB at HEIs persists, further reinforcing the need for new research and contributions on the topic of students' UB and its predictors (Cronan et al., 2018). Moreover, students' UB has only been modestly researched at the national level in EU countries (Hendy & Montargot, 2019; Hendy et al., 2021), especially in transitional countries, although it has been an academic research topic for years, further justifying the need for studies such as the one presented in this paper.

To achieve the stated research objective, the paper is structured as follows. The second section of the paper provides a brief theoretical background for conducting the empirical research. The third section presents the methodological approach used and the main characteristics of the two research samples. The next section focuses on the main findings of the empirical research. The final sections of the paper discuss the key findings and outline the main conclusions derived from the research.

2 Theoretical background

The role of higher education in developing young experts in terms of ethics and ethical values has attracted considerable attention from researchers, largely due to numerous corporate scandals and reports of UB in the workplace (Deshpande, Joseph & Berry, 2012; Ballantine et al., 2018). Given the assumption that students who are dishonest in their studies will transfer this behaviour to their future workplaces (Rakovski & Levy, 2007; Hendy & Montargot, 2019), HEIs, with their societal role and potential to educate exceptionally innovative professionals and tomorrow's leaders across all industrial fields, research, and politics (Momete, 2019; Cheng et al., 2021), have a critical responsibility to prepare students to address ethical issues in the workplace appropriately. In addressing academic dishonesty, which results from a complex interplay between individual and situational factors, HEIs must respond with an equally complex approach to promoting academic honesty and a culture of integrity (Stephens, 2015, p. 2). In this sense, Prisacariu & Shah (2016, p. 161) emphasise that "ethics and moral values are a virtue to a high-quality university, where corporate and academic governance framework articulates ethical standards in teaching, research, and all other activities". To produce honest, reliable, and trustworthy graduates, HEIs must develop and sustain a culture of integrity and ethical values to socialise and develop their employees to adhere to the proclaimed ethical values (Momete, 2019). This is particularly important as the long-standing values of HEIs, namely fairness and impartiality, are in many cases being superseded or even replaced by UB and individual interests. The arrival of the AI era, with its beneficial tools and unprecedented opportunities for teachers, researchers, and students, has also generated a range of ethical concerns if AI tools are not used correctly, further amplifying the challenges faced by HEIs (Ocen et al., 2025) and highlighting the need for specially designed AI ethics-focused regulatory frameworks and their effective implementation (Usher et al., 2025). All this requires the management of

HEIs to formulate and implement comprehensive strategies, mechanisms, and initiatives to establish organisational ethics and promote ethical conduct (Heyneman, 2011; Elliot et al., 2013).

Organisational ethics manifests itself in the ethical infrastructure of HEI in the form of culture and climate, code of ethics, programmes, rewards, and sanctions (Treviño et al., 2014), and can be regarded as a factor that enables exceptional, strong ethical conditions in organisational life (Bright et al., 2014 in McLeod et al., 2016). For HEIs to be perceived as ethical, organisational ethics in these institutions must move from 'words' to 'actions' at both the individual and organisational levels (Credo et al., 2010), which includes the behaviours of employees (managers, faculty, and administrative staff) and the behaviours of students as the final outputs of HEIs (Moore, 2006; Mirshekary & Lawrence, 2009). In addition to the ethical framework they encounter, students' attitudes towards ethics and UB can be influenced by what their professors teach about ethics and by observing how their professors and fellow students act in ethically challenging situations (Robie & Kidwell, 2003). Therefore, it is essential for HEIs to ensure the effectiveness of their ethical infrastructure by achieving congruence between 'words' (formal policies, programmes, initiatives, …) and the behaviours demonstrated at both the organisational and individual employee levels ('actions'). The congruence between individual employee ethics and organisational ethics is the main catalyst for the effectiveness of HEIs in shaping desirable responses of individuals (employees and students) to ethical dilemmas (Liedtka, 1989, in Elango et al., 2010).

Most relevant studies have identified academic UB as manifesting through cheating and plagiarism, labelling it as academic dishonesty (Zopiatis & Krambia-Kapardis, 2008; Cronan et al., 2018; Hendy et al., 2021). Academic dishonesty, or UB, in contrast to academic integrity, is primarily perceived as academic cheating to gain unlawful advantage – a conscious effort to use proscribed data and/or resources in examinations (e.g. copying another student's answers) or written work (e.g. plagiarising another person's research or reports) submitted for academic credit or publication (Chapman et al., 2004; Hayes & Introna, 2005 in Mirshekary & Lawrence, 2009; Cheng et al., 2021). Academic dishonesty is multifaceted and encompasses a wide range of harmful behaviours, including cheating, plagiarism, and fraudulent excuses (Yazici et al., 2011, in Kuntz & Butler, 2014, p. 478). According to Davies (2023), in HEIs, UB can be demonstrated by (1) academics or researchers (predatory publishing, overpublishing using the same dataset, questionable practices in student supervision, hiring practices, and inappropriate interpersonal relationships (Christensen Hughes & Eaton, 2022)), (2) administrative staff (questionable practices in admission rules, questionable accuracy and honesty in recording results and checking module credits, questionable monitoring and maintenance of systems to detect misconduct, and failure to investigate reported cases of academic misconduct), and (3) students (plagiarism, contract cheating, purchasing customised essays from freelance writers, using portable high-tech devices to communicate with accomplices, and obtaining examination questions in advance (Finchilescu & Cooper, 2018)). Due to the AI revolution and the widespread availability of AI tools, the previously discussed UB practices are gaining further momentum, and new forms of ethically questionable actions have emerged, such as fabrication and falsification of data and plagiarism through the use of AI, dilemmas in maintaining ethical standards in research (e.g. lack of transparency when using AI tools in research, use of algorithms in data processing and results generation leading to wrong interpretations, and avoidance of accountability due to 'black box' decision-making), privacy issues related to data collection and use by AI, irresponsible use of AI by ignoring its limitations, algorithmic bias in hiring processes, etc. (Dabis & Csáki, 2024; Ocen et al., 2025; Usher et al., 2025).

When examining students' EB, relevant studies have addressed a wide range of possible predictors, mainly focusing on predictors of the intention to behave unethically and/or predictors of actual UB (Cronan et al., 2021). Regarding predictors of students' EB, three general groups have a significant influence: individual factors, contextual factors, and HEIs' ethics-related programmes and policies (McCabe et al., 2001). Hendy et al. (2021) take a similar approach, dividing the predictors into two broad categories: individual (demographic, cognitive, and non-cognitive variables) and situational or contextual variables (such as the existence of a code of ethics at the HEI, disciplinary actions or penalties for UB, faculty attitudes towards students' UB, and a supportive learning environment). Cheng et al. (2021) identify individual variables (demographic factors, individual differences, attitudes, etc.), organisational variables (punishment policies regarding UB, honour code, etc.), and national-level variables (national culture, study level, etc.) as influential predictors of students' EB. From the categorizations, it is evident that a specific set of predictors, labelled as contextual, plays a significant role in shaping students' EB. As emphasised in its main objectives, this study focuses on investigating contextual predictors of students' EB and considers the academic context category to reflect elements of the HEI's ethical infrastructure in terms of 'words' and 'actions'. In this sense, the study focuses on the HEI's ethics-related strategies, initiatives, programmes, and policies (words, formal framework) and their manifestations in the form of an ethical culture and climate and an ethics-promoting learning environment (actions, effective implementation of the formal ethical framework). Formal mechanisms such as the existence of a code of ethics, the embeddedness of ethics into the HEI's mission and strategy, the existence of formal

job positions and/or bodies and courses dealing with ethical issues, and manifestations such as HEI management's EB and its commitment to implementing ethics, the EB of faculty and fellow students, the HEI's sanctioning measures for employees or students when faced with UB, etc., are among the predictors of students' EB investigated in this study.

3 Methodology

To provide answers to the main research questions of the study, we used a questionnaire as our research instrument and conducted our research at HEIs in the Republic of Croatia during 2022, at the end of the COVID-19 pandemic and just before the widespread adoption of AI tools in higher education. We initially contacted the management of 20 targeted HEIs to obtain their consent to participate in the research and to request their operational assistance in distributing our questionnaires to their employees and students. After receiving their positive responses, we conducted our research at 12 faculties and university departments in the Republic of Croatia by sending two separate questionnaires in Google Forms format to the designated contact person in the management of each participating HEI. These individuals were responsible for further disseminating the questionnaires to the e-mail addresses of their students, teachers and administrative staff. The HEIs included in the study cover all major scientific fields, which was one of the sampling criteria, employ approximately 2,000 academic and non-academic staff, and have around 18,000 enrolled students. We used a combination of non-probability and probability sampling strategies: we targeted a specific number of HEIs based on convenience criteria, while the entire population of employees and students at the selected HEIs had an equal chance of being included in the sample, i.e., a probability sampling strategy.

Taking into account the characteristics, perspectives, and ability of each target group of respondents to provide informed opinions, we developed two separate, partially overlapping questionnaires (Appendix 1) based on the contributions of Hunt et al. (1989), Treviño et al. (1998), Valentine & Fleischman (2004), Weber (2006), and Lau et al. (2012). The student questionnaire included seven demographic-related questions and 24 closed-type questions on a 5-point Likert scale, investigating the students' perceptions of the academic context at their HEI, as well as self-assessment of their own EB. The employee questionnaire included seven demographic-related questions and 26 closed-ended questions on a 5-point Likert scale, exploring the employees' perceptions of the academic context and students' EB at their HEI, as well as self-assessment of their own EB. Results of Cronbach's alpha tests for internal consistency reliability, conducted on our data (Table 1), confirmed good to excellent reliability and validity of the scales used in our research instruments (Hair et al., 2019b).

After three rounds of emails with questionnaires and reminders, sent by designated contact persons at HEIs to their employees and students, we collected 235 correctly completed questionnaires from students (1.9% response rate) and 112 correctly completed questionnaires from employees (5.6% response rate). All statistical analyses were conducted using SPSS Statistics 23.0 software, and, as a rule of thumb, we used a threshold of $p < .10$ to determine statistical significance (Aguinis et al., 2010).

The student research sample (Figure 1) consisted mainly of undergraduate students (77%) enrolled in university study programmes (77%), of whom more than two-thirds (69%) were female. As expected, compared to the usual student population structure, 81% of the sample were younger than 23, particularly those aged 20 and 21. First- and second-year students made up 63% of the sample. The natural and interdisciplinary sciences, compared to the other three scientific fields, were significantly less represented in the sample (7% and 13%, respectively) and on a scale where 2 is the minimum and 5 is the maximum passing grade, about half of the students surveyed (51%) had mediocre to high GPAs, while more than a third achieved very high to excellent results during their studies (36%).

Similar to the student sample, female employees significantly dominated the employee research sample, comprising 72% (Figure 1). Nearly 60% of the sample were

Table 1: Internal consistency reliability statistics (Cronbach's alpha) for measurement scales

Scale	Sample	Number of items	Cronbach's alpha	Interpretation
Formally embedded ethical mechanisms at HEI	Student	6	.736	Good
	Employee	7	.722	Good
Current ethics-related environment at HEI	Student	17	.738	Good
	Employee	18	.928	Excellent
The importance of ethics to the respondent	Student	1	n/a	n/a
	Employee	1	n/a	n/a

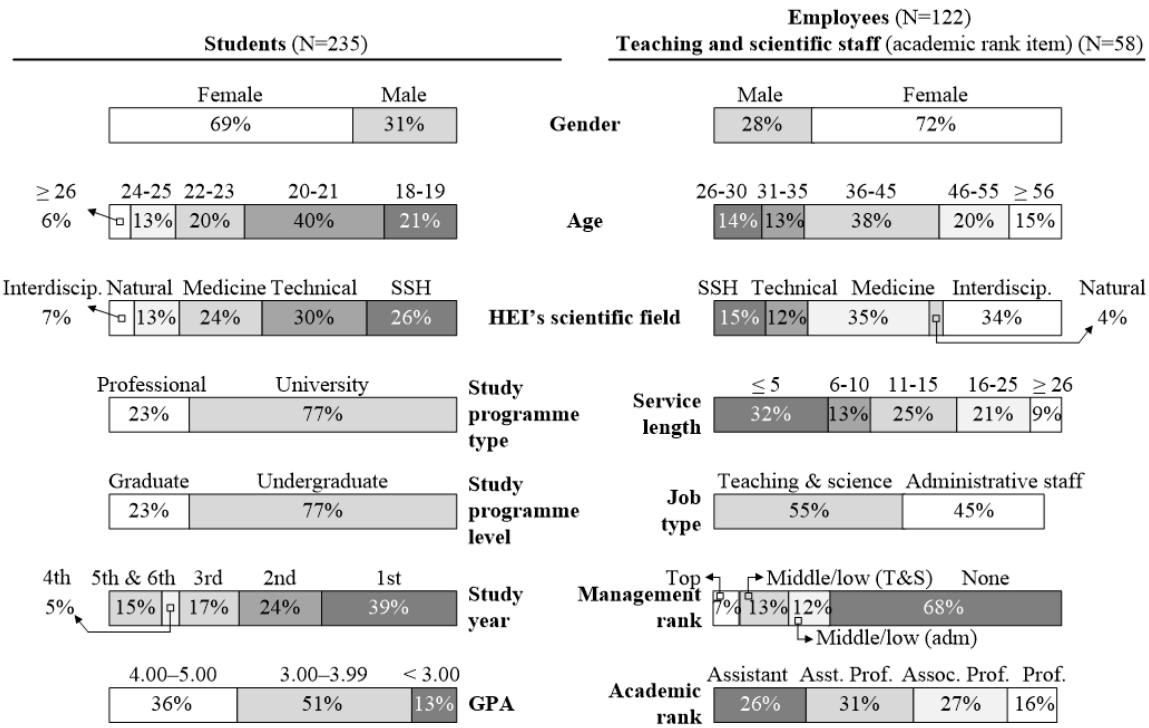

Figure 1: Characteristics of research samples

Note. SSH stands for Social Sciences and Humanities, while Middle/low (T&S) refers to middle and low management positions in teaching and science jobs.

middle-aged employees aged between 36 and 55 (58%), while the length of service was relatively balanced, with a slightly higher proportion of new employees having up to 5 years of service (32%). Employees from HEIs specialising in medicine and biotechnology, and interdisciplinary sciences were the most represented in the sample (35% and 34%, respectively), which differs slightly from the student sample, where students studying at HEIs specialising in social sciences and humanities and technical sciences were most represented (26% and 30%, respectively). The research sample was relatively balanced in terms of job type, with 55% of employees working in teaching and research, and the remaining 45% in administration. As expected, a smaller proportion of all employees in the sample held management positions (32%). The structure of teaching and research jobs by academic rank was relatively balanced, with each academic rank represented between 16% and 31%.

4 Results

4.1 Descriptive statistics

The descriptive statistics provided interesting and somewhat concerning insights (Table 2). At the HEIs surveyed, the promotion and implementation of ethical rules, norms, behaviour, and culture are at a moderate level, and respondents are moderately aware of the ethical activities, norms, and culture of their HEI. Compared to students, staff are more aware ($p = .003$) and perceive the HEI's commitment to promoting ethical rules, norms, behaviour, and culture as greater ($p = .011$). As expected, compared to students, employees are significantly more familiar with the existence of a Code of Ethics, stand-alone courses, ethics-related topics in syllabuses, and formal units and dedicated individuals involved in the implementation of ethics at their HEI ($p \leq .001$). According to employees, a Code of Ethics is predominantly present at HEIs, while stand-alone courses, ethics-related topics in curricula, and formal positions concerned with the implementation of ethics are only moderately present. In addition, the students mentioned were moderately exposed to ethics and ethical dilemmas in lecture and exercise topics. Extracurricular content focusing on ethics is a problematic area according to both students and employees, with students being significantly more critical of this content than employees ($p < .001$).

Table 2: Descriptive statistics of the academic context and students' and employees' ethical behaviour (both samples)

	Total sample			Students			Employees			*p*
Items	N	Mean	SD	N	Mean	SD	N	Mean	SD	
HEI's commitment to promoting ethics (EB and ethical culture) **(S1/E1)**	347	3.11	1.14	235	3.00	1.12	112	3.32	1.18	.011
Code of Ethics **(S2/E4)**	347	3.96	1.20	235	3.74	.46	112	4.36	1.01	.000
Stand-alone courses focused on ethics **(S3/E11)**	293	2.60	1.49	235	2.43	1.46	58	3.28	1.39	.000
Ethics-related topics in the syllabuses **(S4/E12)**	292	2.70	1.52	235	2.55	1.47	57	3.32	1.56	.001
Extracurricular content focused on ethics **(S5/E14)**	347	1.96	1.18	235	1.79	1.06	112	2.31	1.15	.000
Formal positions concerned with the implementation of ethics **(S6/E5)**	347	3.07	1.13	235	2.80	1.04	112	3.66	1.10	.000
Witnessing UB of students **(avg.S7&S8/E15)**	347	2.54	1.00	235	2.47	.93	112	2.67	1.12	.074
Sanctioning students' UB by HEI **(avg.S9&S10/E16)**	347	2.65	1.24	235	2.63	1.20	112	2.69	1.31	.802
Witnessing UB of HEI's employees **(avg.S11&S12/E18)**	347	1.95	1.07	235	1.79	.92	112	2.26	1.28	.006
Sanctioning employees' UB by HEI **(S13/E19)**	347	2.48	1.38	235	2.51	1.37	112	2.43	1.41	.576
HEI management's commitment to the implementation of ethics **(S14/E3)**	347	3.31	1.13	235	3.26	1.09	112	3.43	1.22	.105
Respondents' awareness of HEI's ethical infrastructure **(S15/E25)**	347	3.30	1.19	235	3.16	1.24	112	3.58	1.01	.003
Faculty's contribution to the ethics development in students during classes **(S16/E13)**	294	3.48	1.11	235	3.43	1.12	59	3.71	1.04	.067
Faculty's implementation of ethical standards in relations with students **(S18/E21)**	292	3.67	1.02	235	3.61	1.03	57	3.93	.98	.024
Faculty's EB in general **(S19/E24)**	347	3.87	1.02	235	3.85	1.02	112	3.90	1.02	.631
Students' EB in general (in accordance with ethical norms and rules) **(S23/E17)**	347	3.45	.99	235	3.36	1.05	112	3.64	.80	.015
The importance of ethics to the respondent **(S24/E26)**	347	3.95	.98	235	3.62	.96	112	4.65	.58	.000
Witnessing study-related students' UB **(S7)**				235	3.24	1.38				
Witnessing other UB of fellow students **(S8)**				235	1.71	1.03				
Sanctioning study-related students' UB by HEI **(S9)**				235	2.63	1.44				
Sanctioning students' other UBs by HEI **(S10)**				235	2.64	1.38				
Witnessing UB of HEI's faculty **(S11)**				235	1.91	1.09				
Witnessing UB of HEI's administrative staff **(S12)**				235	1.68	1.01				
Faculty's tendency to include ethics and ethical dilemmas in lecture/exercise topics **(S17)**				235	3.14	1.23				
Students' cheating on examinations during their studies so far **(S20)**				235	2.03	1.07				
Students' cheating on elective and extracurricular courses **(S21)**				235	2.85	1.42				
Students' tendency to report cheating by fellow students **(S22)**				235	1.46	.88				
Embeddedness of ethics and ethical values into the HEI's strategic documents **(E2)**							112	3.79	1.09	
HEI management's tolerance of UB **(E6)**							112	3.55	1.31	
Favouritism of individuals by the HEI management **(E7)**							112	2.94	1.33	
Rewarding employees with desirable EB **(E8)**							112	2.88	1.29	
Necessity of compromising one's own ethical values and principles to be successful at the HEI **(E9)**							112	2.19	1.23	
HEI management is a synonym for high ethical standards and behaviour **(E10)**							112	3.41	1.27	
HEI's strictness in sanctioning employees' UB **(E20)**							112	3.34	1.18	
Faculty's reactions when they catch students engaging in UB **(E22)**							58	3.17	1.33	
Faculty's adherence to ethical standards in conducting scientific research and publishing **(E23)**							58	4.05	1.00	

Note. The independent samples Mann-Whitney U test was used to test differences between the two samples. *p* denotes the level of marginal significance.

Employees perceive UB as having a low to moderate presence among students and a low presence among employees, while students perceive UB as having a low to moderate presence among students and a fairly low presence among employees. Students perceive study-related UB as far more present among students compared to other UB, that is, at a moderate versus quite low level. Similarly, students perceive UB, albeit at a fairly low level, as slightly more present among faculty than among administrative staff. The perceptions of UB by students and employees differ between the two groups of respondents ($p = .074$, $p = .006$), although both groups perceive the frequency of sanctioning UB among both students and employees as low ($p = .802$, $p = .576$). It is interesting to note that both groups of respondents generally perceive faculty EB as high ($p = .631$), while employees perceive students' behaviour as more in line with proclaimed ethical rules and norms – at a moderate to high level – compared to students' perception of their own behaviour, which they rate as low to moderate ($p = .015$). According to employees, the faculty's contribution to the development of ethics among students during classes and the implementation of ethical standards and norms in relation to students are high, while students rate this contribution and implementation somewhat lower, at a moderate to high level ($p = .067$, $p = .024$). The importance of ethics for the respondent is significantly higher for employees, who perceive ethics as very important, compared to students, who consider ethics only moderately important ($p < .001$). The results regarding students' tendency to cheat on examinations and their tendency to report cheating by other students are concerning. Students stated that they have rarely cheated on examinations during their studies, have cheated occasionally in elective and extracurricular courses, and have little or no tendency to report cheating by fellow students.

Similar to the ten questions directed only at students, nine questions were also directed solely at employees, as they address aspects of the academic context on which students cannot provide informed opinions. According to employees, the ethical values of HEIs are embedded in their vision, mission, and strategy at a high level, while the behaviour of HEI management regarding the implementation of ethical norms and standards is at a low to moderate level. Specifically, HEI management is not clearly associated with high ethical standards and behaviours, their stance of zero tolerance towards UB is not clear, and they are not strict in sanctioning UB among HEI employees. Additionally, there is a certain degree of favouritism towards individuals by HEI management and only modest recognition of exemplary EB by Individuals. Thus, employees feel to some extent that they need to compromise their ethical values and principles to be successful at their HEI. Finally, faculty adherence to ethical standards in conducting scientific research and publishing is at a high level, while their responses when confronted with UB by students (e.g., cheating in examinations) still leave significant room for improvement.

4.2 The relationship between academic context and the ethical behaviour of employees and students

4.2.1 Exploratory factor analyses

To identify latent factors within a given set of items related to perceived academic context, we conducted two exploratory factor analyses, one for the student sample and one for the employee sample, both using principal component analysis and varimax rotation (Tables 3 and 4). Given the number of items and respondents in each sample (student sample: 19 items, 235 respondents; employee sample: 12 items, 112 respondents), a minimum factor loading criterion of .35 was established (Hair et al., 2019a).

The exploratory factor analyses were valid and reliable according to various rules of thumb, such as having 10 subjects per variable and an absolute sample size above 100. For both exploratory factor analyses, the results indicate a good appropriateness of the data for factor analysis ($MSA > .60$) and that the chosen data reduction technique can meaningfully compress the data ($p < .05$) (Field, 2024). For the student sample, the factor solution yielded five factors from the scale, accounting for 61.95% of the variance in the data. For the employee sample, the factor solution yielded three factors from the scale, accounting for 62.89% of the variance in the data. The communalities in both factor models showed that all items contributed significantly to measuring the underlying factors, with $R2 > .40$ and average communalities of .70 (MacCallum et al., 1999, 2001), while all factor loadings were above the cut-off value of .40 ($S7 = .395$) (Stevens, 2012).

We named each specific factor according to the nature of the items loaded (e.g. Individual-level ethics, Formal ethical framework, Ethics implementation in practice, etc.). Estimates of the reliability of the yielded subscales (factors) indicate that all have acceptable to excellent reliability (and internal consistency), as all Cronbach's alpha values were in the .60–.90 range (Gliem & Gliem, 2003; Hair et al., 2019b), especially when considering that lower Cronbach's alpha values (around .50) can be expected for scales with a small number of items (< 10) (Pallant, 2020). Due to the assumption of multiple-item correlation, estimates of internal consistency reliability do not apply to the Factor 2 and Factor 3 subscales in the factor solution for the employee sample (Hair et al., 2019b), as these subscales contain two or fewer items.

Table 3: Results of the exploratory factor analysis for the academic context (student sample)

Extraction method	**Rotation method**	**KMO coefficient**	**Significance of Bartlett's test**			
Principal Component Analysis	Varimax	.785	.000			
Item		Factor loading				
1		1	2	3	4	5
Factor 1: *Individual-level ethics*						
S16		**.69**				
S17		**.57**	.55			
S18		**.71**				.35
S19		**.71**				
S24		**.69**				
Factor 2: *Ethics-related content (extracurricular/curricular)*						
S3			**.89**			
S4			**.89**			
S5			**.48**			
Factor 3: *Sanctioning UB*						
S9				**.73**		
S10				**.82**		
S13				**.77**		
Factor 4: *Witnessing UB*						
S7					**.40**	
S8					**.77**	
S11					**.81**	
S12					**.77**	
Factor 5: *Formal ethical framework*						
S1						**.75**
S2						**.63**
S6			.42			**.52**
S14		.36				**.64**
N=235	**Eigenvalues**	4.698	2.639	1.903	1.384	1.146
	% of Variance	24.726	13.889	10.017	7.282	6.032
	% of Cumulative	24.726	38.616	48.632	55.914	61.946
	Cronbach alpha	.774	.751	.750	.637	.683

Note. Factor loadings above .35 are shown in the table, with the highest factor loadings shown in bold.

Table 4: Results of the exploratory factor analysis for the academic context (employee sample)

Extraction method	Rotation method	KMO coefficient	Significance of Bartlett's test	
Principal Component Analysis	Varimax	.871	.000	
		Factor loadings		
Item		1	2	3
Factor 1: *Ethics implementation in practice*				
E1		**.62**	.50	
E2		**.69**	.43	
E3		**.80**		
E6		**.76**		
E9		**.45**		
E10		**.82**		
E18		**.70**		
E19		**.63**		
E20		**.81**		
Factor 2: *Ethics-related regulations and implementation mechanisms*				
E4			**.83**	
E5			**.71**	
Factor 3: *Personal attitude on ethics*				
E26				**.96**
N=112	**Eigenvalues**	5.279	1.225	1.043
	% of Variance	43.995	10.206	8.693
	% of Cumulative	43.995	54.201	62.894
	Cronbach alpha	.891	n/a	n/a

Note. Factor loadings above .35 are shown in the table, with the highest factor loadings shown in bold.

4.2.2 Multiple regression analyses

To identify key predictors from the HEI's academic context that play a role in shaping students' and faculty's EB, and to examine the nature of identified relationships, we conducted multiple linear regression analyses, testing the relationships between the yielded academic context-related factors and specific aspects of students' and employees' EB. To ensure more valid results, we included five control variables in every regression model. For the student sample, the control variables were the student's gender, age, type and level of study programme, and GPA. For the employee sample, the control variables were the employee's gender, age, length of service, job type, and managerial rank.

For the student sample, we tested five multiple regression models, each with a specific aspect of the student's EB as the response variable, and yielded academic context-related factors and control variables as predictors. Two multiple regression models were statistically significant (Table 5). The first significant regression model ($R2 = .359$, $F(10, 224) = 12.533$, $p < .001$), explaining 36% of the variance in the response variable, revealed that four of the five academic context-related factors significantly predict students' awareness of the HEI's ethical infrastructure. Specifically, individual-level ethics, ethics-related content (extracurricular/curricular), witnessing UB, and formal ethical framework significantly predict students' awareness of the HEI's ethical infrastructure, whereas sanctioning UB and the five control variables do not. Similarly, the second significant regression model ($R2 = .291$, $F(10, 224) = 9.210$, $p < .001$), which explained 29% of the variance in the response variable, found that four of the five academic context-related factors significantly predict students' EB in

general. Individual-level ethics, sanctioning UB, witnessing UB, and a formal ethical framework significantly predict students' EB in general, whereas ethics-related content (extracurricular/curricular) and three control variables do not. Notably, the level of the study programme the student was attending and the student's GPA also significantly predict the student's EB in general.

When considering the scientific fields to which the students' study programmes belong, natural sciences students were found to be less susceptible to the effects of academic context compared to students in other fields, both in terms of their EB in general and their awareness of the HEI's ethical infrastructure (Appendix 2). Neither of the two regression models for the natural sciences subsample was statistically significant (R2 = .440, F(10,19) = 1.490, p = .218; R2 = .364, F(10,19) = 1.090, p = .416). In contrast, all six multiple regression models focusing on the other three scientific field-related subsamples were statistically significant, explaining 26% to 50% of the variance in the response variables. In this regard, medicine and biotechnology sciences students are the most susceptible to the effects of academic context, with regression models explaining 47% and 50% of the variance in the response variables. Specifically, these students' awareness of the HEI's ethical infrastructure depends (R2 = .473, F(10,46) = 4.128, p < .001) on ethics-related content (extracurricular/curricular) and the formal ethical framework, whereas students' EB in general depends (R2 = .504, F(10,59) = 4.676, p < .001) on ethics at the individual level, the experience of UB, and the formal ethical framework.

For the employee sample, three multiple regression models were tested, and all were found to be statistically significant (Table 6). In each regression model, one aspect of employees' and students' EB was treated as the response variable, while the three academic context-related factors (employee sample) and control variables were used as predictors. The first regression model (R2 = .352, F(8, 103) = 6.999, p < .001), which explained 35% of the variance in the response variable, revealed that ethics implementation in practice and ethics-related rules and implementation mechanisms significantly predict employees' awareness of the HEI's ethical infrastructure. The second regression model (R2 = .494, F(8, 103) = 12.568, p < .001), which explained 49% of the variance in the response variable, found that all three yielded academic context-related factors significantly predict faculty's EB in general. The third regression model (R2 = .302, F(8, 103) = 5.558, p < .001), which explained 30% of the variance in the response variable, found that ethics implementation in practice and personal attitudes towards ethics significantly predict students' EB in general. Finally, the regression analyses in relation to five scientific fields, previously conducted for the student sample, could not be applied to the employee sample due to the small sample size of 112 respondents.

Table 5: Multiple linear regression analysis predicting students' awareness of the higher education institution's ethical infrastructure and students' ethical behaviour in general (student sample)

Variable/ Factor	S15					S23				
			95% CI					95% CI		
	Est.	*SE*	*LL*	*UL*	*p*	Est.	*SE*	*LL*	*UL*	*p*
Gender	-.03	.15	-.33	.27	.835	-.02	.14	-.28	.25	.913
Age	.06	.07	-.08	.19	.419	.04	.06	-.08	.17	.476
SP type	.28	.17	-.05	.61	.100	-.22	.15	-.52	.07	.140
SP level	-.29	.20	-.68	.10	.144	-.29	.18	-.64	.06	.099
GPA	-.04	.06	-.16	.07	.444	-.11	.05	-.21	-.01	.028
S-F1	.14	.07	.01	.28	.034	.39	.06	.28	.51	.000
S-F2	.16	.07	.01	.30	.032	.09	.07	-.04	.21	.195
S-F3	.10	.07	-.03	.23	.143	.26	.06	.14	.38	.000
S-F4	-.16	.07	-.29	-.02	.021	.15	.06	.04	.27	.011
S-F5	.68	.07	.54	.81	.000	.25	.06	.13	.37	.000
Model	Constant = 3.261, 12.533, $p < .001$, R^2 = .359.				$F(10,224)$ =	Constant = 4.345, 9.210, $p < .001$, R^2 = .291.				$F(10,224)$ =
N=235										

Note. Note. S-F1 to S-F5 represent the five yielded factors in the student sample. SP stands for study programme, Est. for Estimate, SE for Standard error, CI for Confidence interval, LL for Lower limit, and UL for Upper limit.

Table 6: Multiple linear regression analysis predicting faculty's awareness of their own higher education institution's ethical infrastructure, and their own and students' ethical behaviour in general (employee sample)

Variable/ Factor	E25					E24					E17				
			95% CI					95% CI					95% CI		
	Est.	*SE*	*LL*	*UL*	*p*	Est.	*SE*	*LL*	*UL*	*p*	Est.	*SE*	*LL*	*UL*	*p*
Gender	.12	.19	-.26	.50	.536	.05	.17	-.28	.39	.749	.01	.16	-.31	.32	.971
Age	-.01	.09	-.19	.17	.884	.06	.08	-.10	.22	.464	.01	.07	-.14	.15	.923
Service length	.15	.08	-.01	.32	.070	-.08	.07	-.23	.07	.287	.04	.07	-.10	.17	.615
Job type	-.06	.08	-.21	.09	.465	-.15	.07	-.28	-.02	.028	-.02	.06	-.14	.11	.779
Mgmnt rank	-.16	.09	-.34	.03	.095	.06	.08	-.11	.22	.516	-.05	.08	-.21	.10	.502
E-F1	.26	.08	.10	.42	.002	.63	.07	.48	.77	.000	.39	.07	.26	.53	.000
E-F2	.36	.09	.10	.53	.000	.15	.08	.00	.30	.044	.06	.07	-.08	.20	.363
E-F3	.02	.08	-.15	.18	.836	.27	.07	.12	.42	.000	.15	.07	.01	.29	.031
Model N=112	Constant = 3.776, $F(8,103) = 6.999$, $p < .001$, $R^2 = .352$.					Constant = 4.137, $F(8,103) = 12.568$, $p < .001$, $R^2 = .494$.					Constant = 3.756, $F(8,103) = 5.558$, $p < .001$, $R^2 = .302$.				

Note. E-F1 to E-F3 represent the three yielded factors in the employee sample. Est. stands for Estimate, SE for Standard error, CI for Confidence interval, LL for Lower limit, and UL for Upper limit.

5 Discussion

In this study, we examined the current state of the academic context at HEIs in the transitional society of Croatia. The main findings indicate that, apart from the formal embeddedness of ethical values in their vision, mission, and strategy, the existence of a Code of ethics, stand-alone courses, ethical topics in syllabuses, and formal units and dedicated individuals dealing with the implementation of ethics, these HEIs still have significant work to do in developing and implementing an ethical infrastructure and, ultimately, in shaping the desired responses of their employees and students in ethically challenging situations. The exemplary behaviour of HEIs' management and their commitment to implementing declared ethical values and norms is problematic. HEI's management is not clearly associated with high ethical standards and behaviour, does not demonstrate zero tolerance for UB, is not strict in sanctioning UB among HEI's employees, rewards exemplary EB only modestly, and shows a degree of favouritism towards certain individuals. These issues, evident at the organisational level, are also reflected at the individual level. Although faculty's EB (contribution to the development of ethics among students during classes, implementation of ethical standards and norms in relation to students, compliance with ethical standards in scientific work, and EB in general) is reported to be at a high level by both groups of respondents, faculty still display some UB and are relatively passive when confronted with UB by students. The frequency of sanctioning UB among both students and employees is low according to both groups of respondents, highlighting the problem of translating 'words' into 'actions' and achieving congruence on ethics-related values and behaviours at all levels in HEIs. Furthermore, both groups of respondents report that UB among students at HEIs is low to moderate. Students occasionally cheat in examinations, occasionally cheat in extracurricular activities, and very rarely, if ever, report observed cheating by fellow students. These students are only moderately aware of the HEI's commitment to promoting and implementing ethics-related regulations, activities, norms, and culture, as well as the existing ethical infrastructure. Both groups of respondents have similar perceptions of the academic context in HEIs, with students being more critical of their peers' EB and less critical of the EB of HEIs' staff.

The bivariate and multivariate analyses conducted in the study provided valuable insights into the predictors of students' and faculty's EB when it comes to academic context. For example, students enrolled in natural sciences-related programmes are less susceptible to the effects of academic context regarding their EB and their awareness of HEI's ethical infrastructure, compared to students in medicine and biotechnology sciences, who are the most susceptible to these effects. According to students, their

awareness of HEI's ethical activities, norms, and values depends on their personal attitudes towards ethics, the formal ethical framework established by the HEI, and the ethics-related engagement and behaviour of HEI employees, especially faculty members, with whom students interact most frequently. In this regard, HEI's commitment to implementing ethical values, norms, and culture; the existence of a Code of Ethics; the existence of formal units and dedicated individuals responsible for enforcing ethical rules and norms; listening to ethics-related courses and topics; the availability of extracurricular ethics-related content; and faculty members' commitment to and emphasis on ethics during classes; as well as their application of ethical standards in interactions with students, all significantly increase students' awareness of HEI's ethical activities, norms, and values. Conversely, students' awareness of the ethical activities, norms, and values of HEI decreases when they observe UB among their peers and HEI staff. Similarly, staff perceive the availability of ethics-related regulations and mechanisms as a significant predictor of students' awareness of HEI's ethical activities, norms, and values, along with the commitment to and concrete implementation of proclaimed ethical values, norms, and regulations by HEI employees at all levels in cases of ethical violations by their peers. These two predictors, together with personal attitudes towards ethics, are important in shaping faculty members' EB, which, as mentioned earlier, is particularly important for students' awareness of HEI's ethical activities, norms, and values, as well as their own EB.

When it comes to students' EB, in addition to the formal ethical framework and individual-level ethics, the fact that students have witnessed UB by fellow students and HEI employees, as well as HEI's actions in sanctioning those behaviours, is also an influential predictor. According to students, all these predictors positively contribute to their EB. Consistent with these perceptions, HEI employees view students' personal attitudes towards ethics, along and the commitment to and concrete implementation of proclaimed ethical values, norms, and regulations by HEI employees at all levels when addressing ethical violations by their peers, as predictors that positively impact students' EB.

The findings of the study regarding the academic context in HEIs within a transitional society provide empirical support for studies such as Farnese et al. (2011), Park (2017), Hendy & Montagrot (2019), and Cheng et al. (2021), which found that academic dishonesty or UB is common and widespread among students. The results obtained also highlight the importance of an ethical infrastructure for the behaviour of staff and students when faced with ethical dilemmas. In this regard, a clear and strong ethical climate and effectively implemented appropriate ethical strategies and policies have a positive impact on student and employee attitudes towards ethics and their EB (Birtch & Chiang, 2013). The identified problem of effective implementation of ethical infrastructure in HEIs – moving from 'words' to 'actions' – highlighted by the results of this study, aligns with the conclusions emphasised in studies such as Treviño et al. (2014) and MacLeod & Eaton (2020). In this sense, faculty members' personal attitudes towards ethics play an important role in their overall EB, including their behaviour towards students and their treatment of students' UB when confronted with such behaviour (McCabe et al., 2001; Vehviläinen et al., 2018 in Davis, 2023; MacLeod & Eaton, 2020). The findings of the study regarding the predictors of students' EB are consistent with influential research such as McCabe et al. (2001), Simkin & McLeod (2010), Cronan et al. (2018), and Cheng et al. (2021), who found that individual and contextual factors – particularly students' attitudes towards ethics, faculty's and peers' behaviour, and the formal setting of the HEI – have a significant impact on students' EB. A puzzling result is the positive effect of students' exposure to UB (from fellow students and HEI employees) on students' EB, which contradicts the long-held view in the relevant literature (Bandura, 1988; Robie & Kidwell, 2003; Sisti, 2007).

6 Conclusion

This study, conducted on two different samples – students and employees of 12 HEIs in Croatia – has achieved its main objectives. We have gained insights into the current state of the academic context in a typical transitional society, revealing that there is still considerable room for improvement in HEIs regarding the development of ethical infrastructure and the promotion of a culture of academic integrity and ethical values. In this sense, translating 'words' into 'actions' at both organisational and individual levels is a primary goal for HEIs to establish an effective ethical framework and culture, and to be perceived as ethical by their stakeholders.

A fundamental prerequisite for HEI management to ensure the effective translation of words into actions is to have well-written and adopted 'words' and clearly defined and kick-started 'levers and wheels' of a formal ethical framework. Specifically, management at HEIs in transitional societies must first ensure that all formal mechanisms enabling the implementation of an ethical culture and the values of academic integrity – such as the embeddedness of ethics and ethical values into HEI's strategic documents, the existence of a Code of Ethics, the establishment of units or roles dedicated to the effective implementation of the ethical framework, etc. are in place. The designed ethical framework at HEI and the high expectations for employees and students regarding EB must be intensively promoted by the institution and further emphasized by HEI management's uncompromising decisions, actions, and personal conduct. The strict application of the

principle of 'leading by example' by HEI management in implementing the ethical framework and culture – demonstrating to employees and students that HEI management exemplifies high ethical standards and maintains zero tolerance for study- and research-related UB, favouritism, discrimination, and similar misconduct – is a cornerstone of building an ethical culture. Strict and prompt sanctioning of reported UB at HEI, and ensuring that employees and students are well aware of the UB-related sanctioning processes, outcomes, and consequences for offenders, sends a powerful message to potential violators. Conducting regular ethics-related education and training for employees on the importance of ethics in performing their professional duties, particularly in their interactions with students, as well as providing a rich and diverse range of ethics-related content for students, are additional pillars in fostering a culture of academic integrity at HEI. Furthermore, with the 'start of the AI era', the development and effective implementation of AI ethics-focused regulatory frameworks at HEIs has become a pressing challenge for HEI management in transitional societies, essential for building and maintaining a culture and values of academic integrity. Finally, management at HEIs in transitional societies should not be content with merely meeting the expected or legally prescribed minimum standards regarding ethics and academic integrity, but should strive to lead in the implementation of ethical culture and values, especially given the fragile reputation of many HEIs in certain transitional countries.

Supporting the practical implications and recommendations outlined above, the study results have shown that students' EB depends on the existing formal ethical frameworks at HEIs, on the emphasis placed on ethics in teaching by faculty and on their EB, on students witnessing UB by fellow students and HEIs employees, and finally on the measures taken by institutions to sanction these behaviours. As one of the main predictors of students' EB, faculty's EB depends on ethics-related regulations and mechanisms in HEIs, as well as on the commitment to and concrete implementation of proclaimed ethical values, norms, and regulations by HEIs' staff at all levels when ethical violations occur among colleagues. In shaping students' EB, those in medical and biotechnology study programmes are most susceptible to the effects of academic context elements, while students in natural science-related programmes are most resistant to such effects.

The study provides new and valuable insights into our understanding of the problem of academic (dis)honesty and the role that various elements of the academic context play in such behaviour. As this problem persists, even at leading universities, and exhibits 'epidemic' characteristics, the results and insights presented in this study are a welcome contribution to the relevant literature, especially when considering the context of transitional societies. However, this study, like any other, has certain limitations. Notably, the relatively small size of the two samples is a significant limitation. Conducting research with larger samples and at a greater number of HEIs would yield more valid results. The study was cross-sectional and included respondents from study programmes in different scientific fields, with independent and dependent variables tested at the same time, making it difficult to identify causality. Adopting a longitudinal research method instead of a cross-sectional one, and/or focusing on respondents from study programmes within a single scientific field, would also enhance the validity of the results. Additionally, the same respondents provided answers for both the independent and dependent variables in the research, potentially leading to a common-method bias, while self-assessment of one's own ethics-related behaviour is another potential limitation of this study. These two limitations are partially mitigated by the use of two-source data collection.

The study's limitations suggest several methodology-driven recommendations for future research, such as conducting similar studies with larger samples, focusing on respondents from a single scientific field, adopting a longitudinal research method design for clearer identification of causal implications, or using qualitative approaches to account for respondents providing answers on both independent and dependent variables and self-assessing their own behaviour. Additionally, we recommend conducting comparative studies across institutions, countries, or educational systems to uncover globally relevant approaches to building effective ethical frameworks and cultures at HEIs in transitional societies, while also highlighting locally effective practices tailored to specific cultural and institutional needs (Usher et al., 2025). Furthermore, studies examining moderating and/or mediating variables in the relationship between an HEI's ethical framework and culture and students' and/or faculty's EB, arising from individual variables (demographic factors, individual differences, attitudes, etc.) and national-level variables (national culture, study level, etc.) (Cheng et al., 2021), or studies further exploring the interdynamics between faculty and students' EB, would be welcomed in the relevant literature. Finally, as this study was conducted as one of the last just before the widespread use of AI in higher education, repeating this or a similar study in the AI era – by examining the same HEIs or similar samples of respondents and within the same or a similar national context – to assess how HEIs' ethics-related practices have changed, especially in response to the AI era and rapidly evolving technology behind it, would be a valuable contribution to the relevant literature (Dabis & Csáki, 2024).

References

Aguinis, H., Werner, S., Lanza Abbott, J., Angert, C., Park, J. H., & Kohlhausen, D. (2010). Customer-centric science: Reporting significant research results with rigor,

relevance, and practical impact in mind. *Organizational Research Methods*, *13*(3), 515–539. https://doi.org/10.1177/1094428109333339

Ballantine, J. A., Guo, X., & Larres, P. (2018). Can future managers and business executives be influenced to behave more ethically in the workplace? The impact of approaches to learning on business students' cheating behavior. *Journal of Business Ethics*, *149*, 245–258. https://doi.org/10.1007/s10551-016-3039-4

Bandura, A. (1988). Organisational applications of social cognitive theory. *Australian Journal of Management*, *13*(2), 275–302. https://doi.org/10.1177/031289628801300210

Birtch, T. A., & Chiang, F. F. (2014). The influence of business school's ethical climate on students' unethical behavior. *Journal of Business Ethics*, *123*, 283–294. https://doi.org/10.1007/s10551-013-1795-y

Cheng, Y. C., Hung, F. C., & Hsu, H. M. (2021). The relationship between academic dishonesty, ethical attitude and ethical climate: The evidence from Taiwan. *Sustainability*, *13*(21), 11615. https://doi.org/10.3390/su132111615

Chowdhury, M. (2016). Emphasizing morals, values, ethics, and character education in science education and science teaching. *MOJES: Malaysian Online Journal of Educational Sciences*, *4*(2), 1–16.

Credo, K., Ianuzzi, A., & Armenakis, A. (2010). Organizational ethics perceptions: A qualitative and quantitative assessment. In *Meeting of the Southern Management Association.* St. Pete, FL.

Cronan, T. P., Mullins, J. K., & Douglas, D. E. (2018). Further understanding factors that explain freshman business students' academic integrity intention and behavior: Plagiarism and sharing homework. *Journal of Business Ethics*, *147*, 197–220. https://doi.org/10.1007/s10551-015-2988-3

Dabis, A., & Csáki, C. (2024). AI and ethics: Investigating the first policy responses of higher education institutions to the challenge of generative AI. *Humanities and Social Sciences Communications*, *11*(1), 1-13. https://doi.org/10.1057/s41599-024-03526-z

Davis, A. (2023). Academic integrity in the time of contradictions. *Cogent Education*, *10*(2), 2289307. https://doi.org/10.1080/2331186X.2023.2289307

Deshpande, S. P., Joseph, J., & Berry, K. (2012). Ethical misconduct of business students: Some new evidence. *American Journal of Business Education (AJBE), 5*(6), 719–726.

Elango, B., Paul, K., Kundu, S. K., & Paudel, S. K. (2010). Organizational ethics, individual ethics, and ethical intentions in international decision-making. *Journal of Business Ethics, 97*(4), 543–561. https://doi.org/10.1007/s10551-010-0524-z

Elliott, T. L., Marquis, L. M., & Neal, C. S. (2013). Business ethics perspectives: Faculty plagiarism and fraud. *Journal of Business Ethics, 112*(1), 91–99. https://doi.org/10.1007/s10551-012-1234-5

Farnese, M. L., Tramontano, C., Fida, R., & Paciello, M. (2011). Cheating behaviors in academic context: Does academic moral disengagement matter? *Procedia-Social and Behavioral Sciences, 29,* 356–365. https://doi.org/10.1016/j.sbspro.2011.11.250

Field, A. (2024). *Discovering statistics using IBM SPSS statistics* (6th ed.). London, United Kingdom: Sage Publications Ltd.

Gliem, J. A., & Gliem, R. R. (2003). Calculating, interpreting, and reporting Cronbach's alpha reliability coefficient for Likert-type scales. *Midwest Research-to-Practice Conference in Adult, Continuing, and Community Education.*

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate Data Analysis* (8th ed.). Hampshire, United Kingdom: Cengage Learning.

Hair, J. F., Page, M., & Brunsveld, N. (2019). *Essentials of business research methods* (4th ed.). New York, USA: Routledge. https://doi.org/10.4324/9780429203374

Hendy, N. T., & Montargot, N. (2019). Understanding academic dishonesty among business school students in France using the theory of planned behavior. *The International Journal of Management Education*, *17*(1), 85–93. https://doi.org/10.1016/j.ijme.2018.12.003

Hendy, N. T., Montargot, N., & Papadimitriou, A. (2021). Cultural differences in academic dishonesty: A social learning perspective. *Journal of Academic Ethics*, *19*(1), 49–70. https://doi.org/10.1007/s10805-021-09391-8

Heyneman, S. (2011). The corruption of ethics in higher education. *International Higher Education, 62*. https://doi.org/10.6017/ihe.2011.62.8530

Kuntz, J. R., & Butler, C. (2014). Exploring individual and contextual antecedents of attitudes toward the acceptability of cheating and plagiarism. *Ethics & Behavior*, *24*(6), 478–494. https://doi.org/10.1080/10508422.2014.908380

MacCallum, R. C., Widaman, K. F., Preacher, K. J., & Hong, S. (2001). Sample size in factor analysis: The role of model error. *Multivariate Behavioral Research, 36*(4), 611–637. https://doi.org/10.1207/S15327906MBR3604_06

MacCallum, R. C., Widaman, K. F., Zhang, S., & Hong, S. (1999). Sample size in factor analysis. *Psychological Methods, 4*(1), 84–99. https://psycnet.apa.org/doi/10.1037/1082-989X.4.1.84

MacLeod, P. D., & Eaton, S. E. (2020). The paradox of faculty attitudes toward student violations of academic integrity. *Journal of Academic Ethics*, *18*(4), 347–362. https://doi.org/10.1007/s10805-020-09363-4

McCabe, D. L., Treviño, L. K., & Butterfield, K. D. (2001). Cheating in academic institutions: A decade of research. *Ethics & Behavior*, *11*(3), 219–232.

https://doi.org/10.1207/S15327019EB1103_2

McLeod, M. S., Payne, G. T., & Evert, R. E. (2016). Organizational ethics research: A systematic review of methods and analytical techniques. *Journal of Business Ethics, 134*(3), 429–443. https://doi.org/10.1007/s10551-014-2436-9

Mirshekary, S., & Lawrence, A. D. (2009). Academic and business ethical misconduct and cultural values: A cross national comparison. *Journal of Academic Ethics, 7*(3), 141–157. https://doi.org/10.1007/s10805-009-9093-0

Momete, D. C. (2019). Ethical behaviour as a means to deliver quality outcomes in higher education. *Calitatea, 20*(172), 41-44.

Moore, G. (2006). Managing ethics in higher education: Implementing a code or embedding virtue? *Business Ethics: A European Review*, *15*(4), 407–418. https://doi.org/10.1111/j.1467-8608.2006.00462.x

Ocen, S., Elasu, J., Aarakit, S. M., & Olupot, C. (2025). Artificial intelligence in higher education institutions: review of innovations, opportunities and challenges. *Frontiers in Education, 10,* 1530247. https://doi.org/10.3389/feduc.2025.1530247

Pallant, J. (2020). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS* (7th ed.). London, United Kingdom: Routledge. https://doi.org/10.4324/9781003117452

Park, C. (2017). In other (people's) words: Plagiarism by university students - literature and lessons. *Academic Ethics*, 525–542. https://doi.org/10.4324/9781315263465

Prisacariu, A., & Shah, M. (2016). Defining the quality of higher education around ethics and moral values. *Quality in Higher Education, 22*(2), 152–166. https://doi.org/10.1080/13538322.2016.1201931

Rakovski, C. C., & Levy, E. S. (2007). Academic dishonesty: Perceptions of business students. *College Student Journal*, *41*(2), 466-482.

Robie, C., & Kidwell, R. E. (2003). The "ethical" professor and the undergraduate student: Current perceptions of moral behavior among business school faculty. *Journal of Academic Ethics*, *1*, 153–173. https://doi.org/10.1023/B:JAET.0000006893.06303.41

Rothman, P. (2017). Ethics in Higher Education: A study of the perceived ethical climate of administrators and faculty at a higher education institution. *Education Doctoral.* Paper 287.

Simkin, M. G., & McLeod, A. (2010). Why do college students cheat? *Journal of Business Ethics*, *94*, 441–453. https://doi.org/10.1007/s10551-009-0275-x

Sisti, D. A. (2007). How do high school students justify internet plagiarism? *Ethics & Behavior*, *17*(3), 215–231. https://doi.org/10.1080/10508420701519163

Stephens, J. M. (2015). Creating cultures of integrity: A multi-level intervention model for promoting academic honesty. *Handbook of Academic Integrity*, 996–1003. https://doi.org/10.1007/978-981-287-079-7_13-1

Stevens, J. P. (2012). *Applied multivariate statistics for the social sciences* (5th ed.). New York, USA: Routledge. https://doi.org/10.4324/9780203843130

Treviño, L. K., Butterfield, K. D., & McCabe, D. L. (1998). The ethical context in organizations: Influences on employee attitudes and behaviors. *Business Ethics Quarterly, 8*(3), 447–476. https://doi.org/10.2307/3857431

Usher, M., Barak, M., & Erduran, S. (2025). What role should higher education institutions play in fostering AI ethics? Insights from science and engineering graduate students. *International Journal of STEM Education*, *12*(1), 51. https://doi.org/10.1186/s40594-025-00567-x

Zopiatis, A. A., & Krambia-Kapardis, M. (2008). Ethical behaviour of tertiary education students in Cyprus. *Journal of Business Ethics*, *81*, 647–663. https://doi.org/10.1007/s10551-007-9538-6.

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Kako akademski kontekst oblikuje etično vedenje študentov: Nova spoznanja iz tranzicijske družbe

Ozadje in namen: Nenehni problem etičnih kršitev med študenti predstavlja temeljno grožnjo delovanju visokošolskih ustanov in se prenaša v njihovo vedenje na prihodnjem delovnem mestu. Namen prispevka je preučiti povezavo med akademskim kontekstom v visokošolskih ustanovah tranzicijske družbe in etičnim vedenjem študentov.
Metode: Izvedena je bila empirična raziskava na vzorcu 235 študentov ter 112 visokošolskih učiteljev in administrativnih delavcev iz 12 visokošolskih ustanov na Hrvaškem. Podatki o etični infrastrukturi visokošolskih ustanov ter etičnem vedenju študentov in zaposlenih so bili zbrani pri obeh skupinah. Za analizo smo uporabili deskriptivno statistiko za vpogled v značilnosti akademskega konteksta in vedenja ter večkratne regresijske analize za preučitev povezav med kontekstom in etičnim vedenjem.
Rezultati: Percepcije študentov in zaposlenih se razlikujejo glede številnih vidikov akademskega konteksta. Ključni dejavniki, ki vplivajo na etično vedenje študentov, so formalni etični okvir, individualna raven etike ter zaznavanje in sankcioniranje neetičnega vedenja. Študenti naravoslovnih programov so manj dovzetni za vpliv akademskega konteksta kot študenti drugih znanstvenih področij.
Zaključek: Trenutno stanje akademskega konteksta v visokošolskih ustanovah tranzicijske družbe kaže na veliko možnosti za izboljšave pri razvoju etične infrastrukture in spodbujanju kulture akademske integritete ter etičnih vrednot. Ključni izziv je prenos deklarativnih načel v dejansko prakso na organizacijski in individualni ravni, da bi ustanove vzpostavile učinkovit etični okvir in kulturo ter bile prepoznane kot etične med deležniki.

Ključne besede: *Akademska nepoštenost, Organizacijska etika, Visokošolske ustanove, Študenti, Visokošolski učitelji, Hrvaška*

Appendix 1: Organisational ethics at higher education institutions – questionnaires used in the research

	Student questionnaire on organisational ethics at HEI – Full item list
S1	Rate your HEI's commitment to promoting ethical regulations and norms and to creating an ethical culture (e.g., announcements on the official website, promotional events, promotional lectures, etc.).
S2	Does your HEI has adopted Code of ethics?
S3	In your study programme, did you listen until now, or will you listen in the upcoming semesters a stand-alone course focusing on ethics or business ethics?
S4	Until now, did your professors covered ethics-related topics in their lectures, exercises, or case studies, or reflected on the lectured topics from an ethical point of view?
S5	At your HEI, are there opportunities outside the classroom for students to attend ethics-related content and events such as lectures, workshops, seminars, etc.?
S6	At your HEI, are there established formal bodies (e.g. centres, offices, committees, commissions, student commissioners) responsible for implementing ethical regulations, decisions, and norms?
S7	Until now, did you witnessed unethical behaviour by your fellow students, such as cheating on exams, cheating on assignments, plagiarism, free-riding on group assignments, etc.
S8	Until now, did you witnessed any other non-study-related unethical behaviour by your fellow students, such as discrimination, belittling, harassment, sexual harassment, etc.?
S9	To your knowledge, were the just mentioned study-related unethical behaviours of your fellow students (such as cheating on exams, plagiarism, etc.) reported and sanctioned by the competent bodies of the HEI in an appropriate manner?
S10	To your knowledge, were the just mentioned other, non-study-related unethical behaviours of your fellow students (such as discrimination, harassment, etc.) reported and sanctioned by the competent bodies of the HEI in an appropriate manner?
S11	Until now, did you witnessed unethical behaviour by your professors (including assistants, lecturers, etc.), such as discrimination, belittling, harassment, sexual harassment, or similar actions?
S12	Until now, did you witnessed unethical behaviour by the administrative or support staff at your HEI (Office of the Registrar, Library, etc.), such as discrimination, belittling, harassment, sexual harassment, or similar conduct?
S13	To your knowledge, were the aforementioned unethical behaviours of HEI employees (professors and/or administrative staff) reported and sanctioned by the competent bodies of the HEI in an appropriate manner?
S14	Rate your HEI management's commitment to implementing ethical regulations and norms, and to creating an ethical culture.
S15	Rate your familiarity with the key elements of the ethical system, actions, and ethical culture of your HEI.
S16	Rate your faculty's contributions during classes to raising awareness of and developing ethical values in students.
S17	Rate your faculty's tendency to include ethics and ethical dilemmas in lecture or exercise topics.
S18	Rate your faculty's adherence to ethical regulations and standards in their relations with students (e.g. communication, evaluation of intended learning outcomes, etc.).
S19	Rate your faculty's overall ethical behaviour and adherence to ethical regulations and standards.
S20	How frequently have you cheated on examinations during your studies so far?
S21	How frequently have you cheated in elective and extracurricular courses so far in your studies?
S22	How likely are you to report cheating by other students in examinations to the competent bodies of your HEI?
S23	Rate your fellow students' overall ethical behaviour, that is, their adherence to ethical regulations and standards.
S24	How important are ethics, ethical values, norms, and rules to you personally?

	Employee questionnaire on organisational ethics at HEI – Full item list
E1	Rate your HEI's commitment to promoting ethical regulations and norms and to creating an ethical culture (e.g., announcements on the official website, promotional events, promotional lectures, etc.).
E2	Assess the extent to which ethics and ethical values are integrated into your HEI's strategic documents (such as vision, mission, strategy, policies, etc.).
E3	Rate your HEI management's commitment to implementing ethical regulations and norms, and to creating an ethical culture.
E4	Does your HEI has adopted Code of ethics?
E5	At your HEI, are there established formal bodies (e.g. centres, offices, committees, commissions, student commissioners) responsible for implementing ethical regulations, decisions, and norms?
E6	Rate your HEI management's tolerance of unethical behaviour.
E7	Does management at your HEI favour certain individuals?
E8	Does management at your HEI reward individuals who demonstrate integrity, honour, and other desirable ethical traits in their behaviour and work?
E9	Is it necessary to compromise your own ethical values and principles in order to succeed at your HEI?
E10	Would you rate your HEI management as a synonym for high ethical standards and behaviour?
E11	Do your HEI's study programmes include courses focusing on ethics or business ethics?
E12	To your knowledge, do the professors at your HEI cover ethics-related topics in their lectures, exercises, or case studies, or reflect on the lectured topics from an ethical point of view?
E13	Based on your knowledge, rate your HEI faculty's contributions during classes to raising awareness of and developing ethical values in students.
E14	At your HEI, are there opportunities outside the classroom for students to attend ethics-related content and events such as lectures, workshops, seminars, etc.?
E15	In your everyday work, did you witnessed unethical behaviour by HEI students, such as cheating on exams, cheating on assignments, plagiarism, free-riding on group assignments, discrimination, belittling, harassment, sexual harassment, etc.?
E16	To your knowledge, were the aforementioned unethical behaviours of HEI students (such as cheating in exams, plagiarism, discrimination, belittling, harassment, etc.) reported and sanctioned by the competent bodies of the HEI in an appropriate manner?
E17	Rate HEI students' overall ethical behaviour, that is, their adherence to ethical regulations and standards.
E18	In your everyday work, did you witnessed unethical behaviour by HEI employees (professors, administrative and support staff), such as discrimination, belittling, harassment, sexual harassment, questionable practices in the evaluation of intended learning outcomes, questionable communication with students, etc.?
E19	To your knowledge, were the aforementioned unethical behaviours of HEI employees (such as discrimination, belittling, harassment, sexual harassment, questionable practices in the evaluation of intended learning outcomes, questionable communication with students, etc.) reported and sanctioned by the competent bodies of the HEI in an appropriate manner?
E20	Rate the strictness with which the HEI sanctions the unethical behaviour of employees.
E21	Based on your knowledge, rate your HEI faculty's adherence to ethical regulations and standards in their relations with students (e.g. communication, evaluation of intended learning outcomes, etc.).
E22	Based on your knowledge, how do HEI faculty react when they catch students engaging in unethical behaviour?
E23	Based on your knowledge, rate your HEI faculty's adherence to ethical regulations and standards in conducting scientific research and publishing.
E24	Based on your knowledge, rate your faculty's overall ethical behaviour and adherence to ethical regulations and standards.
E25	Rate your familiarity with the key elements of the ethical system, actions, and ethical culture of your HEI.
E26	How important are ethics, ethical values, norms, and rules to you personally?

Appendix 2: Multiple linear regression analyses predicting students' awareness of the higher education institution's ethical infrastructure (student sub-samples)

Variable/ Factor	Social sciences and humanities (N = 61)						Technical sciences (N = 70)						Natural sciences (N = 30)						Medicine and biotechnology sciences (N = 57)					
	S15						S15						S15						S15					
			95% CI						95% CI						95% CI						95% CI			
	Est.	*SE*	*LL*	*UL*	*p*		Est.	*SE*	*LL*	*UL*	*p*		Est.	*SE*	*LL*	*UL*	*p*		Est.	*SE*	*LL*	*UL*	*p*	
Gender	-.38	.40	-1.17	.42	.349		-.08	.21	-.51	.35	.701		-.02	.14	-.28	.25	.913		1.00	.54	-.08	2.08	.069	
Age	.23	.14	-.05	.52	.106		.15	.16	-.17	.46	.359		.04	.06	-.08	.17	.476		.01	.13	-.26	.29	.916	
SP type	-.24	.32	-.87	.40	.452		.61	.35	-.09	1.30	.086		-.22	.15	-.52	.07	.140		.28	.63	-.99	1.54	.659	
SP level	-.68	.42	-1.52	.16	.112		-.35	.40	-1.15	.45	.379		-.29	.18	-.64	.06	.099		-.08	.40	-.88	.72	.835	
GPA	-.04	.11	-.27	.19	.744		-.07	.09	-.26	.12	.457		-.11	.05	-.21	-.01	.028		-.07	.14	-.36	.22	.613	
S-F1	.29	.14	.02	.56	.038		.14	.11	-.08	.37	.203		.39	.06	.28	.51	.000		.14	.14	-.14	.43	.319	
S-F2	.30	.19	-.09	.69	.126		.14	.24	-.35	.62	.578		.09	.07	-.04	.21	.195		.35	.20	-.06	.76	.093	
S-F3	.06	.15	-.24	.36	.677		.10	.12	-.14	.34	.406		.26	.06	.14	.38	.000		.20	.17	-.14	.54	.250	
S-F4	-.02	.13	-.27	.23	.874		-.25	.14	-.53	.02	.071		.15	.06	.04	.27	.011		-.04	.15	-.35	.26	.786	
S-F5	.54	.14	.25	.82	.000		.84	.12	.59	1.08	.000		.25	.06	.13	.37	.000		.85	.16	.53	1.17	.000	
Model	Constant = 4.883, $F(10,50) = 3.300$, $p = .002$, $R^2 = .398$.						Constant = 3.132, $F(10,59) = 5.842$, $p < .001$, $R^2 = .498$.						Constant = 1.788, $F(10,19) = 1.490$, $p = .218$, $R^2 = .440$.						Constant = .988, $F(10,46) = 4.128$, $p < .001$, $R^2 = .473$.					
Variable/ Factor	S23						S23						S23						S23					
			95% CI						95% CI						95% CI						95% CI			
	Est.	*SE*	*LL*	*UL*	*p*		Est.	*SE*	*LL*	*UL*	*p*		Est.	*SE*	*LL*	*UL*	*p*		Est.	*SE*	*LL*	*UL*	*p*	
Gender	-.18	.37	-.91	.56	.633		.14	.26	-.38	.66	.589		.55	.67	-.84	1.95	.416		-.50	.38	-1.27	.27	.199	
Age	.18	.13	-.08	.44	.180		.18	.19	-.20	.57	.338		.02	.27	-.55	.59	.941		-.08	.10	-.27	.11	.408	
SP type	-.07	.29	-.65	.52	.823		-.01	.42	-.85	.83	.974		.07	1.61	-3.31	3.44	.967		-.30	.45	-1.20	.60	.508	
SP level	-.77	.39	-1.54	.01	.053		-.12	.48	-1.09	.84	.799		-.29	.83	-2.03	1.45	.733		.28	.28	-.29	.85	.331	
GPA	-.06	.11	-.27	.15	.575		-.16	.11	-.38	.07	.174		-.11	.22	-.57	.36	.631		-.12	.10	-.33	.08	.233	
S-F1	.46	.13	.21	.71	.001		.38	.14	.10	.65	.008		.07	.25	-.46	.60	.791		.37	.10	.17	.57	.001	
S-F2	.01	.18	-.34	.37	.943		.19	.30	-.40	.78	.527		-.65	.44	-1.57	.27	.156		-.12	.14	-.41	.17	.412	
S-F3	.24	.14	-.04	.51	.092		.34	.15	.05	.63	.023		.26	.23	-.21	.73	.265		.11	.12	-.13	.35	.362	
S-F4	.24	.12	.01	.47	.044		.07	.17	-.27	.40	.684		.33	.24	-.17	.83	.187		.23	.11	.01	.44	.041	
S-F5	.09	.13	-.18	.35	.522		.33	.15	.03	.63	.031		.08	.22	-.37	.53	.709		.38	.11	.15	.60	.002	
Model	Constant = 4.449, $F(10,50) = 2.871$, $p = .007$, $R^2 = .365$.						Constant = 3.568, $F(10,59) = 2.104$, $p = .038$, $R^2 = .263$.						Constant = 2.589, $F(10,19) = 1.090$, $p = .416$, $R^2 = .364$.						Constant = 5.435, $F(10,46) = 4.676$, $p < .001$, $R^2 = .504$.					

Note. S-F1 to S-F5 represent five yielded factors in the student sample. SP stands for the study program, Est. for Estimate, *SE* for Standard error, CI for Confidence interval, *LL* for Lower limit, *UL* for Upper limit.