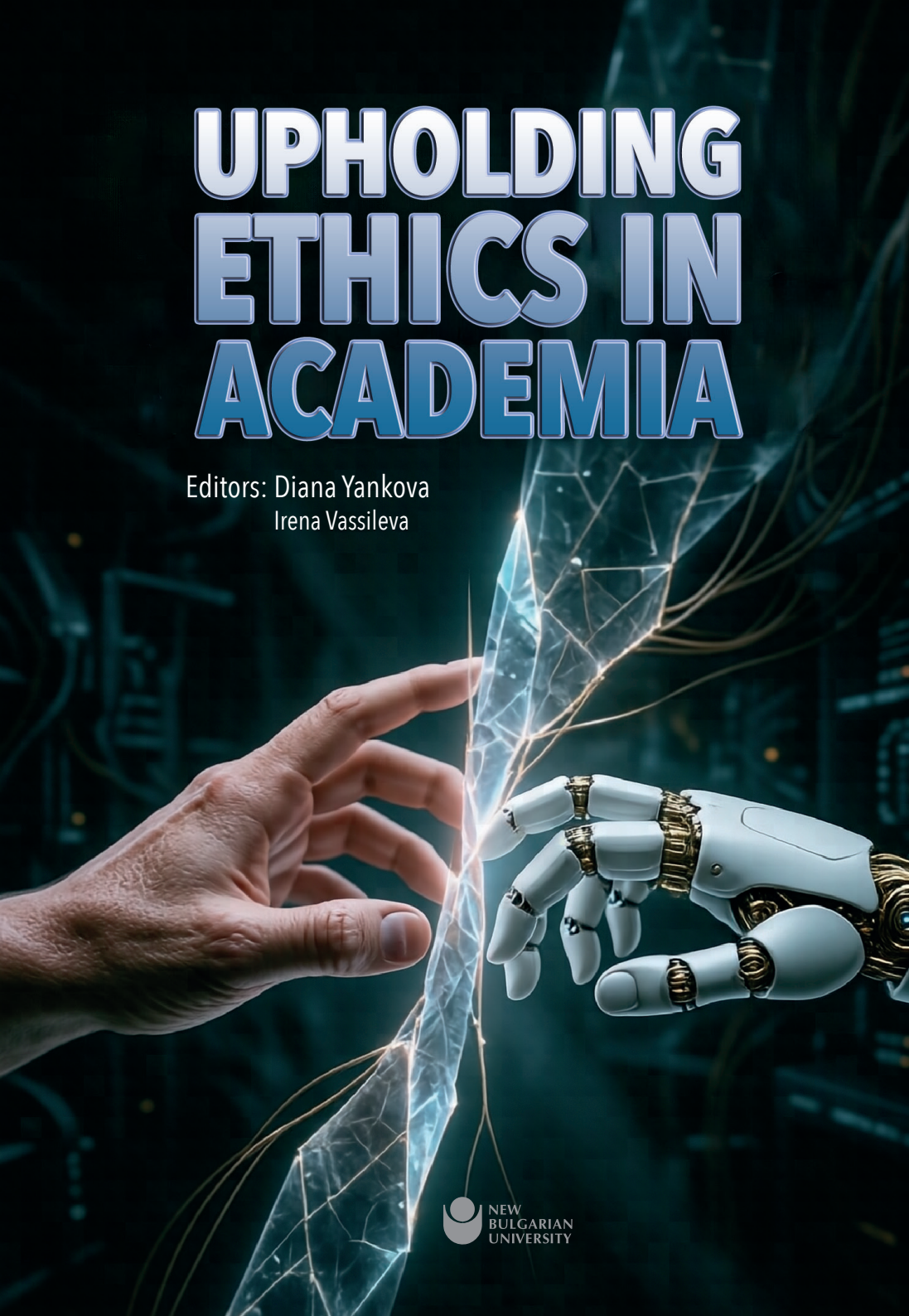
UPHOLDING ETHICS IN ACADEMIA

Editors: Diana Yankova
Irena Vassileva



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Upholding Ethics in Academia

Edited by Diana Yankova and Irena Vassileva
Reviewed by Dafina Kostadinova, Boris Naimushin
Proofread and copyedited by Galina Velichkova

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FOREWORD

Academic integrity is widely recognized as a foundational principle of scientific inquiry, essential for maintaining the credibility, reliability, and societal relevance of scholarly research. In recent years, however, this principle has come under increasing pressure within the rapidly evolving academic landscape. Intensified demands for publication productivity, driven by competitive evaluation systems and performance-based metrics, have contributed to a growing incidence of ethical concerns in research and publishing. Concurrently, the expansion of digital technologies, most notably artificial intelligence tools, and the widespread accessibility of online resources have introduced new and complex challenges related to plagiarism, data manipulation, and unethical authorship practices.

These developments have created a dynamic and often ambiguous environment in which researchers and academic institutions must reconcile long-established ethical norms with emerging technological capabilities and shifting publication standards. Furthermore, disparities in academic cultures, inconsistencies in institutional and national policies, and the increasing prevalence of predatory journals complicate efforts to ensure consistent adherence to principles of academic integrity across disciplines and regions. Against this backdrop, there is a clear need for coordinated and sustained engagement among researchers, educators, publishers, and policymakers to reinforce ethical standards, enhance regulatory and educational mechanisms, and safeguard the credibility and trustworthiness of academic research.

One of the significant outcomes of the research project "The Gravity of Academic Plagiarism in the Perception of Scholars, Students, and Science Policy Makers in Bulgaria", funded by the Bulgarian National Science Fund under grant number КП-06-Н70/9 (2022–2026), was the organization of the scientific conference "Upholding Academic Ethics", held in September 2025. The conference served as an important platform for disseminating the project's research findings and fostering in-depth scholarly dialogue on contemporary challenges related to academic integrity. The presentation of the research results by the project team stimulated productive and critical discussions among participants.

The event brought together academics, researchers, and experts from a wide range of universities and research institutions in Bulgaria and abroad, reflecting the international relevance of the issues addressed. The conference program covered a broad spectrum of interrelated topics, including conceptualizations of academic integrity across different disciplinary contexts; strategies for plagiarism prevention and detection, as well as institutional plagiarism policies; ethical challenges in scholarly publishing and compliance with publication standards; and integrity in the collection, management, and use of research data. Particular attention was devoted to the ethical implications of generative artificial intelligence, including its integration into academic research and educational practices, the use of generative AI in teaching and learning environments, and the development of institutional policies governing AI-assisted academic writing and publishing. In addition, discussions addressed existing institutional policies and legal frameworks, as well as broader social attitudes toward violations of academic integrity.

The present volume provides a more comprehensive, in-depth, and systematic examination of several of the aforementioned topics, situating them within broader theoretical, empirical, and policy-oriented debates on academic integrity. By bringing

together diverse perspectives and methodological approaches, the book seeks to contextualize these issues within both national and international academic frameworks, while also addressing their practical implications for research governance, institutional regulation, and academic practice.

Diana Yankova

HUMANS, MACHINES, AND MANUSCRIPTS: A NARRATIVE ANALYSIS ON HOW PUBLISHERS ARE TACKLING AI

Shivadas Sivasubramaniam, Professor, School of Life and Health Sciences, University of Roehampton, London, United Kingdom
(S.Sivasubramaniam@roehampton.ac.uk)

Abstract

Generative artificial intelligence (GenAI) tools have become increasingly embedded in core scholarly activities. This narrative analysis aims to investigate the guidelines and expectations of different publishers trying to make sense of the new scholarly frontier in AI-assisted research era. It analyzed framing of AI-related guidance within journal author instructions. It was interesting to note that AI's involvement maps closely onto many contributor roles described in authorship and contribution frameworks such as COPE and ICMJE. Despite this extensive involvement, current publication ethics guidelines and editorial policies consistently reject AI authorship. This suggests publishers are in a transitional phase, balancing the significant potential benefits of AI with the need to uphold ethical standards, scientific integrity, and human accountability in the publishing process. Looking ahead, the future of AI in scholarly publishing is likely to be defined by incremental refinement rather than radical disruption, with greater emphasis on human–AI collaboration.

Keywords: Authorship; Artificial Intelligence; Criteria for Authorship; Contributor roles; Guidelines; Journal policies

Introduction

Scientific authorship is a formal attribution of intellectual credit to those who have significantly contributed to different parts of the research with individual accountability for research findings. Over centuries, the norms stipulating who qualifies as an author have evolved alongside the growth of scientific publishing (Kambhampati, & Maini., 2023). However, this evolution has not been smooth; systemic pressures have led to a range of unethical authorship practices that compromised academic integrity. Ethical dilemmas ranging from honorary authorship to ghost-writing have persisted. The advent of artificial intelligence (AI), especially generative models like ChatGPT, has introduced new complexities. These technologies are reshaping how academic writing is conducted and raising questions about the nature of intellectual contribution and accountability. Addressing these issues has required coordinated efforts among journals, editors, researchers, and institutions.

Historical Development of Authorship Standards

Over the past 350 years, scientific journals have served multiple, evolving functions. They have preserved research records, enabled communication amongst international scholars, and not only helped define and regulate scholarly communities, but also enhanced collaborations (Baethge, 2008). Throughout their history, periodicals have existed within a broader ecosystem of oral, manuscript, print, and digital media. By this way knowledge and scientific claims are exchanged, interpreted, and translated across cultural, linguistic, and disciplinary boundaries. Within this landscape, however, journals have emerged as the primary mechanism through which scientists, increasingly working in collaborative teams, receive recognition for discoveries and advance their

professional careers (Larivière, & Sugimoto, 2019). As the social and professional stakes of publication have grown, editorial and evaluative processes have become progressively more complex. Moreover, with the professionalization over the past century, the norms and practices established by scientific journals and their editors have significantly shaped standards of scholarly publishing beyond the sciences. However, early scientific publications lacked formal criteria for who qualified as an author, often relying on scholarly reputation alone. In the early era of scientific journals, from the philosophical transactions in the 17th century onward, authorship was informal and largely tied to reputation rather than clearly defined contribution standards (Fyfe et al, 2015).

As research collaboration expanded in the 20th century, so did the need for formal criteria to attribute credit ethically and consistently. The International Committee of Medical Journal Editors (ICMJE) was established in 1978 (originally named as the Vancouver Group), played a pivotal role by introducing the 'Uniform Requirements for Manuscripts', which eventually evolved into widely adopted authorship criteria. Later in 1997, the Committee on Publication Ethics (COPE) was established in 1997 as a self-help group for UK medical editors was established which published guidelines for scientific reports, titled "Guidelines on Good Publication Practice," in 1999. These guidelines provide advisory standards for editors, authors, and reviewers regarding ethical issues in scientific publishing. The initial 1999 COPE document addressed key topics such as authorship, peer review, plagiarism, redundant publication, and how to handle misconduct. These criteria require authors to make substantive intellectual contributions, participate in drafting or revising manuscripts, approve final versions, and accept responsibility for the work. This framework helped shift scientific publishing toward transparent accountability based on contribution rather than status. Notably, most major

journals today follow these or similar criteria to evaluate and verify authorship claims. By emphasizing responsibility and intellectual input, these standards discourage simplistic attribution based on position or prestige alone.

AI Being "Disruptive" to Scholarly Publications

The rapid incorporation of artificial intelligence (AI) into academic research is not merely a technical development but a structural transformation of the scientific enterprise, with profound implications for research integrity, authorship, and accountability. Generative artificial intelligence (GenAI) tools have become increasingly embedded in core scholarly activities, including literature synthesis, data analysis, manuscript drafting, and the generation of research ideas (Scott-Kennel, et al., 2025; Yoga Ratnam., 2025; Ateriya, et al., 2025). While these systems are frequently framed as efficiency-enhancing aids that are capable of accelerating workflows, processing large datasets, and supporting creative exploration, their growing use fundamentally challenges established norms governing intellectual contribution and responsibility. In particular, the integration of GenAI into research and writing processes complicates traditional authorship frameworks, which are predicated on human agency, intellectual labor, and accountability (Watson, et al., 2025).

Extensive, and often undisclosed, reliance on AI-generated text or analyses risks blurring the boundary between legitimate assistance and unethical practices such as ghost authorship or authorship inflation, whereby substantive contributions are obscured or misrepresented (Hong., 2025). This tension is especially acute in biomedical and other high-stakes research domains, where authorship confers not only credit but also responsibility for the accuracy, integrity, and ethical conduct of the work. Moreover,

the use of GenAI introduces epistemic and methodological risks, including the propagation of fabricated or biased outputs, opaque decision-making processes, and the potential erosion of critical scholarly judgment. From a governance perspective, these risks are exacerbated by inconsistent disclosure practices and uneven enforcement of emerging AI policies across journals and institutions. While leading editorial and ethics bodies have emphasized that AI systems cannot meet authorship criteria and that human researchers remain fully accountable for AI-assisted outputs (Mezzadri., 2025), existing guidance often struggles to keep pace with the speed and scale of AI adoption. Consequently, the ethical challenges posed by GenAI extend beyond questions of appropriate tool use to encompass broader concerns about transparency, responsibility, and the redistribution of academic credit.

Without robust disclosure requirements, clearer authorship standards, and stronger institutional oversight, the routine integration of AI into research risks undermining the credibility of the scientific record and weakening the normative foundations upon which scholarly trust depends. This narrative analysis aims to investigate the guidelines and expectations of different publishers trying to make sense of the new scholarly frontier in AI-assisted research era.

Methods

This study first analyzed the existing COPE and ICMJE definitions of authorship to evaluate whether they remain sufficient to explicitly rule out AI systems as authors. This was achieved by a thematic analysis of these definitions in relation to National Information Standards Organization's Contributor Roles Taxonomy (CRediT) for authors to provide information on submission. It further looked at the author guidelines of selected scientific journal publishers to assess how editorial policies address the use of AI and GenAI in scholarly research and publishing.

A qualitative document analysis approach was adopted to systematically evaluate the presence, scope, and framing of AI-related guidance within journal author instructions. A purposive sampling strategy was used to select peer-reviewed scientific journals across disciplines. Journals were chosen based on criteria that included international reach, disciplinary influence, and the public availability of author guidelines. Where applicable, journals published by major academic publishers and those with established ethical policies were prioritized to capture prevailing editorial standards. Author guidelines were collected directly from official journal or publisher websites between January to November 2025. Documents reviewed included instructions for authors, editorial and publication ethics policies, submission guidelines, and any supplementary statements explicitly referencing AI, machine learning, large language models, or automated tools. Only the most current versions of these documents available at the time of data collection were included in the analysis.

A structured data extraction framework was developed to systematically capture AI- and GenAI-related policy elements. Extracted variables included, (a) whether AI or GenAI use was explicitly permitted, restricted, or prohibited; (b) requirements for disclosure of AI-assisted content generation or data analysis; (c) policies regarding authorship attribution and accountability when AI tools are used; and (d) references to ethical principles such as transparency, responsibility, bias mitigation, and data integrity. Findings were synthesized to provide an overview of current editorial approaches to AI and GenAI use in scientific publishing and to highlight areas requiring greater clarity or harmonization.

Results and Discussions

Authorship and publication ethics are governed by several widely recognized international guidelines, each adopting

a different regulatory approach (Schroter, et al., 2020). Two of the most influential frameworks guiding authorship and publication ethics are those developed by COPE and the ICMJE. Although neither set of guidelines is without limitation, each offers distinct and complementary strengths that may need to be consulted in parallel. COPE provides process-oriented guidance, emphasizing transparency, fair conflict resolution, and shared institutional responsibility in managing authorship and publication disputes. In contrast, ICMJE offers criteria-oriented guidelines, setting out explicit and measurable requirements for authorship eligibility, which can be particularly useful for making clear, defensible authorship decisions.

Taken together, these approaches support both ethical decision-making processes and practical determination of authorship. Based on this, in 2012, CRediT (Contributor Roles Taxonomy), was introduced by the collaborative effort amongst Harvard University and the Welcome Trust, with input from researchers, the ICMJE and publishers (Brand et al, 2015). CRediT offers to the authors the opportunity to share an accurate and detailed description of their diverse contributions to the published work (see figure 1). According to this the roles of all authors should be determined by the corresponding author, by mutual agreement with contributors and many publishers still expect CRediT statements during the submission process. A key limitation of the CRediT taxonomy is that it does not provide a mechanism for quantifying what constitutes a "substantial" contribution. While CRediT usefully categorizes the types of contributions made to a research project, it does not specify thresholds, weighting, or proportional measures to distinguish minor involvement from meaningful intellectual input. For example, if a scholar generates data that forms a minor yet important part of a paper, the CRediT taxonomy can identify the nature of that contribution (e.g. data curation or investigation) but cannot determine whether the contribution is substantial

enough to warrant authorship. In the absence of quantitative thresholds or proportional measures, such assessments remain subjective and context-dependent, limiting CRediT's usefulness in adjudicating authorship eligibility or resolving disputes. As a result, the taxonomy may enhance transparency but offers limited guidance for resolving authorship eligibility or disputes where the significance of individual contributions is contested. Also, CRediT does not replace traditional norms for author order or standards for accountability. Instead, it serves to document and clarify contributions once authorship has been established.

As a practical response to the difficulty in retrospectively reconstructing contribution statements at the point of manuscript submission, Holcombe et al (2020) have developed the Tenzing tool. Designed as both a web-based application and an R package, Tenzing enables teams to record 'contributorship' information prospectively by mapping individual contributors against the standard CRediT roles in a structured matrix, commonly referred to as the Tenzing chart (Kovacs et al., 2021). In doing so, Tenzing seeks to quantify authorship contributions descriptively rather than numerically, making visible which contributors performed which roles, without assigning proportional credit or redefining authorship itself.

This structured representation supports transparency, internal team discussions, and the generation of publication-ready contribution statements and machine-readable metadata (Nogrady., 2023; Holcombe et al., 2020). Despite its conceptual influence and citation within the scholarly literature on contributorship (and responsible research assessment), uptake of the Tenzing chart remains limited compared with the widespread adoption of CRediT itself; it is not embedded as a standard feature of most journal submission systems and is primarily used voluntarily by research teams seeking enhanced transparency, rather than mandated by publishers.

Interestingly, as illustrated in Figure 2, AI technologies can be involved across almost the entire scholarly research lifecycle, including idea generation and conceptualisation, literature searching and mapping, study design, data collection and preprocessing, data analysis, interpretation of results, manuscript drafting, and submission-related processes (Figure was generated from information obtained from Woods-Brown et al, 2025; Malheiro., 2025; Elahi et al., 2023). In fact, the funding acquisition and project administration remain the two areas in which AI cannot meaningfully participate. Funding acquisition requires strategic judgment, institutional affiliation, credibility, and legal accountability, including the preparation and submission of grant applications, justification of budgets, and acceptance of contractual and fiduciary responsibilities. These activities presuppose a recognized legal and moral agent capable of representing an institution, assuming liability, and being held accountable for the appropriate use of funds – capacities that AI systems fundamentally lack (Gogoshin., 2025; Vacek., 2025). Similarly, project administration involves ongoing human oversight, coordination of personnel, compliance with regulatory and ethical approvals, management of timelines and resources, and decision-making in response to unforeseen challenges. While AI may support administrative tasks (e.g. scheduling, documentation, or workflow optimization), it cannot assume responsibility for governance, compliance, or leadership functions that require authority, accountability, and ethical judgment. Consequently, unlike many other research activities where AI can provide substantive technical assistance, funding acquisition and project administration remain intrinsically human roles because they are grounded in agency, responsibility, and institutional trust rather than task execution alone.

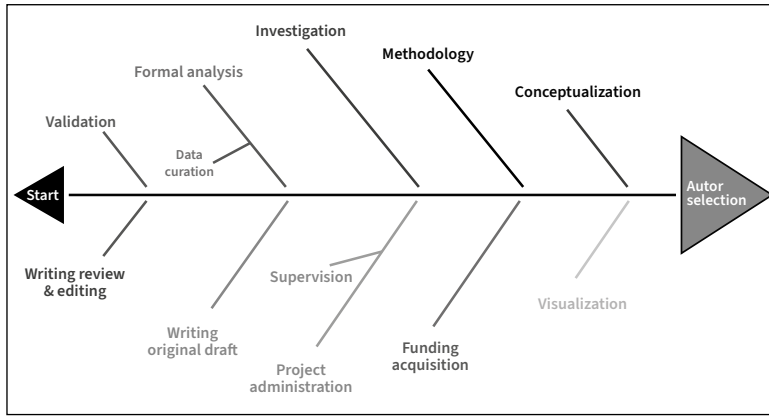

Figure 1: *Summary of Information Standards Organization's Contributor Roles Taxonomy (CRediT) for Contributor Role*

Ishikawa's cause-and-effect diagram, mapping elements of substantial contributions for author inclusions to its effects, based on COPE/ICMJE's classification.

Functionally, AI's breadth of involvement maps closely onto many contributor roles described in authorship and contribution frameworks such as CRediT, raising the question of why AI cannot be recognized as an author. Despite this extensive involvement, current publication ethics guidelines and editorial policies consistently reject AI authorship. A central justification is that authorship entails responsibility, accountability, and ethical agency, including approving the final manuscript, ensuring the integrity and originality of the work, responding to critiques, and bearing legal and ethical obligations such as copyright and conflict of interest disclosures, which AI systems are incapable of fulfilling (ICMJE, 2023; Elsevier, 2023; MDPI, 2023). Moreover, AI lacks intentionality, moral judgment, and legal personhood, and therefore cannot assume responsibility for errors, misconduct, or misinterpretation of findings (Stahl & Eke, 2024). Consequently, while AI may make substantial technical or operational contributions across multiple stages of research, it

is conceptually and ethically positioned as a tool rather than an accountable scholarly agent, necessitating transparent disclosure of its use rather than attribution of authorship.

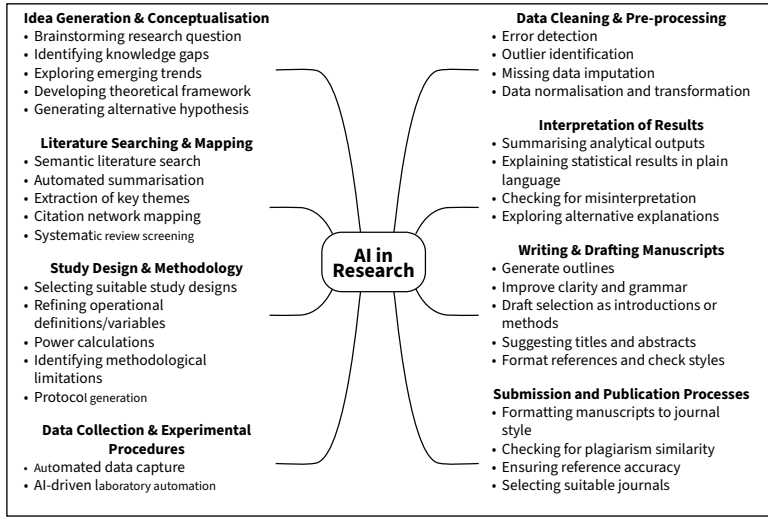

Figure 2: *Summary of current usages of AI in research and scholarly activities*

The merits and demerits of using current AI in research and publication

This section critically examines the merits and demerits of using contemporary AI systems in research and publication, situating their benefits alongside the ethical, legal, and practical challenges they introduce for researchers, institutions, and the scholarly record. Table 1 summarizes the benefits and the risks associated with AI usage in research/publishing. It also shows some example AI tools that are currently being used in each component across the research lifecycle.

Advantages and opportunities of AI in research and scholarly publications

It is undeniable fact that AI offers clear efficiency, scalability, and accessibility advantages. In idea generation and conceptualisation, AI can accelerate creativity by surfacing interdisciplinary connections, identifying emerging trends, and helping researchers explore alternative hypotheses more rapidly than manual approaches (Zang et al., 2025; Ma & Yu., 2025). During literature searching and mapping, AI enables rapid scoping reviews, high-level synthesis, semantic searching, and citation network mapping, substantially reducing time burdens associated with traditional manual searches. However, the reliability of the information would depend on the prompt and needs to be verified. Likewise, in study design and methodology, AI can improve clarity and robustness by assisting with variable refinement, suggesting appropriate designs, and supporting power calculations. Yet it would be appropriate for the (human) researcher to design the final methodology (Schroter et al., 2025). For data collection, cleaning, and analysis, AI enhances accuracy and consistency through automated data capture, error detection, outlier identification, and complex analytical modelling that would be impractical to perform manually. In other words, it can assist the researcher to perfect the data into a presentable format. During interpretation of results, AI can support clearer communication by summarizing outputs and translating statistical findings into accessible language. Finally, in writing, drafting, and submission processes, AI reduces workload by improving grammar and clarity, supporting non-native English speakers, generating outlines, formatting references, and ensuring adherence to journal guidelines. Collectively, these advantages improve research productivity, lower technical barriers, and may enhance inclusivity within global scholarship.

Disadvantages and risks of AI in research and scholarly publications

Table 1 also highlights that these advantages are accompanied by non-trivial epistemic, ethical, and methodological risks. In conceptualisation, AI may introduce bias or unverified assumptions derived from training data rather than grounded scientific reasoning. In literature searching, AI risks missed citations, over-reliance on incomplete or biased datasets, and opaque selection processes that undermine systematic review rigor (Hofmann., 2025). Within study design, AI-generated recommendations may appear authoritative but can be oversimplified, flawed, or contextually inappropriate if not critically evaluated by domain experts (Oviedo-Trespalacios et al., 2025).

Table 1. *The benefits and the risks associated with AI usage in Publishing*

Criteria for Authorship	AI Benefits	AI Risks	Example of current AI tools
Idea Generation and Conceptualisation	Accelerates creativity and surfaces interdisciplinary connections.	May introduce biased or incorrect assumptions if not verified.	ChatGPT, Claude, Gemini, Scite.ai, Elicit.
Literature Searching and Mapping	Rapid scoping reviews and high-level synthesis.	Missed citations; reliance on incomplete datasets.	Elicit, Semantic Scholar, Scite, Research Rabbit, Iris.ai.
Study Design and Methodology	Improves clarity and robustness in early planning.	AI-generated designs may be oversimplified or flawed.	ChatGPT, G*Power, AI-assisted statistical advisors.
Data Collection and Experimental Procedures	Increases accuracy and reduces human error.	Bias in AI models may affect participant selection or data patterns	Lab automation platforms, AI-enabled microscopes, AI interview transcribers.

Criteria for Authorship	AI Benefits	AI Risks	Example of current AI tools
Data Analysis and Modelling (including predictive modelling)	Enables complex analyses not possible manually.	Black-box models reduce transparency and reproducibility.	TensorFlow, PyTorch, R packages, AI-driven statistical tools.
Interpretation of Results	Supports clearer thinking and teaching.	AI may overstate significance or misinterpret context.	–
Writing and Drafting Manuscripts	reduces workload and improves clarity for non-native English speakers.	AI text may contain fabricated references or introduce plagiarism if overused.	ChatGPT, Grammarly, Writefull, Paperpal.
Peer Review Preparation	–	External data must not be uploaded due to confidentiality rules.	Reviewer.ai, ResearchRay, ChatGPT-based critique prompts.

For data analysis and modelling, reliance on black-box algorithms may reduce transparency, interpretability, and reproducibility, while embedded biases in training data can perpetuate or amplify systematic errors. During interpretation of results, AI may overstate statistical significance, misrepresent uncertainty, or encourage spurious causal inferences (Salimzadeh et al., 2025). In writing and drafting, risks include fabricated or incorrect references, subtle plagiarism, erosion of authorial voice, and overdependence that weakens critical engagement with the material. Additionally, in peer review and publication processes, inconsistent disclosure practices and evolving editorial policies create uncertainty around acceptable use. Taken together, the table 1 demonstrates that AI in research functions best as an augmentative tool rather than a substitute for scholarly judgment. Its strengths lie in speed, pattern recognition, and task automation, while its weaknesses center

on accountability, transparency, contextual understanding, and ethical responsibility.

Effective use therefore depends on informed human oversight, explicit disclosure, and alignment with publication ethics guidelines to ensure that efficiency gains do not come at the expense of scientific integrity or trust.

Publishers' expectations on AI usage and disclosure

As stated above in the introduction, the adoption of AI in scholarly research presents both unprecedented opportunities and significant ethical challenges, prompting publishers to implement formal policies on its use and disclosure. While AI can enhance productivity, assist in data analysis, and support writing, it also raises concerns about authorship accountability, reproducibility, and potential misrepresentation of research findings. Publishers' guidelines requiring explicit disclosure of AI tools, their purpose, and human oversight reflect a broader ethical commitment to transparency, integrity, and trustworthiness in science. However, the desire to embrace technological innovation must be balanced against the need to maintain rigorous ethical and methodological standards (Cajueiro, and Celestino, 2025). By framing AI usage within structured editorial oversight, publishers aim to navigate this tension, encouraging responsible adoption while mitigating risks to research credibility and public confidence. In practice, across major academic publishers, there is increasing convergence around the requirement to explicitly disclose the use of generative AI tools in scholarly writing. Most publishers require authors to report the tool used, version, purpose, and extent of human oversight, typically within the methods section or acknowledgments (Elsevier, 2023; MDPI, 2023; SAGE, 2023; Wolters-Kluwer (n.d.) – see table 2. Several publishers adopt a restrictive position on AI-generated images, generally prohibiting their use unless image generation itself forms part

of the research methodology [ACS, 2024; Elsevier, 2023; PLOS, 2023; RSC, (n.d.); Wolters Kluwer, (n.d.)]. In such cases, these publishers emphasize transparency, reproducibility, and access to raw or verifiable data to safeguard research integrity.

IEEE similarly prohibits AI-generated images when they represent scientific data, although AI-assisted diagrams may be permitted with appropriate disclosure [IEEE, (n.d.)]. Other publishers, including SAGE, Acta Natura et Scientia, and Taylor & Francis, permit AI-generated images on a case-by-case basis, subject to editorial approval and explicit disclosure, if AI use does not misrepresent data or research findings [Acta Natura et Scientia, 2023; SAGE, (n.d.); Taylor & Francis, (n.d.)].

MDPI and the International Commission on Radiological Protection (ICRP) allow AI image use primarily in research contexts but explicitly discourage such practices outside methodological applications [ICRP, (n.d.); MDPI, (n.d.)]. Beyond author disclosure, some publishers introduce editorial safeguards. For example, ICRP explicitly prohibits editors from uploading submitted manuscripts into AI tools, reflecting concerns related to confidentiality and data governance [ICRP, (n.d.)]. ACS and RSC further stress that AI use must not compromise reproducibility, requiring authors to retain and provide access to raw data and original research outputs. Across publishers, generative AI is positioned as a supportive tool rather than a substitute for scholarly judgment, methodological rigor, or authorship responsibility.

Table 2: *Summary of Publisher guidelines on AI usage and disclosure*

Publisher	Disclosure	Images/Figures
Elsevier	AI declaration required; tool, purpose, oversight; research AI **in Methods**.	AI images **not allowed** except in research methods.
MDPI	Disclosure in **Acknowledgments + Methods**.	Allowed **only in research**; discouraged.

Publisher	Disclosure	Images/Figures
SAGE	Disclose tool + purpose; in **Methods/ Acknowledgments**.	Allowed with disclosure + approval.
Taylor & Francis	State tool, version, purpose; disclose in **Methods/ Acknowledgments**.	**Case-by-case**; must not misrepresent data.
Wolters Kluwer	Disclose tool + purpose in **Methods.**	AI images **not allowed** except in research methods.
ICRP	Disclose AI in **Acknowledgments**; editors cannot upload manuscripts to AI tools.	Allowed only in research; **discouraged.**
Acta Natura et Scientia	Disclosure in **cover letter + Acknowledgments**; details in Methods.	**Allowed with disclosure** + approval.
IEEE	Explicit disclosure required.	Not allowed for scientific data; diagrams OK with disclosure.
Wiley	Disclose tool, version, purpose.	**AI images restricted**; must disclose.
PLOS	AI use disclosed in **Methods or Acknowledgments**.	Not allowed unless **part of research** method.
RSC	Generative AI must be disclosed.	**Not allowed** unless methodological; raw images required.
ACS	Disclose AI use in **Acknowledgments or in Supporting Info**.	**Discouraged**; raw data must be verifiable.

Looking ahead, it is conceivable that increasingly advanced AI agents, particularly those embedded within institutional infrastructures and operating under defined governance frameworks, may begin to challenge the boundaries of roles such as project administration. For example, AI systems could plausibly manage complex workflows, monitor compliance milestones, optimize resource allocation, and flag ethical or regulatory risks in real time. However, even in such scenarios, ultimate authority, accountability, and legal responsibility would still need to reside

with a human agent or institution, as current legal and ethical systems do not recognize AI as a bearer of fiduciary duty or moral responsibility. Funding acquisition presents an even more substantial barrier, as it depends not only on technical competence but also on trust, reputation, and contractual obligation between funders and legally recognized entities.

Unless foundational changes occur in legal personhood, liability frameworks, and scholarly governance, AI is therefore more likely to evolve as a powerful administrative and decision-support agent rather than a genuine rights – or responsibility-bearing actor capable of fully assuming these roles. The Key Narratives of AI disruption is given below as bullet points.

1. **Efficiency and Automation:** AI tools are used to automate time-consuming tasks like initial manuscript screening, reference checking, formatting, and language enhancement, particularly benefiting non-native English speakers. This speeds up editorial workflows and reduces operational costs.
2. **Ethical Concerns & Policy Development**: A dominant counter-narrative centers on ethics, transparency, and the potential for AI misuse, such as generating fake papers or polluting the scientific record.
3. **The "arms race" in Detection**: The use of AI for generation has led to an "arms race" with AI detection tools. This has created a situation where the "text" can take precedence over the "content," as authors might use paraphrasing tools to bypass detectors, highlighting a flaw in relying solely on automated systems without human review.
4. **Skill Gaps and Collaboration**: Many large publishers acknowledge internal skill and technology barriers to fully implementing AI solutions. They often rely on collaboration with external research organizations and experts to acquire necessary skills, indicating a cautious, phased approach to full integration.

5. **Human Responsibility Remains Paramount:** Across all discussions, the consistent theme is that AI acts as a tool or assistant, but does not replace human thought, expertise, or final verification processes. It is the human who must guide the AI, critically evaluate its output, and take ultimate responsibility for the published content.

Conclusions

In conclusion, it is evident that the integration of artificial intelligence into scholarly publishing represents not a wholesale transformation of authorship or responsibility, but a carefully bounded reconfiguration of editorial and research practices shaped by existing legal, ethical, and institutional frameworks.

This narrative analysis suggests publishers are in a transitional phase, balancing the significant potential benefits of AI with the need to uphold ethical standards, scientific integrity, and human accountability in the publishing process. They are actively developing and enforcing strict policies regarding the disclosure of AI use, prohibiting non-human authorship, and emphasizing that human authors remain accountable for the accuracy and integrity of their work.

Looking ahead, the future of AI in scholarly publishing is likely to be defined by incremental refinement rather than radical disruption, with greater emphasis on governance, transparency, and human–AI collaboration. Advances in policy harmonization, reviewer training, and audit mechanisms may enable more responsible and consistent use of AI tools, while ongoing debate around accountability and trust will continue to shape their permissible scope. Ultimately, the trajectory points toward a mature socio-technical system in which AI is embedded as a regulated support infrastructure, enhancing efficiency and inclusivity without eroding the central role of human judgement and responsibility.

References

Acta Natura et Scientia. Publication ethics and artificial intelligence policy. Acta Natura et Scientia. ISSN (Online): 2718-0638. 2025. (Accessed on 31st December 2025). https://www.actanatsci.com/en/sayfa/ethical-principles-and-publication-policy-2482

ACS Publications. Artificial Intelligence (AI) Best Practices and Policies at ACS Publications, 2024. (accessed on 30th December 2025). https://researcher-resources.acs.org/publish/aipolicy

Ateriya, N., Sonwani, N., Thakur, K. et al. Exploring the ethical landscape of AI in academic writing. Egypt J Forensic Sci 15, 36 (2025). https://doi.org/10.1186/s41935-025-00453-1

Baethge, C. Publish Together or Perish. Dtsch Arztebl Int 105(20): 380-3. 2008. https://doi.org/10.3238/arztebl.2008.0380

Brand, A., Allen, L., Altman, M., Hlava, M., Jo Scott. Beyond authorship: attribution, contribution, collaboration, and credit. 2015. https://doi.org/10.1087/20150211

Cajueiro, DO., Celestino, VFR. A comprehensive review of Artificial Intelligence regulation: Weighing ethical principles and innovation. Journal of Economy and Technology 4: 77-91. 2025 https://doi.org/10.1016/j.ject.2025.07.001

Elsevier. The use of generative AI and AI-assisted technologies in writing. (n.d.). https://www.elsevier.com/en-gb/about/policies-and-standards/the-use-of-generative-ai-and-ai-assisted-technologies-in-writing-for-elsevier

Elahi, M., Afolaranmi, S.O., Martinez Lastra, J.L. et al. A comprehensive literature review of the applications of AI techniques through the lifecycle of industrial equipment. Discov Artif Intell 3, 43 (2023). https://doi.org/10.1007/s44163-023-00089-x

Fyfe, A., McDougall-Waters, J., Moxham N. 350 years of scientific periodicals. Notes Rec R Soc Lond. 69 (3): 227–239. 2015. https://doi.org/10.1098/rsnr.2015.0036

Gogoshin, DL. A way forward for responsibility in the age of AI. Inquiry, 68(4), 1164–1197. 2025. https://doi.org/10.1080/0020174X.2024.2312455

Hofmann B. Biases in AI: acknowledging and addressing the inevitable ethical issues. Front Digit Health. 2025 Aug 20;7:1614105. https://doi.org/10.3389/fdgth.2025.1614105.

HongS.AI-basedfakepapersareanewthreattoacademicpublishing. Times Higher Education News Published on August 15, 2025. https://www.timeshighereducation.com/opinion/ai-based-fake-papers-are-new-threat-academic-publishing

International Commission on Radiological Protection (ICRP) (n.d.) Policy on the use of artificial intelligence tools in manuscriptpreparation.(Accessedon26thDecember2025). https://icrp.org.uk/author-resources/duties-of-editors-and-ai-policy

IEEE. IEEE Transactions on Artificial Intelligence Author Instructions (n.d.). https://cis.ieee.org/publications/ieee-transactions-on-artificial-intelligence/information-for-authors-tai

International Committee of Medical Journal Editors (ICMJE). Recommendations for the conduct, reporting, editing, and publication of scholarly work in medical journals. (n.d.). https://www.icmje.org/recommendations/

Kambhampati, SBS., & Maini, L. Authorship in Scientific Manuscripts. Indian J Orthop. 2023. 57(6):783-788. https://doi.org/10.1007/s43465-023-00896-5

Kovacs, M., Holcombe, A., Aust, F., & Aczel, B. (2021). Tenzing and the importance of tool development for research efficiency. Information Services & Use, 1–9. https://doi.org/10.3233/ISU-210109

Larivière, V., Sugimoto, C.R. (2019). The Journal Impact Factor: A Brief History, Critique, and Discussion of Adverse Effects. In: Glänzel, W., Moed, H.F., Schmoch, U., Thelwall, M. (eds) Springer Handbook of Science and Technology

Indicators. Springer Handbooks. Springer, Cham. https://doi.org/10.1007/978-3-030-02511-3_1

Ma, N., Yu, D. (2025). Generative AI and the Evolution of Artistic Creativity. In: Geroimenko, V. (eds) Human-Computer Creativity. Springer Series on Cultural Computing. Springer, Cham. https://doi.org/10.1007/978-3-031-86551-0_10

Malheiro V, Santos B, Figueiras A, Mascarenhas-Melo F. The Potential of Artificial Intelligence in Pharmaceutical Innovation: From Drug Discovery to Clinical Trials. Pharmaceuticals (Basel). 2025 May 25;18(6):788. https://doi.org/10.3390/ph18060788.

MDPI. (2023). MDPI's Updated Guidelines on Artificial Intelligence and Authorship. 2023. https://www.mdpi.com/about/announcements/5687

Mezzadri, D. The Paradox of Ethical AI-Assisted Research. J Acad Ethics 23, 2653–2667 (2025). https://doi.org/10.1007/s10805-025-09671-7

Nogrady B. Hyperauthorship: the publishing challenges for 'big team' science. Nature. 2023 Mar;615(7950):175-177. https://doi.org/10.1038/d41586-023-00575-3.

Oviedo-Trespalacios, O., Peden, A. E., Cole-Hunter, T., Costantini, A., Haghani, M., Rod, J. E., Kelly, S., Torkamaan, H., Tariq, A., Newton, J. D. A., Gallagher, T., Steinert, S., Filtness, A. J., & Reniers, G. (2023). The risks of using ChatGPT to obtain common safety-related information and advice. Safety Science, 167, 106244. https://doi.org/10.1016/j.ssci.2023.106244

PLOS. Authorship Policies (Artificial intelligence tools and author responsibilities). 2023. (Accessed on 26th December 2025). https://theplosblog.plos.org/2023/05/plos-authorship-policy-update-adopting-a-more-inclusive-standard/

Royal Society of Chemistry. Authorship, competing interests and artificial intelligence. (n.d.). (Accessed on 26th December

2025). https://royalsociety.org/journals/ethics-policies/openness/

Salimzadeh, S., He, G., & Gadiraju, U. (2024). Dealing with Uncertainty: Understanding the Impact of Prognostic Versus Diagnostic Tasks on Trust and Reliance in Human-AI Decision-Making. In Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems (CHI '24), Article 25. https://doi.org/10.1145/3613904.3641905

Schmager, S., Pappas, I. O., & Vassilakopoulou, P. (2025). Understanding Human-Centred AI: a review of its defining elements and a research agenda. Behaviour & Information Technology, 44(15), 3771–3810. https://doi.org/10.1080/0144929X.2024.2448719

Schroter S, Montagni I, Loder E, Eikermann M, Schäffner E, Kurth T. Awareness, usage and perceptions of authorship guidelines: an international survey of biomedical authors. BMJ Open. 2020 Sep 21;10(9): e036899. https://doi.org/10.1136/bmjopen-2020-036899.

SAGE. Assistive and generative AI guidelines for authors) (n.d.). (Accessed on 30th December 2025). https://www.sagepub.com/about/sage-policies/corporate-policies/ai-author-guidelines

Scott-Kennel, J., Zhang, R. M., & Scott, J. M. (2025). Artificial intelligence in academic Research: Contributor, constructivist or cheat? Journal of Marketing Theory and Practice, 1–22. https://doi.org/10.1080/10696679.2025.2457672

Stahl, BC., Eke, D. The ethics of ChatGPT – Exploring the ethical issues of an emerging technology. International Journal of Information Management. 74: 102700; 2024. https://doi.org/10.1016/j.ijinfomgt.2023.102700

Taylor & Francis. AI Policy. (n.d.) (Accessed on 30th December 2025) https://taylorandfrancis.com/our-policies/ai-policy/

Vacek, D. Responsible artificial intelligence?. AI & Soc. 2025). https://doi.org/10.1007/s00146-025-02604-3

Watson, S., Brezovec, E. & Romic, J. The role of generative AI in academic and scientific authorship: an autopoietic perspective. AI & Soc 40, 3225–3235 (2025). https://doi.org/10.1007/s00146-024-02174-w

Wolter-Kluwer Artificial Intelligence (AI) Principles. (n.d.) (Accessed on 30th December 2025). https://www.wolterskluwer.com/en/about-us/artificial-intelligence-principles

Wiley. Using AI tools in your writing. (n.d.) (Accessed on 30th December 2025). https://www.wiley.com/en-gb/publish/book/resources/ai-guidelines/

Woods-Brown C, Swanson A, Cannings H et al. Scoping the use of AI to organize, synthesis and analyze alarge scale community engagement and consultation exercise. NIHR Open Research 2025, 5:97 https://doi.org/10.3310/nihropenres.14085.

Yoga Ratnam KK. Generative artificial intelligence in public health research and scientific communication: A narrative review of real applications and future directions. Digit Health. 18;112025. https://doi.org/10.1177/20552076251362070.

Zhang C, Shao Y, Yuan Y, Shen W. Artificial Intelligence Reshapes Creativity: A Multidimensional Evaluation. Psych J. 2025 Dec;14(6):831-840. https://doi.org/10.1002/pchj.70042.

AI IN THE PERCEPTIONS OF STUDENTS AND SCHOLARS IN BULGARIA: A THEMATIC ANALYSIS

Mariya Chankova, Associate Professor, South-West University, Blagoevgrad, Bulgaria (mariyachankova@gmail.com)

Abstract

This contribution reports on the results of a large-scale study probing into the attitudes toward different aspects of academic integrity issues with a special focus on AI as seen by two distinct groups of users, students and scholars in Bulgaria. The study was conducted through a questionnaire distributed online and is contextualized in terms of the written recommendations by the Bulgarian Ministry of Education and Science about integrating AI tools in the educational process. Questionnaire data are supplemented by three focus groups interviews, two featuring BA and MA students, and one featuring university lecturers.

The results are thematically evaluated in order to tease out which tasks are relegated to AI by both groups, understand both group's perceptions about the utility/ relevance/ ethics of AI tools in academia, and identify useful insights into the successful integration of AI tools in higher education.

***Keywords*:** AI tools, students' perceptions, scholars' perceptions, AI in education, AI in academia.

Ever since November 2022, the date of liberalization of access to generative AI tools to the general public, scholars and

students have been swept into a never-ending technological race that consists in who can harness the advantages they seem to promise. Indeed, the promise appears to be great: generative AI consists of algorithms that produce convincing imitations of human text (Bender et al., 2021), capable of being "trained" on large quantities of text samples using a Reinforcement Learning from Human Feedback (openAI.com) to be able to adjust better to the user's needs. It has been shown to be able to pass secondary and higher education standard evaluative testing in academic contexts (de Winter, 2023; Choi et al., 2023; Gilson et al., 2023), and educators around the globe have been trying to navigate the difficulties these tools have created for learning, especially in view of studies showing that students as young as thirteen are using AI to generate their schoolwork (Volante, DeLuca & Klinger, 2023).

While most educators seem to agree that banning AI might not be an enforceable option (for example, Kishore et al., 2023; although some offer a more nuanced view on the matter – see Rudschies & Schneider, 2025), it is imperative that the discussion should continue, especially with the numerous potential risks connected to AI that are being uncovered every day (for an overview, Kumar, 2024). In this chapter, I look into a limited number of questions that were addressed in the large-scale study, which is reported on in this volume, that concern students' and scholars' perceptions of AI tools and their use, to gain insight into their understanding of the ethics of AI usage and use alignment between groups. Besides the primary interest in eliciting the differences in the perceptions of the tools' utility in the educational context, this study hopes to tease out at least partially a basis for evaluating the adequacy of any AI regulative policy as it applies to HEI.

Extensive research has been conducted exploring both the attitudes of students towards Gen AI in relation to their studies, as well as the potential problems these tools may create long-term for education. Among the benefits, assistance

with managing large quantities of text and data is mentioned, text manipulations of different kinds such as summarizing, paraphrasing, synthesizing, and analysis, but also information search (Niloy et al., 2022). The majority of students surveyed express the wish that AI be formally integrated in their studies, as an undeniable indicator that they find it is a helpful tool (Balabdaoui et al., 2024). Specifically, AI's use as providing the opportunity for personalized learning has been frequently emphasized in the literature (Zhu et al., 2023; Fosner 2024), and with it the promise to carry over the burden of adapting content to a specific learner.

Just as frequent have been the calls of alarm, signaling potential problems of overreliance on Gen AI tools (for example, Klingbeil et al., 2024; Zhai et al., 2024) which can seriously undermine the formation of students' cognitive abilities and memory functions (Oakley et al., 2025; Kosmyna et al., 2025). Lastly, a plethora of ethical issues have been identified in relation to Gen AI, including but not limited to legal disputes, copyright, data protection and transparency issues (Bender & Hanna, 2025, for a comprehensive overview; Samuelson, 2023).

Finally, to put this study into perspective, here are some of OpenAI's own evaluations on ChatGPT 5's capabilities: the accuracy rate for general questions is estimated at 54.9%, the graduate-level problem-solving is estimated at 62.7%, the hallucination rate for simple questions and answers with no web is evaluated at 40% (openai.com/ChatGPT system card), which is framed as an improvement over previous GPT models. This is the backdrop upon which users of AI form emotional bonds with the bot relying on it as an intimacy ersatz (Elan, 2025; Sjoraida, 2025), entering into a communicative dynamic that mimics an intimate relationship (Chu et al., 2025).

Methods

Setting

The questionnaires were designed in the course of the project and were administered by Alfa Research on the team's behalf. The students (n=500) and the scholars (n=101) received the questionnaire via email, and several respondents (students n=14, scholars n=12) took part in semi-structured interviews. The data analyzed here comes from a series of questions that concern explicitly the attitudes and uses of AI.

Methodology

The data analyzed for this study comes mainly from the questionnaire responses which provided ample room for freeform explanations. In order to contextualize the responses, the students' interviews were taken into account, partially for the purposes of triangulating the results, partially to gain a broader understanding of the students' perceptions of their experience in the system of higher education. The collected responses were analyzed via a qualitative thematic analysis. The themes were further mapped onto several potential issues surrounding AI use in academia, which will be detailed below. The themes were compared across the two cohorts of respondents in order to understand similarities and differences in the concerns, use habits and the perceptions of AI. The results were then interpreted in terms of the Ministry of Education and Science's recommendations for the integration of AI tools in education, and more broadly, general ethical guidelines (in this volume). Six questions within the questionnaires concerned the ethics of AI use.

Results

Questionnaire data

In order to set the stage for understanding the logic in the habits of both cohorts of respondents, several general questions were included in the data pool, probing into the familiarity with specialized software targeting the enforcement of academic

integrity, general views on AI-aided text editing, how they view AI tools in terms of academic integrity, and familiarity with AI tools.

An overwhelming majority of educators report using text-matching software for plagiarism detection (Fig. 1 below), which was not the case five years ago. Students also appear to be aware of the problem of plagiarism. It is less clear which tools they use, as few universities have officially adopted a text-matching tool to routinely check students' productions, and even less likely have made it available for students' use. It could be that at least some of the responses reflect the submission procedure through Moodle (such exists at the New Bulgarian University, for example); it is unclear whether the respondents may have had another type of software in mind. There are several free options that exist online in terms of text-matching software. It is even less clear why students would check online content for plagiarism at a rate of 37.76%.

At the very least, the results of this question suggest the development of a certain attitude towards software pertaining to academic tasks, be it text-matching or text-editing, that both students and scholars make use of on a reasonably habitual basis; it shows a certain level of awareness of potential problems related to academic integrity, and it also points at the need to find solutions to these problems.

Table 1. *Use of text-matching software.*

Students	Scholars
I check my written production for plagiarism – 35%	I check students' submissions for plagiarism **every time** I receive a paper submitted by a student – 30.7%
I check my peers' written production for plagiarism – 20.3%	I **often** check students' submissions for plagiarism when I receive term papers to grade – 37.6%
I check online content for plagiarism – 37.8%	I **occasionally** check students' submissions for plagiarism when there is ground for suspicion – 29.7%
Other – 7%	I **never** check students' submissions for plagiarism – 2%

The next question probed into some aspects of academic integrity with the following results:

Table 2. *Attitude towards the following statement: "Using text editing software or AI-integrated chatbots does not constitute academic misconduct"*

	Strongly agree	Agree	Disagree	Strongly disagree	Do not know
Students	12.4%	23.4%	29.6%	16.8%	17.8%
Scholars	7.9%	16.8%	24.8%	35.6%	14.9%

The question does combine two functionally different pieces of technology. One of them does not infringe upon academic integrity: after all, simple text-editing, improvement of basic grammar and legibility does not interfere with the research process or the creative/analytical or critical thinking in an important way. The second, though, even in the general way the question is formulated, does imply the production of a paper, effectively replacing (albeit partially) the role of the author. In such a conjunction, there are risks for academic integrity, and the aim of the question was to elicit the respondents' sensitivity to this aspect. The distribution of the answers all over the scale indicates the respondents' indecisiveness on the issue. This indecisiveness may reflect poor technical literacy – even though AI-integrated text-editing programs have been around for more than a decade, conversational interface AI chatbots are the current hype and their workings appear still to be largely ignored by users. It may also be a reflection of poor understanding of academic integrity, which would be consistent with previous findings for the Bulgarian context (Vassileva & Chankova, 2019).

Concerning the use of AI tools, self-reports display the following picture (Table 3):

Table 3. *Answers to a question about the frequency of using AI tools?*

	Every day	Twice a week	Twice a month	Less than once a month	I do not use them	I do not know of them
Students	12.6%	17%	21.6%	26.6%	19%	3.2%
Scholars	5.9%	18.8%	20.8%	21.8%	31.7%	1%

Students are the more frequent self-reported users of AI in comparison to scholars: the cumulative percentage of scholars who do not use/do not know of AI is 32.7%, while the same cumulative percentage for students is 21.2%. The ratio is in favor of students for daily users of AI: 12.6% for students and 5.9% for scholars. The answers that range from twice a week to less than twice a month correspond to the behavior of the experimenter, and it is more or less comparable for both cohorts: 65.2% of the students to 61.4% of the scholars. The behavior is called experimenter's behavior because the respondents evidently do not perceive their use of AI to be overwhelming in their daily activities, nor occupying too important a place in their lives. This picture is more or less consistent with how new technology is adopted in the Bulgarian context: with tech-oriented users embracing it, and the regular users being open to trying it. Technological innovation has been fairly quick to partake in the shaping of the social landscape, thus making generations of students eager to try the "new thing".

In order to understand how both cohorts use AI, Table 4 shows the distribution of the answers.

Table 4: *Answers to a question about the purpose of using AI tools*

Scholars (n=67)		Students (n=374)	
Fun & curiosity	55.2%	Fun & curiosity	62.0%
Generating course materials	34.3%	Help with schoolwork	57.5%
Optimizing academic work	31.3%	Help with work outside school	50.0%

Scholars (n=67)		Students (n=374)	
Coping with administrative work	29.9%	Look for ideas to solve a problem	82.2%
Checking students' production for AI use	37.3%	Generate texts to use after modification	40.5%
Other tasks outside work	34.3%	Generate texts to use without modification	11.8%
Other	9%		

Educators/instructors have adopted AI for a wide range of tasks, even if they report using AI rather infrequently. It does not appear they necessarily research ethical questions around AI use. They also display caution as the predominant attitude towards the new technology and its application: one third highlight advantages; 21% consider it dangerous; most importantly, almost 50% cannot make up their mind.

The students' responses are rather more schematic, with a distinct preference for idea-generation. In the freeform responses the students provided, the thematic analysis yielded the following thematic rubrics:

Table 5: *What do you use AI tools for? – Students* (*n=365*)

Thematic rubric	Explanation
Information search	The most frequently occurring use of AI, for any kind of need, school-, work- and leisure-related.
Idea generation	responses contained the phrase 'get directions or guidance' for situations, problems, not restricted to school activities.
Organization optimization	time gains, summarizing information, structure and plan, finding literature, explanations of terms, notions; some students evoke 'discussions' with AI
Writing assistant	spellcheck, grammar and writing editing, email writing, feedback on writing, writing help. Free answers do not mention complete text generation.
Other themes:	fun, curiosity, psychotherapy.

The first rubric – information search – has definite prominence in the free answers, englobing the idea of AI gradually replacing search engines, visible through many previous studies (Montenegro-Rueda et al., 2023; Wollny et al., 2021). Even before the integration of AI to search engines, students have shown an inclination to substitute the use of AI for traditional information searches via a search engine because of the convenience of obtaining what is perceived as a "ready-to-use" synthesis on any question. Results seem to be preferred to search engines also because of the perception of obtaining a personalized response, largely due to the conversational interface. The feature of sycophancy in AI – the validation of the user's point of view, encouragement and praise, which peaked with GPT 4o – may be reinforcing the habit of going to AI even for the simplest of searches. Freeform responses mention ideas for cooking dinner, questions, explanations, directions.

Interestingly, respondents report using AI output to 'check' information, that is, obtain simplified explanations, and avoid sifting through data online. Even though quite a lot of students are aware that AI can make mistakes, when it comes to information on an unfamiliar matter, mistakes are harder to spot, and students do display a tendency to trust the generated output uncritically (Zhai et al., 2024; for problems of overreliance – in a later section). In an academic setting, this use is fraught with potential pitfalls regarding first, the construction of knowledge, i.e. biased or erroneous claims may be internalized as being factual and correct; second, regarding the depth of engagement with the subject matter, which in academia require an extensive and in-depth engagement with the issues, their thorough understanding and ability for critical appraisal and analysis. Free responses do not contain any critical observations in this regard.

Idea generation refers to an entire range of tasks, both school- and work-related, but also connected to everyday activities. This use partially replaces human contact, in that first,

it transforms AI into a sounding board for ideas; and second, the creative thinking appears to be offloaded to AI (Lund et al., 2023; Kelly & Burkell, 2025).

Organization optimization – this rubric encompasses uses of automation, a sort of information tidy-up in terms of organizing it into a logical plan, establishing connections, providing summaries, structuring and planning, conducting information searches, obtaining explanations of terms and notions. Some respondents evoke 'discussions' with AI, in which they are able to work through ideas and gain 'understanding' without reading through primary sources. The responses suggest that the AI collaboration sets to replace sources reading, not add to it: thus, the critical reading skills of the students do not appear to be enhanced, but replaced with the AI organization. Some respondents also use the phrase 'help with unimportant organization stuff', or 'trivial', or 'unimportant stuff', as if to minimize the importance or the scope to which AI is used.

Writing assistant – respondents mention various aspects of writing: spellcheck, grammar and editing, email writing, feedback on writing, writing help (ideas and content organization). Although there was a question inviting respondents to classify the primary uses of AI (see Table 1 above) that contained the option of using AI for entire text generation, the free answers do not mention entire text generation.

The final rubric encompasses other themes: using AI for fun, out of curiosity, for psychotherapy. It is unclear what exactly they may have meant under the former two headings: is it chatting for fun? Is it testing its abilities, such as generating funny images? Is it trying to make up one's mind about the promise of near-human intelligence based on the conversational interface? The responses are not explicit about this. The latter heading is more self-explanatory, but also more alarming as a piece of behavior, as it involves sharing a lot of personal information with a chatbot

that operates on nebulous principles of data protection (also, Lipin, 2025).

Discussion

Students appear to have largely adopted AI, which progressively replaces search engines, and takes over information search; its answers are perceived to be personalized, undoubtedly due to the conversational interface. Even though neither use nor adoption of AI are uniform through the student cohort, the ones who report to have enthusiastically embraced it appear to have outsourced all of their information dealings to it. As no question was asked about the workings of AI, it is difficult to conjecture about how much the students actually know about how AI operates; significantly, one single mention of the unreliability of the AI output is found in the freeform answers. This omission to consider the downside of AI may be due to a lack of awareness of how LLMs operate (corroborated by other studies by the author – Chankova, in preparation), but also may be conditioned by a perceived usefulness, evident in the freeform responses, which is a strong predictor for the intention to use these tools (Ahn & Van Toan, 2025).

A certain defensiveness is present in some of the answers: some respondents pointedly say they do not use it for text generation; some speak of 'trivial' and 'organizational' use, or 'for formalities', as if to minimize the importance of what they use AI for; some provide a general justification that implies defensiveness, in terms of 'this is the future, it should be encouraged, not restricted', even though none of the questions pertaining to AI concerned restrictions of AI use of any kind. One remark in particular says: 'it is a wonderful way to study, especially when used ethically', underscoring the perceived utility of the tool in the context of university study.

Many of the answers contain a variation of the time gain theme, even though in terms of workload students today do not

appear to have more to do in comparison with their peers from ten or twenty years ago[1]. They also work less in comparison with some of their European peers – according to Eurostat (2025), only 7.2% of the currently enrolled students work. There may be grounds to make the argument that technological advances have accustomed students to sparing themselves the effort (cf. miserliness below – Stanovich, 2018). This might even be the result of a conflation between the notions of effort and time, as effort is usually time-consuming.

In their descriptions of what AI does for them, students use the phrases *'помощ', 'проверка', 'насока', 'обяснение'* (*'разяснение'*) [help, check, guidance, explanation (clarification)]: thus, the role of AI as an assistant to learning has been widely promoted by the responses (Schei et al., 2024). It appears that Gen AI is the starting point to addressing any kind of situation for the respondents; the habit of checking things online has seamlessly incorporated the new tool into the toolbox, with the added benefit of (perceived) efficiency, as it can perform tasks which used to require several different tools before.

Some responses demonstrate a state of extreme confusion about ethics/integrity when it comes to the ethical use of AI, despite the coverage of some prominent issues, wonderfully exemplified by the following answer:

> *Чудесен инструмент за учене, когато се използва етично. Важно е да се знае, че всеки отговор, който се генерира, е уникален, тоест няма как да става дума за плагиатство. И много важно – няма нито един надежден начин вече да се каже кой текст е генериран*

It's a wonderful learning tool, when used ethically. It's important to know that every generated answer is unique, so it

1 A cursory comparison of the programs in Applied Linguistics and Philology studies across the author's tenure at the university reveals few differences, in favor of a simplification of the programs.

cannot be plagiarism. And importantly, there is no longer any reliable way to tell which text has been generated by AI[2].

In this answer, while promoting AI as a great learning tool, the respondent indicates that they have no idea how AI works: one of the first worries of many commentators had been that AI may inadvertently repeat published material in its generated output, thus committing plagiarism (for example, Chomsky et al., 2023). There seems to be an assumption that if AI is used for learning, then it is ethical. But the most puzzling piece of this response is that the respondent insists that there is no way of telling which text is AI-generated. If the question of telling whether a text is AI-generated or not even arises, then the user of AI may have the intention of using AI-generated text for purposes that distinctly set them apart from ethical uses of AI, say for learning or information finding. This clearly indicates the respondent's awareness that AI-generated text may be concealed; if concealment is implied, it means that the work lacks transparency, thus making the concealed use of AI unethical, in direct contradiction with the respondent's claim. The confusion about proper uses of AI means that, at the moment, students do not discriminate between uses, or rather suspect that not all uses may be in the acceptable range (also, see the Interviews section).

The rapid adoption of AI by students hinges on the quick results that seem accurate, sparing considerable amounts of effort on the part of the student. The responses do not include concerns of reduction of independently conducted research or engagement in critical thinking tasks, as noted by many studies (for example, Niloy et al. 2024, also Farrokhnia et al., 2023; Kasneci et al., 2023). The natural tendency of humans towards cognitive miserliness (for a discussion of cognitive miserliness, see Stanovich, 2018) makes it in itself quite difficult to notice any diminished activity. To echo Hull (2001, p. 37), 'the rule

2 Here and elsewhere, translated by the author.

human beings seem to follow is to engage the brain only when all else fails – and usually not even then.' On a more serious note, what he meant was that rational behavior seems to depend on factors that include to a lesser extent rational choice, inference or understanding; it appears plausible that an effort-sparing tool will be readily incorporated in the user's toolbox, especially when there is ample precedent of similar effort-sparing tools being adopted (see Carr, 2010, for a deep dive into the effects of the internet reading strategies on deep reading skills and memorization).

One prominent idea that AI integration in the school system is based on is the increase in digital literacy because of AI. Undoubtedly, digital devices have carved themselves into a very important place in the lives of young people – studies show that the use of hand-held devices is absolutely massive, 12+ hours a day for young adults. These calculations are based on pre-Covid studies (Desmurget, 2019); with remote schooling these numbers have gone through the roof, with hand-held devices taking over the task of mediating schoolwork in addition to recreation, communication, and information search purposes. Apps have simplified in terms of use, so that technical skills do not constitute a significant advantage for using apps on hand-held devices; technical skills are more of an advantage in laptop use, but hand-held devices are privileged by students today. There seems to be an assumption that if students have a hand-held device, they will be aware of any technological advances in the ICT domain, which is clearly demonstrated to be untrue by the data: not only is technical knowledge correlated with interest in the domain, but also technical prowess should not be automatically assumed for any cohort of students, as has been demonstrated by previous studies (Vassileva et al., 2020).

What is more, digital literacy includes various categories of skills such as Media Literacy, Visual Literacy, Information Literacy, Communication Literacy, Technological Literacy,

Computer Literacy (following the model by Reddy et al., 2023). Literacy involves the ability to use digital technology products in a way that demonstrates understanding, the ability to interpret and critically assess the information and/or processes that are thereby conducted. In this respect, as per Bulgarian Ministry of Education and Science recommendations (2024) what balanced integration of AI in educational settings is supposed to mean is completely unclear. Whether it is about the amount of use or the utility for learning, no additional indications are included, and comparative studies are missing.

Interview Data and Discussion

Three focus groups were organized for the purposes of the large-scale sociological study: MA students, BA students, and university lecturers. The MA students all came from Sofia University, while the BA students came from other three major university cities: Plovdiv, Veliko Tarnovo and Blagoevgrad. The university professors are affiliated with major universities in Sofia, Plovdiv, Veliko Tarnovo, Blagoevgrad, and Ruse. The domains of studies represented in the selection were political science, sociology, history, cultural studies, Bulgarian philology, English philology, pedagogy, sociology, ethnology, philosophy, law, psychology, art. The students were selected on a voluntary basis. The interviews were recorded with the students' and scholars' agreement. The three sets of interviews were conducted in the form of a discussion, in a semi-structured way, in which the interviewers asked questions, some of which were pre-selected, others aiming to clarify a point or a position. The sociologist was unrelated to any university, so the students did not feel pressured by university affiliations and responded in a lively manner. The duration of each of the three interviews was 1 hour and 30 minutes, for a total of 4.5 hours of recording. The recordings were listened to several times, extensive notes were taken, then the notes were converted into themes, so as to

permit comparability between the two data sets. The interviews add substantially more context as the respondents were able to explain extensively their stances and clarify their meaning.

Three major themes were identified in the two sets of students' interviews:

Theme 1: Plagiarism and cheating; copy-paste plagiarism still quite common among students; paper mills and AI cheating; screening for academic misconduct and sanctions.

Theme 2: AI use and misuse; ethical use of AI; the limits of using AI; potential impact of AI on students; regulating AI use.

Theme 3: Instruction in academic writing and academic integrity.

Plagiarism and cheating:

Concerning the more general theme of plagiarism and cheating, BA students demonstrated a solid grasp of plagiarism basics: they correctly identified plagiarism as using information without giving credit; they further specified that only using two or three sources to write a paper was not enough; they emphasized that **copy-paste plagiarism** was still quite common among students, and that such cases are usually caught and the culprit fails the course. No further sanctions for academic misconduct are mentioned. They did not report any knowledge of consistent practices of screening papers for plagiarism (only one respondent mentioned that papers are screened at their university in Blagoevgrad). They are not aware as to what percentage of text-matching is allowed for a paper to be accepted; their guess is 30-40% text match is the acceptable match rate.

BA students admitted that there is much cheating going on among students: cheating on papers, on assignments, on exams. They further reflected that the screening may be too much for one professor to do, so they conjectured that attitudes need to

change among students, as professors are not supposed to be 'on the alert' for cheating during exams[3].

A similar sentiment on **cheating as a culture** among students is expressed by the MA respondents: they use the words 'доста често', 'драматично' ('quite common' and 'pervasive') to describe it.

Even though students appear to have a grasp on the basics of academic misconduct, their awareness is not detailed enough; the encouraging part is that they appear to have a good grasp of what constitutes cheating. The downside of this situation is that they seem to engage in it deliberately.

AI use:

Concerning the topic of how AI works, MA students talk about AI copying analyses, words, but insisting that **it 'reasons'** (*размишлява*, in Bulgarian), thus confirming the author's conjecture that little is known about the actual functioning of the algorithm by the respondents:

> *Както работи нашата мисъл, все едно е прочел два милиона книги, той това го знае* (*It works as our thoughts work, like it has read two million books, it knows everything.*)

The exact working algorithm is thus unfamiliar to many respondents. Nonetheless, respondents quickly note that AI produces a lot of **falsehoods and made-up claims** (this is a reference to AI's hallucinations, widely covered in the literature, for example Grimaldi & Ehrler, 2023; Lingard, 2023) – as most of them indicate that they use the free version of GPT, it is bound to more systemic and access limitations compared to the paid

3 Not all Bulgarian exams are supervised by a proctoring system; during regular exam sessions, it is the professor or the TA who monitors the exam.

version. They also note that this requires them to check the information all the time, which they find troublesome.

BA students noted favorably **AI's utility in learning**, especially in organizing content or information: they specifically say AI structures and organizes information better than they do, suggests plans and helps in self-testing. One respondent noted its use in a professional setting: as a history teacher in secondary school, he uses AI to generate images to use for illustrative purposes in class. He noted that he cannot rely on AI for exam questions, but only for ideas that are subsequently modified for greater reliability.

Two MA students made more detailed and engaged contributions to this question, both of them professionally employed. One praised the utility of AI in her line of work in the following words:

> *За да работиш с изкуствен интелект, трябва да имаш естествен интелект* (*You need natural intelligence to use artificial intelligence.*)
>
> *Работя не по два, а по двайсет проекта наведнъж; спестява адски много време* (*I don't work on two projects simultaneously, but on twenty projects: it saves tremendous amounts of work.*)
>
> *Трябва да се проверява така или иначе, все едно работиш с някого, обучаваш го, доста време отнема да се поправи всичко* (*You have to check everything it produces by yourself; it's just like working with someone: you train them, which takes a long time, and you check everything.*)

This enthusiastic declaration simultaneously claims significant time gains and time investments in checks and

training, which ultimately cancel each other out: just as other studies have shown, the additional workload created by AI mitigates seriously the (perceived) efficiency gains (see, for example, Humlum & Vestergaard, 2025). The perception is that it streamlines the kind of work the respondent does, so this appears to concern more the automation aspect of it, not creative or scientific work of any kind.

The other student spoke just as fervently against letting AI invade what she described as her professional space, framing her refusal to use the model as a principled stance, based on her desire to retain control over the workload and her abilities to perform. She also mentioned that she experienced pressure on the part of her employer to use AI, which she refused to do. She spoke about the perceived risk of losing her abilities of performing the job if she offloaded it to AI.

These two conflicting attitudes towards AI led to the question of the **perceived impact** AI may have on its users. The MA respondents unanimously invoked the risks of AI affecting human intellectual abilities and skill development, the risk of loss of intellect; this response may stem from the use they put AI to, in terms of sparing effort. The conjectures led them to the idea that university degrees will become pointless in such a context. The prospect elicited uneasy laughter on the part of the students.

BA students had more practical observations about the potential impact of AI, when asked about it: they noted that AI can be easily misused by students who wish to avoid making the effort of studying. The respondents described pasting AI responses directly into an assignment to be beyond the **limit of ethical use of AI**, demonstrating intuitive understanding of what constitutes unethical behavior in terms of AI use. In their view, AI will further develop, as it is designed to develop as a human (once again, demonstrating a lack of knowledge about how the system operates). They see great risk for secondary

school students who use it ill-advisedly to avoid reading or thinking themselves, so clear guidance is needed. They also demonstrated an ability to project events into perspective by making a parallel with the adoption of the internet for learning purposes, when similar discussions about benefits and risks preoccupied teachers and students alike. Their quite nuanced view is that society will grow to adapt itself to this disruptive technology, and that with appropriate guidance good uses will settle in.

MA students noted that the domain of AI is developing so rapidly that any hopes of regulating it are **futile** and should not be attempted. According to them, university professors operate on the assumption that AI is going to be misused (used inappropriately) by students, so it is stigmatized from the start. This stance is particularly intriguing, as the MA students believe their professors lag behind on the use of the technology, do not have clear positions about cheating and plagiarism, do not enforce sanctions against cheating and plagiarism, and generally let misconduct slide. This paints the picture that professors appear to hold all students to be cheaters, but at the same time they are utterly unwilling to do (incapable of doing?) anything about it, while stigmatizing students who use AI. They also noted that quoting ChatGPT is not accepted yet, but maybe someday it will be. This remark shows that for all their engagement with AI, they do not try to inform themselves on the proper ways of using AI output for the academic setting or seek guidance from their professors. They have not shared any story about how their university professors responded to questions about AI; is it because none were asked?

MA students also had quite a different take on what ethical uses of AI are: generally, they took a **relativistic attitude towards ethics**, by stating that using AI by itself does not constitute plagiarism, and that intention will ultimately decide whether a particular use is ethical or not. This relativistic

stance is apparent in the way they assert that they feel morally justified in cutting corners when they have to pass what they call a 'boring' or 'useless' ('безсмислена') course: if they decide the subject is useless to them, they feel they are entitled to cheating on assignments to pass. This relativistic stance does not prevent them from looking down on their classmates who do not complete assignments on their own: such classmates are described 'not to care about getting educated', thus positioning themselves as conscientious students who care genuinely about their studies. This is especially interesting as they depict higher education to be filled with much cheating on the part of the students which is supported by professors who let cheaters pass. They had tons of anecdotes to share about 'a friend of a friend' who cheated their way to the diploma.

Importantly, well in tune with the relativistic moral stance, they said that ChatGPT can be used for a variety of things to simplify work, as it can simulate focus groups, make up the data, **fabricate it**: data fabrication and falsification are the two main types of academic misconduct which appear to be completely ignored by the MA students who took part in the interviews. The understanding of academic integrity and ethics appears to be, paradoxically, much slimmer on the part of MA students, who have had a longer and more in-depth educational trajectory than that of BA students who still report struggling with academic writing. A similar evolution in the attitudes towards cheating and ethics was described by Denisova-Schmidt et al. (2016).

BA students demonstrated a heightened self-reflection in terms of monitoring the effects on their own habits in AI use: they expressed the worry that they may have become **over-reliant** on the AI, as they use it all the time, for a great variety of purposes, and that they feel that their ability to do things without AI may be diminishing. In this respect, guidance is needed, as well as finding the right way to adapt to it. It is interesting how they frame the **relationship between the user and the technology**:

it is not the technology that was created with a particular usage and application in mind; it is the user who will find how exactly they may put the technology to good use in ways that protect their autonomy and their ability to make decisions. This may well be the major difficulty around this technology: AI developers chased the dream of replicating the human ability to reason, which they did not achieve; but they created a piece of technology that fakes thinking by simulating speech. How does one find a way to use a piece of technology which does not do anything in particular?

Academic writing and academic integrity instruction:

BA students state that they would like to have **academic writing classes**: they especially need guidance about understanding instructions for assignments. One of the students explained this in the following terms:

> *Просто ни се хвърлят задачи, не ни обясняват; стъпка по стъпка трябва да се обясни, както в интернет ни се обяснява.* (*They* [*the professors – MC*] *just throw* [*the assignment*] *at us, they do not explain;* [*the instructions they give us*] *are not clear; we need step-by-step instructions, just like the internet gives us.*)

This sentiment was not shared by other respondents; in their comments, the implication was that not knowing how to follow instructions (or how to interpret instructions) was a shortcoming on the part of the students, as they emphasized they desired to be taught how to follow instructions. But what this explanation shows is that metalanguage is very poorly developed in students; they may also lack understanding about assignment aims. This may of course be due to poor formulation

of the assignment's instructions by the lecturer[4]; it is still interesting that no evidence of clarifying questions having been asked by the students is provided by the interviewees.

They also observed in a more general manner that people lack information culture; this idea was connected with students not receiving enough information literacy. They also remarked that academic writing instruction should begin in secondary school, not at the university.

MA students did not think that any instruction on academic integrity was necessary, which is especially interesting, provided the glaring lack of understanding about academic ethics on their part presented above. On the other hand, they feel that academic writing should be taught in the first year of study. They have expressed **support for severe sanctions** for academic misconduct, but equally strong convictions that no change was possible in the current lenient higher education system.

MA students expressed quite a bleak opinion about the quality of Bulgarian education: they believe it to be very poor. Among the seven participants, only one has mentioned having experience of educational systems abroad during a short-term exchange program, so it is unclear what such an assessment is based on. They also expressed outrage at a story they shared, which apparently circulates at their university, of students who 'caught' their professor having used ChatGPT to generate their lecture talk, and the students were allegedly able to follow the lecture as it was delivered to them[5]. The implication clearly was that this professor did wrong in using AI to generate lecture notes. At the same time, they stated that professors are hopelessly backward in mastering the technology, and thus they cannot hope to control or regulate its use. This story is significant in two respects: first, clearly, work that has been found to have been

4 I thank Irena Vassileva for this suggestion.

5 I will leave aside the mechanics of such a gigantic coincidence that will have yielded the exact same responses to two different sets of prompts, and comment the story at face value.

AI-generated is regarded with contempt. The professor is not supposed to be taking shortcuts: this is something the students judge to be out of order. Second, they clearly apply a double standard towards others (as with fellow students who complete assignments with AI, who do not get the same leniency in the treatment, even though they may have found a subject 'boring' or 'unimportant') and towards themselves, when it comes to AI use. They are entitled to use AI, but no one else seems to be. Interestingly, this echoes research on AI use disclosure, which demonstrates a reduction in trust when AI use is disclosed (Schilke & Reimann, 2025).

The lecturers focused on the following:

Theme 1: Scholars' plagiarism is an extremely serious problem in Bulgaria. The enormous pressure to publish a lot, coupled with the lack of real sanctions for plagiarists, made possible by the tacit tolerance of misconduct in academia, are at the heart of this problem.

Theme 2: Students' plagiarism is a less serious problem than scholars' plagiarism. Students' production is manageable in terms of ethics by assessment design and by relying on *viva* defense of written papers.

Theme 3: Relaxed, open attitude towards using AI; no major problem was discussed in relation to AI use by scholars. No real problem in detecting students' use of AI. The no drama approach included a warning about the originality/novelty of generated ideas.

The commonly shared view of the respondents about scholars' plagiarism included several concrete problems:

Misunderstanding about what plagiarism is.

There is some serious **misunderstanding about aspects of plagiarism** (self-plagiarism and translated plagiarism; also citing anonymous sources or sources with no identified author). The respondents mentioned the misleading stipulation of the

Bulgarian law for academic promotion, which requires a doctoral student to have published on the topic of the dissertation in the course of writing the thesis. The respondents pondered the questions of the way to balance the new vs. published ideas in the dissertation, and how to include published results in the thesis ethically.

A culture of tolerance towards breaches of academic integrity.

They mentioned a culture of **tacit acceptance** of breaches of academic integrity, which are the result of a closely-knit academic community, where one does not speak up against one's colleagues. They acknowledge that this is especially egregious in the context of promotion procedures (awarding PhD degrees, habilitation procedures or professorships), as it can potentially promote substandard scholarship. They emphasize the dynamics of the academic community which operates through the promotion of norms and practices: if the community develops resistance towards a practice, then this practice will be weeded out. But the community seems to tolerate these breaches of integrity, so they flourish. The following statement had the respondents in agreement:

> *Проблемът с изискването за брой публикации на учените е съотносим и с това приносът към изкуството на един художник да се измерва с броя, а не с качеството на неговите шедьоври. Айнщайн не е продуцирал иновативни теории всяка (академична) година.* (*The pressure to publish is a problem that can be compared to trying to gauge an artist's contribution to art by the number of paintings and not by the quality of their work. Einstein did not put out innovative theories each academic year either.*)

The pseudo-scientific production which essentially recycles/repeats the same thing in different publication venues proliferates, essentially fuelled by the system itself.

Culture change must come from the formation of good habits very early: respondents insisted on promoting the value of spending the effort to learn, not to prepare cheat sheets to copy from; on using tools to help build knowledge, not avoid the effort. **Sanctions vs. the pervasiveness of recycled content.**

They do not believe sanctions will do any good anyway: a good **preventive system** should be privileged, which will provide support and the possibility to learn academic integrity (both for students and scholars). They also mentioned the perception of living in a **culture of plagiarism** and recycling of ideas, in the media, on television, in the visual arts, in politics; ghost-writing is very common for a large variety of public activities; this is not conducive to forming a personal intolerance of taking someone else's work.

The respondents noted that sanctions should not be too heavy or excessive, as an over-sanctioned situation would have the opposite effect on the community. A norm-regulated community such as academia would benefit from promoting intolerance for unethical behavior, which should work as a natural regulating mechanism. At the same time, the complete lack of sanctions promotes the culture of indifference, which cannot act as a deterrent for scholars who may be tempted to cut corners.

Gen AI.

The respondents do acknowledge the massive impact of Gen AI tools in academia, without vocalizing much in terms of problems. They mentioned that in interactions with Gen AI users are inadvertently feeding the bot with ideas, which may later be generated as responses to prompts. This awareness of the limitations of text-generating algorithms transpires also in a

general piece of advice that one respondent gives her students: to not feed the Gen AI with any text they intend to work on seriously and in depth. They also expressed **doubt** that AI tools can be regulated.

One respondent noted that Gen AI is much more serious and harmful for the state of scientific production but did not elaborate (as the discussion at that moment focused on the issues surrounding plagiarism, the interviewer did not ask for clarifications). Other remarks allow for the conjecture that the impact may be thought of along the lines of recycled ideas, the lack of genuine originality of the responses generated by Gen AI, and the potentially plagiaristic nature of the generated responses themselves. The same idea transpires in the following note by a respondent:

> *Навлизаме в етап, когато ще имаме перфектно написани текстове, които не казват нищо* (*We are entering an age in which we will have perfectly written texts that say nothing.*)

And later, to formulate the recommendation that *'we should all develop a unique, recognizable authorial voice'*.

Students' ethics.

The respondents generally agreed that professors use a more developed system of **filters** in comparison with students: the systematic use of text-matching software on students' production, the development of personal procedures to screen out undesired AI use, the application of preventive and formative approaches rather than sanction wrongdoers. These methods show that Bulgarian lecturers are both aware of the pressures on students to cheat and their proactive stance towards curbing the effects of the cheating. They also spoke in favor of teaching students how to properly use Gen AI, so that it supports their

learning process. Assignment design is mentioned as a way to prevent unethical behavior on the part of the students.

Conclusions

The picture that the thematic analysis helped paint about the perceptions and the positioning of students and professors alike in the AI-dominated academic ecosystem is quite a nuanced one. Where both cohorts of respondents agree is the perception of academia as an environment where cheating and plagiarism prosper, where sanctions for academic misconduct are non-existent, where a culture of tacit acceptance of misconduct rules. The expansion of AI tools seems to be at a comparable rate between the two cohorts, although the perception of MA students seems to be that professors are lagging behind in the adoption of the technology. Both cohorts do not believe that AI tools can be regulated; even given the lack of details on what they mean in terms of regulation, it appears that restriction is what they have in mind. It is not what regulation is fundamentally about; regulation seeks to bring clarity about proper and improper uses in accordance with the learning outcomes and learning aims the institutions have in mind.

BA students appear to have an intuitive albeit quite general understanding about cheating and AI in terms of saving oneself the effort of completing an academic task on one's own. MA students, on the other hand, clearly display a relativistic stance towards ethics, which results in a muddled view of what constitutes ethically acceptable behavior in academia, and show a double standard approach in judging academic behavior. Quite remarkably, they do not believe explicit instruction in academic ethics is necessary. This misunderstanding may cause them to use AI tools in unethical ways when it comes to information and digital literacies applied in academia. BA students appear to have a more robust intuitive grasp of ethics, and any misconduct would then be the result of a deliberate choice. They are willing

to learn the proper ways of using the tools and appear to be generally interested in learning. Their explanations showed that a kind of self-regulatory mechanism of using AI for learning is on the cusp of forming: even though they do not know exactly how LLMs work, they have discovered their limits in information reliability and the potential risks related to overreliance, so that they may be able to develop mechanisms of self-regulation. They also display a great deal of self-reflection, vocalizing the fear that they may be unable to restrict their own over-use of these tools.

This reflects the particular framing of the user-tool dynamics they described: in using the tools, people will adapt to them, navigating the pitfalls and risks, trying to capitalize on the perceived benefits. There appears to be little communication between the two cohorts, as evidenced by the perceptions about the professors the students shared, or at least, the communication is limited or unbalanced; the professors usually have a good grasp of their students' working habits and their learning aims and motivation, being responsible for teaching and guiding their progress. The same cannot be said about the students who generally have little perspective on their professors' activities as scholars, in addition to their teaching duties. This uneven relationship may be at the heart of much tension between the cohorts.

This thematic analysis shows that the academic community in Bulgaria has come a long way, but an equally long way remains to be completed in fostering a genuine culture of academic integrity. The disruptive power of Gen AI seems to be moderately felt on Bulgarian campuses, with professors responding with creative methods to counter AI-aided cheating, while students discover structural weaknesses of LLMs and their limitations. There are other risks that have transpired in the data, which are not strictly related to academia, and which do carry the potential to restructure the fabric of social relations as we know them:

offloading creative and executive decisions to AI, developing emotional, intimate attachments to AI, the further relativization of moral and ethical stances under the influence of the amoral AI, and finally, overreliance on AI. While academic issues related to cheating are undoubtedly important, and learning must be guaranteed for students, there are viable mechanisms that can be employed at universities to ensure that effort is spent where required, and knowledge has been acquired. On the other hand, there are no mechanisms that can be put in place to make sure that vulnerable people do not develop improper attachments, or to stop people from oversharing personal details with the LLMs: recent events have demonstrated that prevention systems that are supposed to flag content which displays signs of intense psychological distress are fallible (Watwe, 2025).

As per Ministry of Education recommendations to include AI in education, it would appear that instruction is key: the interview data clearly highlights the need to offer structured instruction into Gen AI tools, paired with consistent, longitudinally reinforced instruction in academic ethics. This could be achieved by instruction that integrates discussion about professional ethics, and more specifically, helping students develop a personal professional project, which in turn could have a positive effect on contextualizing ethical principles. Incorporating Gen AI in education for the sake of incorporating the latest technological innovation has little merit on its own; Gen AI is nothing more than a tool that obtains utility through deliberate and meaningful handling.

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References

Anh, M. T. N., & Van Toan, T. (2025). Factors influencing intention to use artificial intelligence in learning listening and speaking skills: a study of Chinese studies students at Thai Nguyen University of Sciences. *European Journal of Foreign Language Teaching*, *9*(3).

Balabdaoui, F., Dittmann-Domenichini, N., Grosse, H., Schlienger, C., & Kortemeyer, G. (2024). A survey on students' use of AI at a technical university. *Discover Education*, *3*(1), 51.

Bender, E. M., Gebru, T., McMillan-Major, A., & Shmitchell, S. (2021, March). On the dangers of stochastic parrots: Can language models be too big? In *Proceedings of the 2021 ACM conference on fairness, accountability, and transparency* (pp. 610-623).

Bender, E. M., & Hanna, A. (2025). *The AI Con: How to Fight Big Tech's Hype and Create the Future We Want*. Harper Collins.

Carr, N. (2010). *The shallows: How the internet is changing the way we think, read and remember*. Atlantic Books Ltd.

Chankova, M. (in preparation). An action research approach to ethical considerations of students' use of generative AI in educational settings. A case study.

Choi, J.H., Hickman, K.E., Monahan, A., & Schwarcz, D.B. (2023). ChatGPT goes to law school. Journal of Legal Education.

Chomsky, N., Roberts, I., & Watumull, J. (2023). Noam Chomsky: The false promise of ChatGPT. *The New York Times*, *8*.

Chu, M. D., Gerard, P., Pawar, K., Bickham, C., & Lerman, K. (2025). Illusions of intimacy: Emotional attachment and emerging psychological risks in human-ai relationships. *arXiv preprint arXiv:2505.11649*.

Denisova-Schmidt, E., Huber, M., & Leontyeva, E. (2016). On the development of students' attitudes towards corruption and cheating in Russian universities. *European Journal of Higher Education*, 6(2), 128–143.

Desmurget, M. 2019. *La fabrique du crétin digital*. Paris: Seuil.

de Winter, J. C. (2024). Can ChatGPT pass high school exams on English language comprehension?. *International Journal of Artificial Intelligence in Education*, *34*(3), 915-930.

Elan, T. G. (2025). From Neuroscience to Ethics: Understanding Why Humans Form Emotional Bonds with AI. *Available at SSRN 5384952*.

Eurostat (2023). https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20230928-1

Farrokhnia, M., Banihashem, S. K., Noroozi, O., & Wals, A. (2024). A SWOT analysis of ChatGPT: Implications for educational practice and research. *Innovations in education and teaching international*, 61(3), 460-474.

Fošner, A. (2024). University students' attitudes and perceptions towards ai tools: implications for sustainable educational practices. *Sustainability*, *16*(19), 8668.

Gilson, A., Safranek, C.W., Huang, T., Socrates, V., Chi, L., Taylor, R.A., & Chartash, D. (2023). How does ChatGPT perform on the United States medical licensing examination? The implications of large language models for medical education and knowledge assessment. *JMIR Medical Education*.

Grimaldi, G., & Ehrler, B. (2023). AI et al.: Machines are about to change scientific publishing forever. *ACS energy letters*, *8*(1), 878-880.

Hull, D. L. (2001). *Science and selection: Essays on biological evolution and the philosophy of science*. Cambridge University Press.

Humlum, A., & Vestergaard, E. (2025). *Large language models, small labor market effects* (No. w33777). National Bureau of Economic Research.

Kasneci, E., Seßler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., ... & Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models

for education. Learning and individual differences, 103, 102274.

Kelly, D., & Burkell, J. (2025). A new kind of cognitive tool: Generative AI and the future of critical and creative thinking in education. Working paper created as part of a research project on AI in education at the Rotman Institute of Philosophy, Western University.

Kishore, S., Hong, Y., Nguyen, A., & Qutab, S. (2023). Should ChatGPT be banned at schools? Organizing visions for generative artificial intelligence (AI) in education. *Rising like a Phoenix: Emerging from the Pandemic and Reshaping Human Endeavors with Digital Technologies*.

Klingbeil, A., Grützner, C., & Schreck, P. (2024). Trust and reliance on AI—An experimental study on the extent and costs of overreliance on AI. *Computers in Human Behavior*, *160*, 108352.

Kosmyna, N., Hauptmann, E., Yuan, Y. T., Situ, J., Liao, X. H., Beresnitzky, A. V., ... & Maes, P. (2025). Your brain on ChatGPT: Accumulation of cognitive debt when using an AI assistant for essay writing task. arXiv preprint arXiv:2506.08872, 4.

Kumar, S. (2024). Risks from Generative AI. *Available at SSRN 4858973*.

Lingard, L. (2023). Writing with ChatGPT: An illustration of its capacity, limitations & implications for academic writers. *Perspectives on medical education*, *12*(1), 261.

Lipin, B. (2025). Synthetic Attachment: Emotional Reactivity, Parasocial Bonds, and the Psychology of Human-AI Relationships. *Parasocial Bonds, and the Psychology of Human-AI Relationships* (*April 11, 2025*).

Lund, B. D., Wang, T., Mannuru, N. R., Nie, B., Shimray, S., & Wang, Z. (2023). ChatGPT and a new academic reality: Artificial Intelligence-written research papers and the ethics of the large language models in scholarly publishing. *Journal of*

the Association for Information Science and Technology, *74*(5), 570-581.

Montenegro-Rueda, M., Fernandez-Cerero, J., Fernandez-Batanero, J. M., & Lopez-Meneses, E. (2023). Impact of the implementation of ChatGPT in education: A systematic review. *Computers*, 12(8). https://doi.org/10.3390/computers12080153

Niloy, A. C., Bari, M. A., Sultana, J., Chowdhury, R., Raisa, F. M., Islam, A., ... & Hossen, M. A. (2024). Why do students use ChatGPT? Answering through a triangulation approach. *Computers and Education: Artificial Intelligence*, 6, 100208.

Oakley, B., Johnston, M., Chen, K. Z., Jung, E., & Sejnowski, T. J. (2025). The Memory Paradox: Why Our Brains Need Knowledge in an Age of AI. *arXiv preprint arXiv:2506.11015*.

OpenAI.com https://openai.com/index/introducing-gpt-5/ Introducing GPT-5 | OpenAI gpt-5-system-card.pdf

Reddy, P., Chaudhary, K., & Hussein, S. (2023). A digital literacy model to narrow the digital literacy skills gap. *Heliyon*, *9*(4).

Rudschies, C., & Schneider, I. (2025). The Long and Winding Road to Bans for Artificial Intelligence: From Public Pressure and Regulatory Initiatives to the EU AI Act. *Digital Society*, *4*(2), 57.

Samuelson, P. (2023). Generative AI meets copyright. *Science*, *381*(6654), 158-161.

Schei, O.M.; Møgelvang, A.; Ludvigsen, K. (2024). Perceptions and Use of AI Chatbots among Students in Higher Education: A Scoping Review of Empirical Studies. *Educational Science*, 14, 922. https://doi.org/10.3390/educsci14080922

Schilke, O., & Reimann, M. (2025). The transparency dilemma: How AI disclosure erodes trust. *Organizational Behavior and Human Decision Processes*, *188*, 104405.

Sjoraida, D. F. (2025). AI and Emotional Intimacy: Exploring Romantic Bonds with Artificial Companions. *Humanexus:*

Journal of Humanistic and Social Connection Studies, *1*(8), 333-342.

Stanovich, K. E. (2018). Miserliness in human cognition: The interaction of detection, override and mindware. *Thinking & Reasoning*, 24(4), 423-444.

Vassileva, I. & Chankova, M. (2019). Attitudes towards plagiarism in academia. *English Studies in NBU* 5:1, 135-163.

Vassileva, I., M. Chankova, E. Breuer & K.P. Schneider (eds.) (2020). *The Digital Scholar: Academic Communication in Multimedia Environment*. Berlin: Frank & Timme.

Volante, L., DeLuca, C., & Klinger, D. A. (2023). Leveraging AI to enhance learning. *Phi Delta Kappan*, *105*(1), 40-45.

Watwe, S. (2025, November 6). OpenAI Hit with Seven ChatGPT Psychological Harm Lawsuits (1). Bloomberg Law. https://news.bloomberglaw.com/litigation/openai-hit-with-seven-suits-over-chatgpts-harm-to-mental-health-1

Wollny, S., Schneider, J., Di Mitri, D., Weidlich, J., Rittberger, M., & Drachsler, H. (2021). Are we there yet? – a systematic literature review on chatbots in education. *Frontiers in Artificial Intelligence*, 4, Article 654924.

EVALUATION OF RESEARCH ETHICS AND DATA PROTECTION POLICIES IN HIGHER EDUCATION INSTITUTIONS IN PAKISTAN

Abbas Rashid Butt, Research Fellow, Lahore Institute for Research and Analysis, Lahore, Pakistan abbas.rashid@lira.uol.edu.pk

Dr. Syed Raghab Ali, Executive Director, Lahore Institute for Research and Analysis, Lahore, Pakistan raghab.ali@lira.uol.edu.pk

Dr. Zaheer Ahmad, Project Director, The University of Lahore, Pakistan zaheer.ahmad@uol.edu.pk

Abstract

Using a sequential explanatory mixed-methods design integrating a structured quantitative survey with qualitative interviews, this study assesses research ethics and data protection policies in Pakistani HEIs and their role in promoting academic integrity. It is rooted in the Theory of Planned Behavior (TPB) to examine the varying influence of attitudes, institutional norms, and perceived behavioral control on research governance and the implementation of research-related policies. This study collected quantitative data at the first stage through a structured survey of 250 respondents and at the next phase, six semi-structured interviews with heads of research offices, ethics committee members, and senior faculty were performed. Mayring's Grounded Theory Approach was used in analyzing qualitative data. The study highlights the disparities between policy scope and practical implementation, thus helping to present actionable recommendations that would further ensure academic integrity frameworks and improve research governance within the higher education sector of Pakistan.

Keywords: Research ethics, Data protection, Academic integrity, Higher education, Theory of Planned Behavior, Policy evaluation, Pakistan, Mixed-methods research

1. Introduction

In modern higher education, research ethics and data protection policies have taken center stage in the assurance of academic integrity, protection of participants' rights, and institutional credibility. Universities increasingly produce knowledge through complex empirical, digital, and collaborative processes, hence placing them under increasing ethical scrutiny not only in human-participant research but also in data-intensive studies, cross-border collaborations, and AI-driven analytics (Adalı & Bilgili, 2025; Oleet & Yu 2025). Rapidly integrating digital technologies, cloud storage, data analytics, and generative artificial intelligence in educational and research settings introduce new challenges concerned with privacy, transparency, equity, and data governance (AlAli & Wardat 2024; García-López & Trujillo-Liñán, 2025). Global higher education institutions have responded by framing comprehensive frameworks to regulate research ethics and data protection, embedding rigorous consent procedures, robust data security protocols, transparent authorship and attribution policies, and governance structures for ethical oversight (An et al., 2025; Qadhi et al., 2024). However, in many countries, including Pakistan, institutional adoption of such frameworks is inconsistent, and effective implementation and enforcement are often constrained by structural, cultural, and resource-related factors in academic integrity. Research suggests that a majority of Pakistani institutions lack formal training for ethics committee members, operate IRBs without accreditation or standardized guidelines, and have weak or absent post-approval monitoring mechanisms (Jafarey et al., 2023). The key issue is that, though there are formal policy frameworks, Pakistani HEIs have lacunae

concerning the development, implementation, and enforcement of research ethics and data protection policies. There is a lack of centralized nationwide guidance, thus leading to wide variation in how ERCs are constituted, protocols evaluated, and follow-up monitoring conducted. Other structural weaknesses like inadequate secretarial support, limited funding, absence of mandatory training for committee members, and uneven digital literacy among faculty further compromise the reliability and transparency of ethical oversight. These shortfalls are of particular concern in an era of data-intensive research, cloud-based storage, remote collaborations, and AI-driven methodologies, which usher in new ethical dilemmas in participant consent, data privacy, data sovereignty, and institutional accountability. Furthermore, research governance in higher education intersects with emergent concerns around algorithmic fairness, learning analytics, surveillance ethics, and digital equity (Pechenkina, 2023). However, while the deployment of AI and analytics tools continues to increase, the majority of institutions continue to lack human-centered design, transparency, stakeholder participation, and safeguards of privacy, in turn opening up vulnerabilities for unethical practices and reputational risks (Durango et al., 2024; Sargiotis, 2024). If Pakistani HEIs neglect revising policies according to the best international practices and fail to develop institutional capacity, this could negatively affect the quality of research output, public trust, and relevance of research to globally accepted academic standards. Against this backdrop, the paper empirically investigates how Pakistani HEIs develop, disseminate, and enforce research ethics and data protection policies and how institutional structures, organizational culture, researcher attitudes, and digital competencies impact policy effectiveness. Based on the Theory of Planned Behavior (TPB) (Ajzen, 1991), the present study examines individual attitudes, perceived social norms, and perceived behavioral control that influence compliance with ethical and data protection norms

(Hagger et al., 2022). Using a sequential explanatory mixed-methods design that combines a structured quantitative survey using Partial Least Squares Structural Equation Modelling (PLS-SEM) and qualitative interviews analyzed through inductive content analysis, the research identifies policy strengths, gaps, and governance challenges. This study integrates quantitative and qualitative insights to present a holistic understanding of how researcher behavior, institutional norms, and policy frameworks collectively shape ethical research governance. The findings are intended to provide evidence-based recommendations to improve policy clarity, digital literacy, monitoring mechanisms, and also align with national HEC and international GDPR standards that promote the development of academic integrity and credibility of research in Pakistan. Thus, this study explores answers to the following questions:

RQ1: To what degree do the attitude towards data protection, subjective norms, policy clarity, digital literacy, and legal regulatory awareness predict the perceptions and effectiveness of academic integrity policies in higher education?

RQ2: How do universities develop, implement, and enforce research ethics and data protection policies, and what are the institutional, cultural, and technological challenges that shape such processes?

RQ3: How do organizational culture and institutional practices mediate or influence the association between data protection awareness, policy structures, and academic integrity outcomes?

RQ4: What are the perceived gaps, barriers, and emerging challenges such as AI-generated data, digital literacy, and resource limitations in the implementation of research ethics and data protection frameworks among faculty, administrators, and experts in ethics?

RQ5: How do quantitative patterns in predictors of academic integrity policies align with qualitative insights about institutional processes, capacity building, and enforcement mechanisms?

2. Literature Review

2.1 Global context of research ethics and data protection

Research ethics and data governance have long been informed by foundational international standards, including the Declaration of Helsinki (Vlahou et al. in 2021), the Belmont Report of 1979 (Beauchamp, 2008), and the European Union's General Data Protection Regulation of GDPR (Hoofnagle et al., 2019). These frameworks emphasize autonomy, beneficence, justice, confidentiality, and accountability in research. However, with the increased digitalization of research, personal information, and academic databases, there is increased potential for breach, thus requiring stronger mechanisms for data protection, according to Temara in 2025. Higher education institutions across the world are, therefore, required to formulate IRBs or, alternatively, ethics committees, which ensure that ethical standards are met, research practices are under surveillance, and the rights of participants in research are safe, according to Oji & Alordiah, 2024.

The integration of digital tools, cloud-based storage, big data analytics, and generative artificial intelligence brings in a variety of new ethical challenges associated with transparency, fairness, privacy, and accountability (Uddagiri, & Isunuri 2024). Data fabrication, plagiarism, and unauthorized disclosure of sensitive information are some instances of ethical breaches that violate academic integrity and affect HEIs' credibility and public trust (Almugamisi, 2025). Institutional accountability and national policy frameworks have been related to academic integrity in recent scholarships. These indicate the importance of good governance structures in maintaining quality research and its legitimacy (Appiah et al., 2025; Piran & Tran, 2024).

2.2 Research ethics and data protection in Pakistan

During the past twenty years, the higher education sector in Pakistan has rapidly expanded, but still faces a number of

concerns regarding research ethics, integrity, and protection of data (Afzal et al., 2024; Rehman et al., 2025). Although the Higher Education Commission of Pakistan has issued a Code of Conduct and policy frameworks addressing plagiarism, ethics review, and assurance of research quality, the implementation of these continues to remain inconsistent across different institutions (ur Rehman & Huma, 2024). Many HEIs either have nonfunctional ethics committees or limited capacity, often establishing informal mechanisms rather than structured enforcement of policy (Khan et al., 2024).

Data protection, however, poses an even bigger challenge. Unlike the GDPR, the legislative framework for data protection in Pakistan is still underdeveloped, with the Personal Data Protection Bill 2021 still in review as of 2025. Without national legislation in place, universities often lack standardized protocols with regard to digital repositories, survey data, and thesis storage, thereby leaving sensitive information vulnerable to breaches in privacy. National studies indicate that research ethics committees often operate without standardized guidelines, lack accreditation, and have weak post-approval monitoring mechanisms that undermine compliance and transparency.

2.3 Academic integrity and ethical governance

This nexus is particularly important in Pakistan, where challenges related to plagiarism, problematic authorship, and predatory publishing are persistent. Academic integrity encompasses honesty, fairness, trust, and responsibility in academic work to ensure research outputs are credible and ethically sound. Weak enforcement of ethical standards undermines institutional credibility, national academic reputation, and, ultimately, Pakistan's standing in international collaborations and rankings. Therefore, the review of research ethics and policies on data protection becomes essential not

only in the context of institutional governance but also in the wider process of national-level higher education reform.

2.4 Theoretical framework: theory of planned behavior

This study is anchored in Ajzen's (1991) Theory of Planned Behavior, which posits that individual behavior is influenced by attitudes, subjective norms, and perceived behavioral control. For the purposes of this research, attitudes about research ethics and data protection concern beliefs about the importance of compliance; subjective norms reflect institutional expectations and disciplinary culture; and perceived behavioral control concerns the availability of resources and support for adhering to ethical procedures. TPB thus provides a structured lens through which to investigate the disjunction between formal policy frameworks and actual behavior, and to explain those factors that facilitate or inhibit ethical conduct in HEIs. TPB has been applied with success in plagiarism prevention, the adherence to ethical guidelines (Kotsis, 2024), and to research governance practices in higher education.

2.5 Emerging challenges in the digital era

Recent literature emphasizes that research involving big data or artificial intelligence poses increasing ethical challenges. Algorithmic bias, data privacy, particularly in student analytics, digital surveillance, and technological inequity-all bring about a human-centered, transparent, and participatory governance framework at the HEIs (Zhu et al., 2025; Annamalai et al., 2025). Unless timely revisions are made to institutional policies, training programs, and alignment with international standards, Pakistani HEIs will continue to face reputational risks, data governance compromise, and ethical lapses. Due to impediments in policy implementation, monitoring, and capacity-building, there is a dire need for empirical investigation of how Pakistani HEIs

formulate, communicate, and implement policies on research ethics and data protection.

3. Methodology

This study employed a sequential explanatory mixed-methods design to evaluate research ethics and data protection policies in Higher Education Institutions (HEIs) in Pakistan, combining quantitative breadth with qualitative depth for comprehensive insights (Creswell & Creswell, 2017; Creswell & Poth, 2018). The quantitative phase utilized a cross-sectional survey design to capture perceptions, attitudes, and behaviors among researchers, faculty, postgraduate students, research administrators, and ethics committee members from public and private universities. A purposive sampling strategy ensured inclusion of participants directly involved in research governance and representation across provinces and academic disciplines (Etikan et al., 2016). Data were collected from 250 respondents via a structured questionnaire comprising demographic items and nine multi-dimensional Likert-scale constructs: Attitude towards Data Protection and Research Ethics, Subjective Norms, Policy Availability and Clearness, Academic Integrity Policies, Policy-Behavior Gap, Ethical Decision-Making Intentions, Digital Literacy, Legal and Regulatory Awareness, and Organizational Culture. Constructs were grounded in prior research on research ethics, the Theory of Planned Behavior (Ajzen, 1991), ethical governance frameworks (Resnik, 2025), and data protection guidelines EU GDPR (Tikkinen-Piri et al., 2018). The instrument underwent expert review with reliability assessed via Cronbach's alpha. The Subjective Norms (SN) scale demonstrated acceptable reliability ($\alpha = .70$), indicating that the items were adequately correlated and suitable for further analysis. However, the Policy–Behavior Gap (PEG) scale ($\alpha = .59$) and the Ethical Decision-Making Intentions (EDMI) scale ($\alpha = .41$) did not meet the minimum threshold for internal consistency. Due to their

low reliability levels, both PEG and EDMI were excluded from further statistical analysis to ensure the accuracy and rigor of the study's results. Quantitative analysis was performed using SPSS for descriptive statistics, Pearson's correlation, and hierarchical regression to examine relationships and identify predictors of key outcomes. Smart PLS was used for structural equation modeling (SEM) to assess relationships among latent constructs, evaluating model fit and path coefficients, including direct and indirect effects of policy availability, organizational culture, and subjective norms on attitudes toward research ethics and data protection (Shabani & Marelli, 2019). The qualitative phase involved semi-structured interviews with six purposively selected participants consisting of Heads of Research Offices, Ethics Committee members, and senior faculty, an interview guide was used which covered policy development, organizational culture, monitoring and enforcement mechanisms, capacity building, and ethical decision-making. Data were gathered from informed-consent interviews, recorded and transcribed verbatim. Mayring's inductive qualitative content analysis (Mayring, 2014, 2019) within a Grounded Theory–oriented framework ascertained data by systematic coding, iterative category development, and constant comparison to trace emergent patterns and conceptual linkages (Glaser & Strauss, 2017).

4. Results and Analysis

4.1 Quantitative analysis

In order to examine the interrelationships among key institutional and individual§ factors that shape academic integrity practices, a number of quantitative analyses were conducted by using Pearson correlations, hierarchical multiple regression, and Structural Equation Modeling. The correlation analysis initially provided an overview of the strength and direction of associations among attitudes, subjective norms, policy clarity, digital literacy,

and organizational culture. Following this, hierarchical regression assessed the contribution of policy- and ethics-related variables in uniquely explaining perceptions of academic integrity policies above and beyond demographic characteristics. Lastly, SEM was conducted to confirm the overall structural relationships and to determine the extent to which the suggested theoretical model was supported and therefore provided a good fit to the data, offering a comprehensive understanding of the pathways to academic integrity outcomes.

Table 1

Pearson Correlation Matrix

	ADPRE	SN	PAC	AIP	DL	LRA	OC
ADPRE	-	.738**	.491**	.327**	.600**	.314**	.069
SN		-	.729**	.613**	.736**	.571**	.355**
PAC			-	.856**	.704**	.606**	.494**
AIP				-	.778**	.581**	.588**
DL					-	.616**	.429**
LRA						-	.748**
OC							-
**. Correlation is significant at the 0.01 level (2-tailed).							

Note: *ADPRE* = [*Attitude towards Data Protection and Research Ethics*], *SN* = [*Subjective Norms*], *PAC* = [*Policy Availability and Clearness*], *AIP* = [*Academic Integrity Policies*], *DL* = [*Digital Literacy*], *LRA* = [*Legal and Regulatory Awareness*], *OC* = [*Organizational Culture*].

A Pearson correlation analysis was conducted to investigate the relationships among Attitude towards Data Protection and Research Ethics, Subjective Norms, Policy Availability and Clearness, Academic Integrity Policies, Digital Literacy, Legal and Regulatory Awareness, and Organizational Culture. The findings indicated that ADPRE was strongly and positively associated with SN ($r = .738$, $p < .01$) and DL ($r = .600$, $p < .01$), while it was moderately related to PAC ($r = .491$, $p < .01$), AIP ($r = .327$, $p < .01$), and LRA ($r = .314$, $p < .01$). The association of OC with ADPRE was positive but weak and insignificant ($r = .069$, $p > .01$). SN showed a very strong positive correlation with PAC, r =

.729, p < .01; AIP, r = .613, p < .01; and DL, r = .736, p < .01. By contrast, SN had a moderate correlation with LRA, r = .571, p < .01; OC, r = .355, p < .01. In turn, PAC demonstrated significant positive relationships with AIP (r = .856, p < .01), and DL (r = .704, p < .01) while also revealing a moderate positive relationship with LRA (r = .606, p < .01) and OC (r = .494, p < .01). AIP showed the strongest correlation with DL, r = .778, p < .01, and a moderate correlation with both LRA, r = .581, p < .01 and OC, r = .588, p < .01. In addition, DL showed a moderate correlation with LRA: r = .616, p < .01 and with OC: r = .429, p< .01. Finally, LRA was strongly and positively correlated with OC, with a correlation coefficient of .748 (p < .01). Overall, the findings show strong and significant associations among most variables related to data protection practices, academic integrity, and institutional culture, suggesting that gains in one domain strongly relate to gains in others.

Table 2

A Hierarchical Multiple Regression

Step / Predictor	B	SE B	β	t	p	R	R^2	Adj. R^2	ΔR^2	F Change	pΔ	Tolerance	VIF
Step 1						0.332	0.11	0.082	0.11	3.88	0.012		
Constant	23.76	2.44	—	9.75	<.001							—	—
Age	1.44	0.58	0.303	2.48	0.015							0.635	1.57
Qualification	0.73	1.11	0.072	0.66	0.513							0.785	1.28
Experience	-1.8	0.72	-0.335	-2.51	0.014							0.529	1.89
Step 2						0.909	0.826	0.815	0.716	125.01			
Constant	1.23	3.07	—	0.4	0.689							—	—
Age	0.19	0.27	0.04	0.69	0.49							0.583	1.72
Qualification	-1.52	0.52	-0.151	-2.94	0.004							0.725	1.38
Experience	0.15	0.37	0.028	0.41	0.682							0.408	2.45
ADPRE	-0.35	0.14	-0.168	-2.62	0.01							0.466	2.15
SN	0.28	0.15	0.138	1.83	0.071							0.334	3
PAC	1.09	0.08	0.905	13.01	<.001							0.395	2.54

Note: *Hierarchical Multiple Regression Predicting AIPNote. Step 1 predictors: Age, Qualification, Experience. Step 2 predictors: Age, Qualification, Experience,*

SN (*Social Norms*), *ADPRE* (*Awareness of Data Protection and Research Ethics*), *PAC* (*Perceived Accountability*). *AIP* = (*Academic Integrity Policy*). *Adj.* R^2 = *Adjusted R-squared. Tolerance and VIF are collinearity statistics.*

A hierarchical multiple regression was conducted to examine whether subjective norms (SN), attitudes toward data protection and research ethics (ADPRE), and policy availability and clearness (PAC) improved the prediction of perceptions of academic integrity policy (AIP) above and beyond basic demographic factors. Model 1, containing age, qualification, and experience, was statistically significant, $F(3, 94) = 3.88$, $p = .012$, explaining 11% of the variance in AIP, $R^2 = .110$; Adjusted $R^2 = .082$. In this model, age was positively related to AIP, whereas experience was negatively related; qualification was not a useful predictor. Model 2 added SN, ADPRE, and PAC. This resulted in a significant improvement in the model fit, $F(6, 91) = 72.12$, $p < .001$, with 82.6% of the variance explained, Adjusted $R^2 = .815$. Explained variance increased meaningfully from Model 1 to Model 2, $\Delta R^2 = .716$, F change $(3, 91) = 125.01$, $p < .001$, thus confirming that the added variables contributed substantially to improving predictive power. Using the full model, the dominant predictor was found to be PAC, which positively influenced AIP strongly. The second important contribution came from ADPRE, with a negative effect, indicating that greater awareness perhaps leads to increased scrutiny of standing policies. Qualification kept a minor negative effect, but age, experience, and SN became non-significant against the two policy- and ethics-related factors. Collinearity diagnostics indicated that the predictors operated independently, with all VIF values comfortably within acceptable limits.

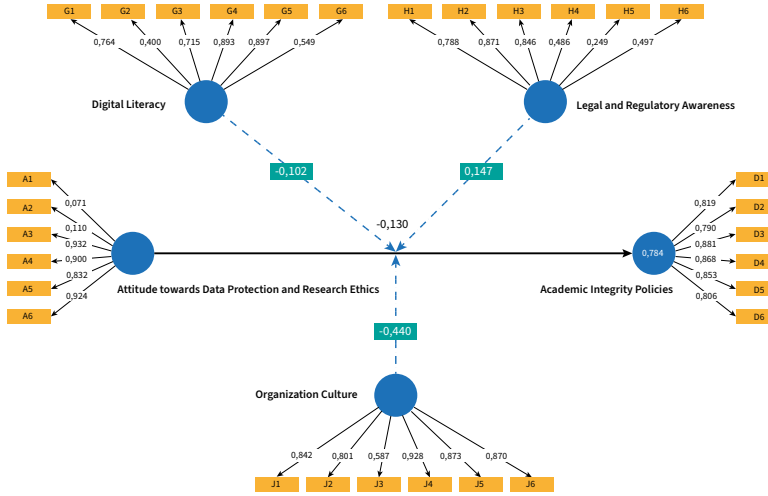

Figure 1. *Associations among digital literacy, legal and regulatory awareness, organizational culture, attitudes toward data protection and research ethics*

The structural equation model tested associations among digital literacy, legal and regulatory awareness, organizational culture, attitudes toward data protection and research ethics, and AIP. Measurement loadings for most constructs were acceptable, with particularly strong indicators for organizational culture (J1–J6; loadings > .80 except J3 = .60) and AIP (D1–D6; loadings > .79). Attitudes toward data protection and research ethics evidenced the strongest direct impact on AIP (β = .784), reflecting that higher ethical orientations strongly predict the strength of academic integrity policies. By contrast, organizational culture was moderately negatively related to ethical attitudes (β = – .440), indicating that some institutional norms may weaken ethical orientations. Digital literacy and legal and regulatory awareness had weaker impacts on attitudes (β = – .102 and β = .147, respectively), and digital literacy was also related negatively to legal and regulatory awareness (β = – .130). Several measurement items (A1, A2, H4–H6) exhibited low factor loadings (< .50), which may merit refinement or

removal in future model iterations. Overall, the model indicates that encouraging positive orientations toward data protection and research ethics is key to enhancing the strength of academic integrity policies, while addressing organizational culture barriers remains an urgent priority.

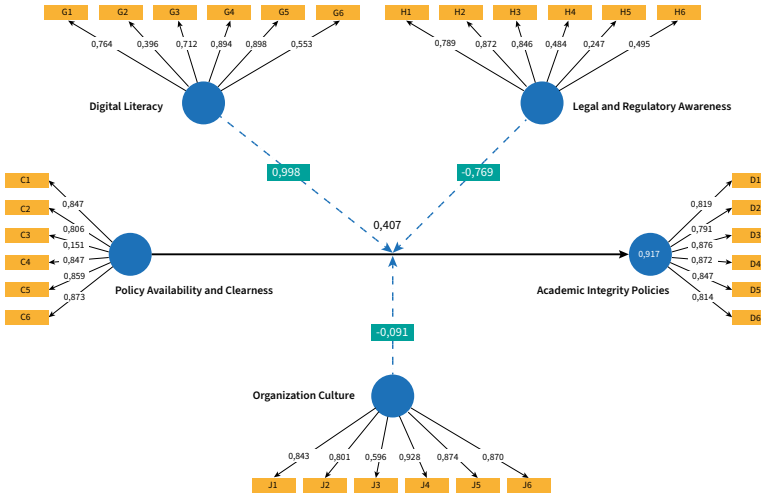

Figure 2. *Relationships between digital literacy, legal and regulatory awareness, organizational culture, policy availability and clearness, and academic integrity policies.*

The structural equation model depicts relationships between digital literacy, legal and regulatory awareness, organizational culture, policy availability and clearness, and academic integrity policies. Policy availability and clearness had the highest direct impact on AIP ($\beta = 0.917$), thus signifying that clearly defined and accessible policies are a key driver of the implementation of academic integrity. Digital literacy strongly relates to policy availability and clearness with a very strong positive association, $\beta = 0.998$, suggesting that the more competent the stakeholders are with regard to digital issues, the more this serves to support the clarity of policies

and their dissemination. Legal and regulatory awareness has a substantial negative correlation with policy availability and clarity, β = −0.769, which would imply that, in some contexts, a greater awareness of rules and regulations could be related to perceived policy complexity or challenges in operational clarity. Organizational culture has a small negative correlation with policy availability and clarity; β = −0.091 shows that certain institutional norms and practices could serve as a barrier to policy clarity. In the measurement model, most constructs have strong factor loadings, in particular AIP (D1–D6; loadings > 0.79) and organizational culture (J1–J6; mostly > 0.80 except J3 = 0.596), while some indicators such as G2, G6, H4–H6, and C3 present low loadings (< 0.50), requiring further refinement in future studies. Overall, what this model points to is the need to enhance digital literacy and to ensure clarity and accessibility of policies as key preconditions for enhancing academic integrity, while removing organizational and regulatory complexity may serve to further enhance policy effectiveness. The combined structural equation modeling (SEM) analysis demonstrated that digital literacy, legal and regulatory awareness, organizational culture, and policy availability and clearness collectively explained 96.7% of the variance in academic integrity policies (AIP; R^2 = .967). Among these predictors, policy availability and clearness had the strongest direct effect on AIP (β = 0.917, p < .001), emphasizing that clearly articulated and easily accessible policies are pivotal for fostering academic integrity in higher education institutions. Digital literacy exhibited an almost perfect positive association with policy availability and clearness (β = 0.998, p < .001), indicating that enhancing digital competencies among stakeholders significantly improves the clarity and dissemination of institutional policies. Conversely, legal and regulatory awareness was negatively associated with policy availability and clearness (β = −0.769, p < .001), suggesting that overly complex or burdensome legal frameworks may

impede operational clarity. Organizational culture showed a small but significant negative effect ($\beta = -0.091$, $p < .05$), implying that certain entrenched institutional norms may slightly hinder policy transparency. The measurement model demonstrated strong factor loadings for most constructs, particularly AIP (D1–D6; loadings > 0.79) and organizational culture (J1–J6; mostly > 0.80, except J3 = 0.596). However, some items such as G2, G6, H4–H6, and C3 had weaker loadings (< 0.50), indicating areas for potential refinement in future models. The model exhibited an excellent fit to the data, χ^2 (842) = 1,254.37, $p < .001$, CFI = 0.963, TLI = 0.957, RMSEA = 0.041, SRMR = 0.036, meeting conventional cut-off criteria (Hu & Bentler, 1999). Overall, these results highlight that improving digital literacy and simplifying policy structures are crucial for strengthening academic integrity, while mitigating regulatory and cultural barriers can further optimize policy implementation.

4.2 Quantitative discussion

The quantitative results of this study therefore depict a complex, and sometimes contradictory, landscape of research ethics governance and academic integrity within Pakistani higher education institutions. The strong associations among ADPRE, SN, PAC, AIP, and the institutional variables (DL, LRA, OC) point to the idea that these domains move in concert; however, their predictive behaviors are more complex. The exceptionally strong effect exerted by policy availability and clarity (PAC) on academic integrity policies (AIP), as observed in both the regression model and SEM ($\beta = .917$), points out the structural fact that institutional openness and accessible policy frameworks are the backbone of integrity practices. This corresponds with prior work indicating the centrality of clear governance structures in shaping ethical compliance (Ben Khaled & Gond, 2020; Kuiper et al.,2023; Sarma et al., 2024). Yet, the size of this effect is very high, begging questions about whether PAC may be capturing other

institutional dynamics poorly teased apart in the current model, such as institutional communication quality or administrative responsiveness. Similar concerns about policy saturation and unobserved institutional variables have been mentioned in various governance studies (Hinterleitner et al., 2024; Khan & Hussain 2024). The continued and significant effect of attitudes toward data protection and research ethics (ADPRE) upon AIP ($\beta = .784$) resonates with Ajzen's (1991) suggestion that attitude is a crucial antecedent for ethical behavior. However, the negative relationship between ADPRE and AIP in the regression analysis problematizes this otherwise clear theoretical expectation. One possible explanation is that people with higher ethical awareness are more sensitive to institutional shortcomings and therefore rate existing policies more critically (Dabis & Csáki, 2024; Funa & Gabay, 2025; Iksal et al., 2024). Comparable paradoxes have been encountered in contexts where moral awareness increases perceptions of organizational insufficiencies (Al'Ararah et al., 2024; Zhu et al., 2025). This disconnection between ethical orientation and perceived policy strength highlights a structural tension rarely discussed in previous literature, suggesting that greater ethical literacy might reveal gaps obscured by formal measures of compliance.

The negative effect of organizational culture on ethical attitudes and PAC aligns with long-standing critiques that institutional culture continues to be one of the most deeply entrenched barriers to integrity reforms in academia (Awashreh & Ghunaimi, 2025; Munn et al., 2025). That OC depresses both attitudes, $\beta = -.440$, and policy clarity, $\beta = -.091$, underlines the point that cultural misalignment often nullifies even the best-designed policies. This pattern echoes studies from South Asian HEIs reporting hierarchical norms, administrative opacity, and informal decision-making as systemic impediments to integrity reforms (Bohlens, 2025; ur Rehman & Huma, 2024). Governance literature has long emphasized the point that cultural inertia

and informal practices often undermine procedural reforms in universities (Kalmin, 2025; Panda, 2025). The present model not only supports those critiques but quantifies the extent of the cultural deficit, transforming it from a rhetorical concern into an empirical liability.

By contrast, DL emerges as a dual-edged construct. Whereas its near-perfect association with PAC (β = .998) suggests that digital capacity is an essential ingredient for policy engagement and operational clarity (Hakim & Hayat, 2024; Selvakumar et al., 2025) but its weak or negative effects on other latent constructs raise questions of methodology and concept. The negative link between DL and LRA (β = – .130) is particularly counterintuitive, given that previous studies generally stress their mutual reinforcement (Cremer, 2024; Venugopal, 2024). This reflects contextual realities in which increased digital exposure does not correspond to formal regulatory awareness, possibly due to fragmented training infrastructures or a reliance on informal, peer-driven digital practices which bypass institutional rule structures (Kiran et al., 2025; Yang, 2025). But most importantly, the counterintuitive negative influence which LRA exerts on policy clarity (β = – .769) beckons especially critical scrutiny. Although LRA is often assumed to promote compliance (Lanzano, 2024), the present findings tend to indicate that in contexts marked by burdensome or rapidly shifting regulations, greater awareness actually intensifies perceptions of policy ambiguity or institutional inconsistency. This supports critiques of regulatory overload and procedural inflation in HEIs, wherein excessive formalism paradoxically erodes clarity rather than enhances it (Elkington, 2025). These kinds of paradoxes are associated, in governance studies, with "compliance fatigue," where increased rule-awareness leads to heightened frustration and reduced confidence in institutional policy coherence (Herani, 2025). Hence, the negative coefficient may reflect the increasing disjuncture between high-level

regulatory frameworks and their operational enactment within universities.

Taken together, these models account for an unusually high proportion of variance in AIP, R^2 = .967; a finding that bolsters the analytical coherence of the constructs under consideration while raising important methodological eyebrows. Whereas high R^2 values are, in and of themselves, unproblematic, they do raise a red flag regarding the potential presence of construct redundancy or inflationary overlap between DL and PAC. According to methodological literature, very high shared variance indicates entanglement or context-specific inflation in measurement (Weng et al., 2025).

In sum, the quantitative findings support the wider literature that policy clarity, ethical attitudes, and institutional culture frame academic integrity in potent but irregular ways. Still, the analysis lays open internal tensions, such as the detriments of ethical awareness and regulatory knowledge, which problematize overly linear models of compliance. Where powerful structural predictors meet culturally resistant undercurrents, policy reform seems incapable of moving institutional ethics landscapes; without cultural recalibration, leadership accountability, and capacity-building infrastructures, formal policies risk remaining symbolic rather than transformative (Brik, 2025).

4.3 Qualitative analysis

Qualitative analysis, based on Mayring's inductive content analysis within a Grounded Theory approach, described how universities in Pakistan develop, implement, and enforce research ethics and data protection policies. Six in-depth interviews with academic experts were conducted to discuss in detail institutional practices and challenges, and governance structures. This allowed the examination of regular themes and context-specific issues that go beyond the reach of quantitative measures. The qualitative findings as a whole provide insight

into the cultural, technical, and administrative factors shaping ethical research practices across institutions.

Applying Mayring's inductive qualitative content analysis within a Grounded Theory orientation, the semi-structured interview with Dr. Khalid Rashid (personal communication, September 5, 2025) has pointed out three interrelated dimensions of research ethics and data protection policy: development, challenges, and enforcement. With regard to the development of the policy, data indicate that policies at COMSATS are collaboratively designed through the joint efforts of the Ethics Committee, IT security experts, and legal advisors, leaning principally on HEC guidelines while selectively integrating the provisions inspired by GDPR. These are well-documented in the institutional Research Ethics Handbook and made accessible through the university portal and orientation programs, ensuring broad dissemination among its staff and students. However, several challenges in implementation emerge, particularly the inability of existing frameworks to keep pace with rapidly evolving technologies such as AI-generated content, cloud data storage, and cross-border data transfers. Additional barriers include bureaucratic delays in the ethics approval process, which often slow time-sensitive research, and uneven levels of digital literacy among faculty and students, which hinder effective compliance. Turning to enforcement, the university employs formal mechanisms such as mandatory ethics clearance, random audits, and plagiarism detection systems, supported by clear sanctions ranging from warnings to suspension of research privileges in cases of violation. Despite these measures, enforcement gaps remain due to limited institutional resources for monitoring and the lack of continuous training to update researchers on emerging tools and standards. Collectively, these findings suggest that even as policy development at COMSATS is robust and well-aligned with both national and international standards, effective implementation

and enforcement are constrained by technological, cultural, and resource-based factors, underscoring the need for ongoing training, stronger digital literacy initiatives, and policy updates that can keep pace with evolving research environments.

The semi-structured interview with Dr. Muhammad Shabbir Sarwar (personal communication, September 7, 2025) highlights key dimensions of research ethics and data protection at the University of the Punjab. In terms of policy development, the data show that policies are collaboratively formulated by legal experts, senior researchers, and IT specialists, drawing on HEC regulations while incorporating GDPR provisions to ensure compatibility with international collaborations. These policies are formally documented in the Research Governance Manual and explained through annual orientation sessions, making them accessible to both faculty and students. However, implementation challenges persist, particularly the difficulty of addressing emerging practices such as AI-generated data, online surveys, and remote research, as well as delays caused by administrative workload during peak research submission periods. The institutional culture supports ethical conduct through plagiarism checks, mandatory ethics reviews, recognition of ethical research, and the use of an online ethics review portal that expedites approval processes. With respect to enforcement, mechanisms such as mandatory ethics clearance, periodic audits, and compliance reporting are in place, backed by penalties including funding suspension or retraction of unethical publications. Nonetheless, enforcement remains constrained by inadequate cybersecurity infrastructure, limited awareness of digital data protection, and occasional gaps in consent documentation. To strengthen capacity building, the university provides quarterly workshops, online training, and mentoring programs, though digital literacy remains uneven across researchers. Looking ahead, Dr. Sarwar recommends establishing a centralized encrypted data repository, introducing

annual refresher courses, expanding ethics board staffing, and enhancing collaboration with IT and legal experts to ensure timely policy updates and effective governance.

Dr. Sajid Hussain (personal communication, September 9, 2025) provides valuable insights into the development, practice, and enforcement of research ethics and data protection at Superior University. In terms of policy development, ethics and data protection frameworks were collaboratively established by faculty, legal advisors, and IT experts in alignment with HEC guidelines and selected GDPR principles. These policies are clearly documented in the institutional research handbook, made accessible on the university's intranet, and reinforced through orientation sessions for both faculty and students. However, Dr. Hussain emphasized that while policies are generally effective, they require periodic revision to address evolving challenges such as AI-generated data and emerging privacy regulations. Regarding implementation and institutional culture, the university fosters academic integrity through strict plagiarism checks, mandatory ethics approvals prior to data collection, and an online ethics portal that has reduced delays. Faculty expect transparency and rigor, while students are required to anonymize participant data, though at times bureaucratic hurdles impede urgent research. In the area of monitoring and enforcement, ethics clearance is mandatory, violations are subject to inquiry, and compliance is supported through random audits, plagiarism detection, and consent form checks. While effective to a degree, these mechanisms are resource-intensive, and occasional gaps persist due to misunderstandings of consent or limited technical knowledge. Enforcement is taken seriously, with disciplinary measures ranging from formal warnings to suspension of research privileges. For capacity building, Superior University organizes annual workshops, online modules, and GDPR-focused training, but digital literacy remains uneven senior faculty often lag behind younger researchers in secure data handling practices. Challenges

are compounded by the rapid evolution of digital research tools and legal frameworks, as well as staff turnover. In terms of ethical decision-making, issues are referred to the Ethics Committee, which may involve external advisors, and confidential reporting mechanisms are in place, though junior researchers sometimes hesitate due to fear of retaliation. To further encourage ethical research, recognition is provided through faculty awards, acknowledgment in university publications, and preference in grant applications. Looking ahead, Dr. Hussain identified key challenges that included inconsistent digital literacy, limited monitoring resources, and the complexity of managing online and AI-driven data. He suggested updating policy annually, introducing regular refresher courses, streamlining ethics clearance procedures without compromising rigor, and investing in secure centralized data repositories.

Dr. Zahid Bilal (personal communication, September 10, 2025) highlights three core dimensions of research ethics and data protection: development, implementation, and enforcement. In terms of policy development, Dr. Bilal explained that policies were established through collaborative efforts involving faculty experts, legal advisors, and IT specialists, with HEC guidelines forming the foundation and selecting GDPR provisions integrated for handling digital data. These policies are clearly documented in the Research Governance Handbook and disseminated through faculty and student orientations, ensuring accessibility and awareness. However, gaps remain as existing frameworks struggle to keep pace with emerging technologies such as AI-assisted research, social media data collection, and international collaborations. Regarding implementation and practice, the institutional culture is grounded in academic integrity, reinforced through plagiarism detection, mandatory ethics clearance, and training on transparency and data protection. Faculty and students are expected to follow strict protocols — faculty emphasizing accuracy and compliance,

while students are responsible for obtaining informed consent and anonymizing participant data. Facilitating mechanisms include an online ethics portal that accelerates approvals, though lengthy review timelines often impede urgent projects. In the area of monitoring and enforcement, ethics clearance is compulsory for all funded and postgraduate research, supported by annual audits, plagiarism checks, and consent form verification. While effective, enforcement is sometimes undermined by limited digital literacy, inadequate technical infrastructure, and insufficient global legal awareness. Institutional leaders take violations seriously, with penalties including withdrawal of funding, suspension of projects, and disciplinary actions. In terms of capacity building, periodic workshops, online refresher courses, and supervisor mentoring aim to strengthen researcher competence, though digital literacy remains uneven across faculty ranks. Ethical decision-making is guided by an Ethics Advisory Cell that investigates complaints and provides recommendations, with anonymous reporting systems in place to encourage disclosure, though hesitancy persists among some researchers due to hierarchical pressures. To promote ethical research, compliance is linked to grant allocation and formally recognized through annual awards. Looking ahead, Dr. Bilal identified key challenges, including limited secure infrastructure, slow adaptation of policies to technological change, and lack of continuous professional development. His recommendations range from a centralized encrypted repository to annual ethics training, a fast-track ethics clearance mechanism for time-sensitive projects, and increased collaboration with legal experts for periodic policy updating.

Dr. Sapna Mumtaz (personal communication, September 12, 2025) underscores three central dimensions of research ethics and data protection: policy development, implementation, and enforcement. In terms of policy development, Dr. Mumtaz highlighted that institutional frameworks were designed

collaboratively through consultations, drawing primarily on HEC guidelines and selectively incorporating GDPR principles to align with global standards. Policies are formally documented, made accessible online, and introduced through faculty orientations and student inductions. While generally meeting practical requirements, Dr. Mumtaz emphasized that regular policy updates are needed to address the evolving nature of research practices. Regarding implementation and practice, the institutional culture is strongly anchored in integrity, transparency, and adherence to ethical protocols. Faculty and students are expected to maintain strict data confidentiality, with awareness promoted through seminars, handbooks, and training sessions. Institutional norms have facilitated collaborations, but administrative delays in the ethics approval process have at times slowed research progress. On the dimension of monitoring and enforcement, policies are upheld through ethics review committees, annual audits, spot checks, and mandatory progress reports. Although largely effective, Dr. Mumtaz acknowledged minor gaps stemming from inconsistent awareness and the challenges of keeping pace with frequent policy revisions. Violations are promptly investigated, with corrective and disciplinary measures applied where necessary. In terms of capacity building, the university invests in workshops, webinars, and mentorship programs to raise awareness, with digital literacy levels described as generally strong, though some faculty require further technical training. Rapid changes in global data protection laws, however, make it difficult to keep all staff continuously updated. For ethical decision-making, issues are resolved through ethics committees and mediation processes, supported by confidential reporting channels that encourage disclosure without fear of retaliation. To reinforce compliance, ethical conduct is incentivized through awards, recognition, and integration into performance evaluations. Looking to the future, Dr. Mumtaz identified two

major challenges: aligning policies with rapidly changing global data protection standards and ensuring consistent awareness across all departments. She recommended increasing training frequency, improving dissemination strategies, and further strengthening enforcement mechanisms to ensure sustained compliance and credibility in institutional research practices.

Dr. Javeria Jahangir, Assistant Professor and Chairperson of the Department of Politics and International Relations at Lahore Leads University, highlighted her dual role in academic leadership and research governance, particularly through her active participation in the Ethical Review Committee (personal communication, September 14, 2025). With more than a decade of academic and administrative experience, she emphasized that research ethics and data protection are essential for maintaining academic integrity, protecting participants' rights, and ensuring credibility in scholarship. She explained that the university's policies are developed in line with the Higher Education Commission's (HEC) ethical guidelines and are also informed by international best practices, including elements of the GDPR. These policies are formally documented, accessible through the university website, handbooks, and the research office, and are regularly reviewed to keep them updated with evolving research needs and legal requirements. Implementation of these policies is supported by an institutional culture that promotes academic integrity, transparency, and respect for participants, though challenges such as limited resources sometimes hinder full application. Monitoring and enforcement are carried out through the Ethical Review Committee, with all research involving human participants requiring prior clearance. While minor gaps between policy and practice exist, often due to lack of awareness or training, these are mitigated through workshops, mentoring, and retraining when necessary. Capacity building is a strong focus at the institution, with regular training sessions and seminars provided, although keeping faculty

consistently updated on new developments remains an ongoing challenge, especially for interdisciplinary research. Ethical decision-making is guided by structured processes involving the committee, departmental consultations, and senior faculty input, ensuring transparency and fairness, while whistleblowers are protected to encourage openness. To further strengthen the ethical framework, Dr. Javeria recommended more frequent specialized training, investment in secure centralized data management systems, greater collaboration with other universities, and periodic audits to ensure compliance with global ethical standards....

4.4 Qualitative discussion-integrated and critical interpretation aligned with quantitative findings

The qualitative findings reveal a research ethics environment in Pakistani higher education that is normatively aligned but structurally uneven, mirroring the contradictions surfaced in the quantitative results. While all six institutions demonstrate a formal commitment to ethical governance often drawing on HEC guidelines and selectively integrating GDPR principles this convergence at the policy level obscures marked disparities in implementation capacity. This echoes earlier scholarship noting that developing countries frequently adopt international standards to maintain global academic legitimacy yet struggle to institutionalize them due to resource gaps and administrative inconsistencies (Moldashev et al., 2025; Mtitu, 2025; Zahiri & Sahal, 2025). The strong quantitative effect of PAC on AIP ($\beta = .917$) is reflected in practice: participants unanimously emphasized formal documentation, portals, manuals, and orientations. Yet the interviews make clear that policy visibility does not automatically translate into policy enactment. Larger institutions such as COMSATS and the University of the Punjab have built relatively mature ecosystems online ethics portals, random audits, centralized repositories, and compliance reporting

suggesting that resource-rich environments can translate policy clarity into operational structure, a pattern documented in global governance studies (Amaefule & Amaefule (2025); Hu et al., 2025; Siahaan et al., 2025). Smaller institutions, however, rely on mentoring, corrective feedback, and ad hoc enforcement, sustaining an informal ethical culture that compensates for weak formal mechanisms (Alsaadi, 2025; Bohlens, 2025). This divergence in institutional capacity reinforces the quantitative finding that organizational culture exerts a negative effect on both attitudes and policy clarity (OC → ADPRE; OC → PAC). Interviews repeatedly referenced hierarchical norms, reluctance to challenge senior faculty, and opacity in administrative decision-making. Such cultural patterns constrain enforcement even where policies exist, aligning with long-standing critiques that South Asian academic culture suppresses whistleblowing, discourages critical reporting, and limits transparency despite formal structures (Ngcamu, 2025; Sangwa & Mutabazi, 2025). Participants from smaller universities described a dependence on informal consultations rather than established ethical committees, directly reflecting the quantitative observation that OC depresses policy clarity. Even at better-resourced universities, mistrust in the neutrality of these committees persists, underscoring the fact that clarity of policy alone cannot override institutional culture-a tension likewise captured in the quantitative negative coefficient for LRA → PAC ($\beta = -.769$).

Digital literacy emerged as the most fragile pillar in the system of ethical governance, reflecting the quantitative paradox wherein DL strongly predicts PAC ($\beta = .998$) but weakly or negatively correlates with other constructs, including LRA. Interviews reveal that readiness for the digital environment is markedly uneven: generational divides at Superior, rank-based divides at Okara, and disciplinary divides at Leads reinforce research indicating that unequal digital capacity impedes consistent implementation of ethical norms within

technologically complex settings. As explained by Khatun (2024) and Kuiler (2024), this helps explain why quantitative models show DL interwoven with policy clarity but fails to predict other ethical behaviors: participants acknowledged that even when portals or digital forms exist, faculty without strong digital skills either avoid them or rely on intermediaries, weakening the intended transparency functions.

Another significant congruence of qualitative and quantitative results is that relating to ethical attitudes. Whereas the quantitative results reflect ADPRE strongly positively influencing AIP, with a beta of.784, but negatively so in regression, interviews explain why: those with greater ethical awareness proved to be some of the most critical of existing systems. Senior researchers and ethics committee members expressed frustration at bureaucratic delays, inconsistent enforcement of regulations, and insufficient depth of training-a factor consistent with the literature on ethics fatigue in under-resourced institutions (Denison, 2025). This duality reflects how heightened ethical sensitivity serves to amplify perceptions of institutional inadequacy, mirroring the quantitative contradictions.

These interviews also emphasize the increasing threat surface added by AI, online surveying tools, and cross-border data transfer concerns led mostly by larger universities that have exposure to international collaborations. This is in tune with the quantitative suggestion that institutional variables are distributed in a skewed manner and supports global findings that emerging technologies increasingly put a strain on ethical frameworks not designed for algorithmic governmentality or cloud-based research. Smaller institutions rarely identified challenges related to AI or data transfer, which sets up a technological asymmetry likely to contribute to distortions in the quantitative effects of DL and LRA.

While all institutions expressed commitment to the strengthening of governance by calling for centralized repositories, updated guidelines related to AI, harmonized SOPs,

and inter-university collaboration, their proposed pathways beyond this differed, reflecting the challenge of decentralization noted in global higher education governance. Punjab University focused on speedy clearance procedures, Okara University on annual training, while Leads University focused on audits. This variability reinforces the quantitative observation that institutional culture and capacity are mediating forces which shape how policy clarity is finally translated into practice.

In all, the qualitative phase complicates and deepens the quantitative picture: Pakistan's higher education system exhibits strong normative alignment with global ethical standards, but its operational capacity is fragmented and culturally mediated. The mixed patterns in the quantitative analysis-especially high PAC-AIP coupling, negative impacts of LRA and ADPRE in regression, inflated variance explained, and contradictory roles of DL-find explanatory grounding in the interviews. They paint a governance landscape where policies are plentiful, yet unevenly enacted, digital tools are available yet unevenly mastered, and ethical commitment is genuine yet variably supported by institutional structures. In short, qualitative evidence reinforces the quantitative conclusion that ethical research governance in Pakistan is shaped not only by policy clarity but also by the interplay between culture, resources, digital readiness, and trust.

5. Conclusion

The quantitative and qualitative findings uncover a research ethics landscape in Pakistani higher education that is normatively ambitious but structurally fragile. The empirical models show that clear and accessible policies stand as the most powerful determinant of academic integrity practices, but the qualitative evidence shows that such clarity is superficial on paper but inconsistent in action. For instance, extraordinarily high predictive values observed in the quantitative phase-especially in PAC and ADPRE-suggest not only the centrality

of these constructs but also the possibility that they are functioning as proxies for broader institutional conditions such as administrative responsiveness, communication efficacy, and resource availability. Thus, the inflation suggests that policy clarity may be compensating for deficiencies elsewhere rather than reflecting genuine institutional robustness. It is again in this qualitative perspective that the contradictions embedded in the models, such as the negative effects of ethical attitudes and regulatory awareness during the regression stage, make sense. As the interviews unfolded, those with greater ethical literacy or a more profound awareness of the regulatory landscapes were invariably the most disillusioned by systemic inconsistencies. Such awareness, rather than bolstering compliance, heightens perceptions of policy ambiguity, bureaucratic inertia, and institutional complacency. Critical sensitivity here thus undermines simplistic assumptions embedded in dominant compliance frameworks and underlines limitations of linear attitude-driven models like TPB within institutional settings characterized by uneven governance and entrenched hierarchies. Organizational culture was the pervasive structural constraint that consistently undermined the ethical attitudes and policy clarity, irrespective of the formal mechanisms. The quantitative evidence demonstrated this, while the qualitative narratives put flesh and blood on this through descriptions of hierarchical norms, opaque decision-making, general distrust of committees, and reliance on informal channels. Within such a milieu, even the most sophisticated forms of policy architecture-ethics portals, audit systems, centralized repositories-find it very difficult to translate into lived practice. It is the clear and present friction of culture against structure that explains why reforms frequently stall, clarity does not guarantee compliance, and well-resourced institutions can also fall prey to governance gaps. Digital literacy and technology-related variables further complicate the landscape. While DL powerfully contributes to

policy clarity, its inconsistent relationship with other variables and its uneven distribution across faculty ranks and disciplines constitute a more profound structural imbalance: technology has outpaced institutional capacity to regulate it. This divergence intensifies ethical risks around AI, online survey tools, and cross-border data exchange challenges currently only recognized by larger institutions. The disparity reinforces the theme of the increasing governance gap between resource-rich and resource-poor HEIs evident throughout both datasets. Overall, the study shows that in the ethical governance framework of Pakistan, there is high convergence at the policy level but low convergence at the implementation level. Although institutions share the same documents, structures, and formal commitments, the way these commitments are put into practice differs dramatically. The quantitative models provide a measure of this imbalance, while qualitative evidence places it in perspective with regards to socio-cultural, technological, and administrative realities. Ethical governance hence remains less a question of policy presence but more one of institutional capability, cultural alignment, and trust. This analysis thus challenges any assumptions that the strengthening of formal policies will produce meaningful ethical reform. Instead, these findings argue for a much deeper process of institutional culture recalibration, accountability systems enhancement, technological capacity-building, and enhanced regulatory coherence. Devoid of such systemic deficits, policies could well be relegated to being performative artifacts: symbolically powerful, yet structurally inert. The critical implication here, however, is that genuine ethical integrity in Pakistani HEIs calls not merely for clearer rules but transformed environments within which those rules can be lived, contested, and sustained.

Recommendations

The study's results indicate that the higher education sector in Pakistan needs to shift from accumulation to effectiveness of policies, where the rules are clear but fragmented in their implementation, shaped by cultural hierarchies, uneven digital capacity, and regulatory overload. Universities need to emphasize clearer, standardized, and accessible ethics and integrity policies underpinned by open governance structures that limit discretionary decision-making and protect whistleblowers. Building legal and regulatory literacy through simplified, scenario-based training and investing in a national digital ethics infrastructure will reduce the disparities currently distorting policy clarity and compliance. Ethics training should be multi-tiered and embedded in academic practice to ensure rising ethical awareness is harnessed toward confidence rather than disillusion. Addressing institutional inequalities requires scaling reforms to university capacity, supported by coordinated HEC oversight and inter-university collaboration. Ultimately, ethics governance needs to be embedded within institutional planning, monitoring, and performance evaluation so that policies evolve into lived practices rather than symbolic documents.

Author Contributions

Abbas Rashid Butt (Lead Researcher)

Conceptualized the study, designed research instruments, collected and analyzed quantitative and qualitative data, developed structural equation models, and drafted the manuscript.

Dr. Syed Raghab Ali (Senior Advisor)

Provided methodological guidance, supervised the research process, reviewed the theoretical framework, and contributed to interpreting the findings and refining the manuscript.

Dr. Zaheer Ahmad (Project Director & Research Consultant)

Assisted in institutional coordination, provided expert input about academic integrity frameworks, reviewed the procedures for data analysis, and revised and finalized the manuscript.

Conflict of Interest Statement

The authors have no conflict of interest to declare regarding the design, execution, analysis, or publishing of this study. It has been performed independently without influence from participating institutions or other stakeholders.

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Data Availability Statement

The data supporting the conclusions of this manuscript are available from the corresponding author upon reasonable request, always considering the limitations imposed by institutional confidentiality agreements and the sensitivity of research ethics compliance data. Public archiving of the raw dataset is, therefore, restricted. Qualified researchers may have access to anonymized datasets and analysis outputs upon request.

References

Adalı, G. K., & Bilgili, A. (2025). Generative ai in higher education: students' perspectives on adoption, ethical concerns, and academic impact. *Acta Infologica*, *9*(1), 147-166.

Afzal, A., Khalil, K., & Saleem, W. (2024). Unveiling the obstacles: Understanding data collection challenges for researchers

in Pakistani universities. *Journal of Asian Development Studies*, *13*(1), 115-131.

Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, *50*(2), 179-211.

Al'Ararah, K., Çağlar, D., & Aljuhmani, H. Y. (2024). Mitigating job burnout in Jordanian public healthcare: The interplay between ethical leadership, organizational climate, and role overload. *Behavioral Sciences*, *14*(6), 490.

AlAli, R., & Wardat, Y. (2024). Opportunities and challenges of integrating generative artificial intelligence in education. *International Journal of Religion*, *5*(7), 784-793.

Almugamisi, H. (2025). *Multiple Perspectives of Data Breaches in Higher Education Institutions (HEI): A Case of Universities in Saudi Arabia* (Doctoral dissertation, UCL (University College London)).

Alsaadi, A. (2025). Enhancing Educational Quality: Reforming Mentorship Practices in Private Higher Education. In *Proceedings of the 6th African International Conference on Industrial Engineering and Operations Management Rabat, Morocco, April 7-10*.

Amaefule, E. O., & Amaefule, W. A. (2025). Navigating the Resource Paradox: A Comparative Analysis of Neocolonial Structures and Domestic Agency in Resource-Rich Africa. *Direct Research Journal of Social Science and Educational Studies*, *13*(3), 50-71.

An, Y., Yu, J. H., & James, S. (2025). Investigating the higher education institutions' guidelines and policies regarding the use of generative AI in teaching, learning, research, and administration. *International Journal of Educational Technology in Higher Education*, *22*(1), 10.

Annamalai, S., Ramnath, R., Antony, S., & Devi, S. B. (2025). Doctoral Researchers' Perspectives on Ethical Considerations in Artificial Intelligence in Education Through the Lens of the PAPA Framework. In *Ethics and*

AI Integration into Modern Classrooms (pp. 493-518). IGI Global Scientific Publishing.

Appiah, D., Duut, J. D. M., & Adu-Gyebi, C. (2025). Public Availability of Research Integrity Policies in Leading African Universities. *Journal of Academic Ethics*, 1-24.

Austin, I., & Jones, G. A. (2024). *Governance of higher education: Global perspectives, theories, and practices*. Routledge.

Awashreh, R., & Ghunaimi, H. A. (2025). Bridging cultural gaps: Enhancing student motivation and academic integrity in Oman's universities. In *Forum for Linguistic Studies* (Vol. 7, No. 2, pp. 265-279).

Beauchamp, T. L. (2008). The Belmont report. *The Oxford textbook of clinical research ethics*, 149-155.

Ben Khaled, W., & Gond, J. P. (2020). How do external regulations shape the design of ethical tools in organizations? An open polity and sociology of compliance perspective. *Human relations*, *73*(5), 653-681.

Bhaskar, R., & Ola, M. (2024). Publication Misconduct, Plagiarism, and Research Integrity. In *Principles of Research Methodology and Ethics in Pharmaceutical Sciences* (pp. 271-310). CRC Press.

Bohlens, C. (2025). Corruption and Governance in International Higher Education: Challenges and Strategies for Internationalization. In *Contemporary Approaches to Internationalization in Higher Education* (pp. 367-392). IGI Global Scientific Publishing.

Bohlens, C. (2025). Corruption and Governance in International Higher Education: Challenges and Strategies for Internationalization. In *Contemporary Approaches to Internationalization in Higher Education* (pp. 367-392). IGI Global Scientific Publishing.

Bohlens, C. (2025). Corruption in accreditation at HEIs: when corruption erodes trust in higher learning. In *Navigating*

Quality Assurance and Accreditation in Global Higher Education (pp. 165-192). IGI Global Scientific Publishing.

Brik, A. B. (2025). Public policy evaluation in the Global South: context and theoretical framework. In *Handbook of Public Policy Evaluation in the Global South* (pp. 2-32). Edward Elgar Publishing.

Cremer, A. (2024). *The dual-systems approach in reinforcement learning–a multimethodological analysis of strategies, mechanisms, and modulating factors*. Universitaet Hamburg (Germany).

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approach*. Sage Publications.

Creswell, J. W., & Poth, C. N. (2018). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches* (*4th ed.*). SAGE Publications.

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.

Denison, C. S. (2025). *Enhancing Misinformation Response in Local Government Communication: A Systems Inquiry with the Alberta Municipal Communicators Association* (Master's thesis, Royal Roads University (Canada).

Durango, I., Gallud, J. A., & Penichet, V. M. (2024). Human-Data Interaction Framework: A Comprehensive Model for a Future Driven by Data and Humans. *arXiv preprint arXiv:2407.21010*.

Elkington, O. L. (2025). *Understanding unresolved higher education complaints: A mixed methods study on the Office of the Independent Adjudicator* (*OIA*) (Doctoral dissertation, Queen Margaret University, Edinburgh).

Elugbaju, W. K., Okeke, N. I., & Alabi, O. A. (2024). Conceptual framework for enhancing decision-making in higher

education through data-driven governance. *Global Journal of Advanced Research and Reviews*, *2*(02), 016-030.

Etikan, I., Musa, S. A., Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, *5*(1), 1–4.

Funa, A. A., & Gabay, R. A. E. (2025). Policy guidelines and recommendations on AI use in teaching and learning: A meta-synthesis study. *Social Sciences & Humanities Open*, *11*, 101221.

García-López, I. M., & Trujillo-Liñán, L. (2025). Generative Artificial Intelligence in Education: Ethical Challenges, Regulatory Frameworks and Educational Quality in a Systematic Review of the Literature. In *Frontiers in Education* (Vol. 10, p. 1565938). Frontiers.

Glaser, B., & Strauss, A. (2017). *Discovery of grounded theory: Strategies for qualitative research*. Routledge.

Güneş, A., & Kaban, A. L. (2025). A Delphi study on ethical challenges and ensuring academic integrity regarding AI research in higher education. *Higher Education Quarterly*, *79*(4), e70057.

Hagger, M. S., Cheung, M. W. L., Ajzen, I., & Hamilton, K. (2022). Perceived behavioral control moderating effects in the theory of planned behavior: A meta-analysis. *Health Psychology*, *41*(2), 155.

Hakim, A., & Hayat, A. (2024). Transforming Public Policy in Developing Countries: A Comprehensive Review of Digital Implementation. *Journal of ICT Standardization*, *12*(3), 337-364.

Herani, R. (2025). Should we play an unfair game? The roles of regulatory effectiveness, government support and algorithmic bias in e-commerce entrepreneurial readiness. *Journal of Entrepreneurship in Emerging Economies*, 1-29.

Hinterleitner, M., Knill, C., & Steinebach, Y. (2024). The growth of policies, rules, and regulations: A review of the literature and research agenda. *Regulation & Governance*, *18*(2), 637-654.

Hoofnagle, C. J., Van Der Sloot, B., & Borgesius, F. Z. (2019). The European Union general data protection regulation: what it is and what it means. *Information & Communications Technology Law*, *28*(1), 65-98.

Hu, H., Yin, Y., Wang, C., Cai, J., & Xie, Y. (2025). Thematic Evolution and Governance Structure of China's Forest Resource Policy Planning: A Text Mining Analysis from a Multi-Level Governance Perspective. *Forests*, *16*(7), 1185.

Iksal, I., Hayani, R. A., & Aslan, A. (2024). Strengthening character education as a response to the challenges of the times. *Indonesian Journal of Education* (*INJOE*), *4*(3), 761-774.

Jafarey, A., Shekhani, S., Raza, F., & Naz, S. (2023). Situation analysis of research ethics governance in Pakistan. *Eastern Mediterranean Health Journal*, *29*(7), 500-507.

Jhokio, A., & Rehman, T. U. (2025). Data privacy laws in Pakistan: A comparative analysis with the EU's General Data Protection Regulation. *Journal of Political Stability Archive*, *3*(2), 870-882.

Kalmin, A. (2025). *Championing Pedagogical Innovators: Supporting and Empowering Informal Leaders in Higher Education Teaching & Learning Spaces* (Doctoral dissertation, The University of Western Ontario).

Khan, K. K. A., Ahmed, M. U., & Sodhar, S. M. (2024). Organizational commitment and higher education institutions functions: An aspect of modern business education in Pakistan. *Bulletin of Business and Economics* (*BBE*), *13*(3), 190-196.

Khan, R., & Hussain, F. (2024). Assessing policy capacity and policy effectiveness: A comparative study using sustainable governance indicators. *European Policy Analysis*, *10*(4), 575-603.

Khatun, M. (2024). The Role of Philosophy in Combating Social Inequality in the Digital Era: Ethical Perspectives and Practical Implications. *Journal of Advance and Future Research*, *2*(10), 20-26.

Kiran, B. V., Kumar, T. Y., Jayasurya, K., & Rao, A. N. (2025, November). Perceptions and Factors influencing Cryptocurrency Investors: A study using TAM-UTAUT Analysis in North Coastal Andhra Pradesh. In *2nd International Conference on Sustainable Business Practices and Innovative Models (ICSBPIM-2025)* (pp. 551-563). Atlantis Press.

Kotsis, K. T. (2024). Artificial Intelligence Creates Plagiarism or Academic Research?. *European Journal of Arts, Humanities and Social Sciences*, *1*(6), 169-179.

Kuiler, E. W. (2024). Bridging digital and knowledge divides: Concepts, frameworks and ethical concerns. *Policy & Internet*, *16*(2), 222-241.

Kuiper, M. E., Chambon, M., de Bruijn, A. L., Reinders Folmer, C., Olthuis, E. H., Brownlee, M., ... & van Rooij, B. (2023). A network approach to compliance: A complexity science understanding of how rules shape behavior. *Journal of Business Ethics*, *184*(2), 479-504.

Lanzano, U. (2024). *Implementing regulatory policy: a study of frontline inspectors and SMEs* (Doctoral dissertation, Anglia Ruskin Research Online (ARRO)).

Mahida, A. (2022). A comprehensive review on ethical considerations in cloud computing-privacy data sovereignty, and compliance. *Journal of Artificial Intelligence & Cloud Computing. SRC/JAICC-248. DOI: doi. org/10.47363/JAICC/2022* (*1*), *231*, 2-4.

Mayring, P. (2014). Qualitative content analysis: Theoretical background and procedures. In *Approaches to qualitative research in mathematics education: Examples of methodology and methods* (pp. 365-380). Dordrecht: Springer Netherlands.

Mayring, P. (2019, September). Qualitative content analysis: Demarcation, varieties, developments. In *Forum: Qualitative social research* (Vol. 20, No. 3). Freie Universität Berlin.

Moldashev, K., Sahimbekov, B., & Kozhakhmet, S. (2025). The institutional logics of research commercialization: reform, misalignment, and hybridization. *Social Sciences & Humanities Open*, *12*, 102000.

Mtitu, E. A. (2025). Exploring factors for the introduction and implementation of quality assurance systems in selected higher education institutions in Tanzania. *Cogent Education*, *12*(1), 2455767.

Munn, C., Rexe, D., & Seeland, J. (2025). Successful institutional change: Lessons on building a culture of academic integrity. In *Academic integrity in vocational and polytechnic education* (pp. 17-40). Cham: Springer Nature Switzerland.

Muzho, N. (2024). Scientific Ethics and Academic Integrity: Literature Review. *Научни трудове на УНСС*, *4*(4), 53-67.

Ngcamu, B. S. (2025). *Investigating Corruption and White-collar Crime in South African Higher Education: A Critical Evaluation of Policies, Systems, and Structures*. Taylor & Francis.

Oji, J., & Alordiah, C. O. (2024). Navigating Ethical Quandaries in Nigerian Academia: A Conceptual Framework for Establishing Effective Research Ethics Boards and Ensuring Compliance. *NIU Journal of Educational Research*, *10*(1), 83-93.

Oji, J., & Alordiah, C. O. (2024). Navigating Ethical Quandaries in Nigerian Academia: A Conceptual Framework for Establishing Effective Research Ethics Boards and Ensuring Compliance. *NIU Journal of Educational Research*, *10*(1), 83-93.

Oleet, J. B., & Yu, C. (2025). AI and the Future of Education. In *Examining AI Disruption in Educational Settings: Challenges and Opportunities* (pp. 407-440). IGI Global Scientific Publishing.

Panda, D. K. (2025). From the inertia of tradition to organizational absorption of strategy practices: A grounded theory

study in Indian higher educational institutions. *Public Administration Quarterly*, *49*(2), 125-142.

Pechenkina, K. (2023). Artificial intelligence for good? Challenges and possibilities of AI in higher education from a data justice perspective. *Higher Education for good: Teaching and learning futures* (*# HE4Good*). *Cambridge, UK: Open Book Publishers*.

Piran, M. J., & Tran, N. H. (2024). Enhancing research methodology and academic publishing: A structured framework for quality and integrity. *arXiv preprint arXiv:2412.05683*.

Poudel, N. (2024). The Impact of Big Data-Driven Artificial Intelligence Systems on Public Service Delivery in Cloud-Oriented Government Infrastructures. *Journal of Artificial Intelligence and Machine Learning in Cloud Computing Systems*, *8*(11), 13-25.

Qadhi, S. M., Alduais, A., Chaaban, Y., & Khraisheh, M. (2024). Generative AI, research ethics, and higher education research: Insights from a scientometric analysis. *Information*, *15*(6), 325.

Rehman, A. U., Khan, M. I., & Ahmad, S. M. (2025). Ethical and Quality Concerns in Social Science Doctoral Research Studies: A Case Study in Pakistan. *Journal of Academic Ethics*, *23*(3), 389-403.

Resnik, D. B. (2025). The Trust Approach to Research with Human Subjects. In *The Ethics of Research with Human Subjects: Protecting People, Advancing Science, Promoting Trust* (pp. 117-152). Cham: Springer Nature Switzerland.

Sangwa, S., & Mutabazi, P. (2025). Compliance as the new competence: How obedience cultures erode innovation and leadership ethics in global workplaces. *Available at SSRN 5371035*.

Sargiotis, D. (2024). Fostering Ethical and Inclusive AI: A Human-Centric Paradigm for Social Impact. *Available at SSRN 4879372*.

Sarma, G. D., Choudhury, S., Bharadwaj, P., & Sarma, M. (2024). Navigating corporate governance and ethics: the cornerstones of sustainable business practices. *Educational Administration: Theory and Practice*, *30*(5), 5442-5454.

Selvakumar, P., Sudharma, P., Mishra, B. R., & Satyanarayana, P. (2025). Digital Government and Digital Governance. In *Public Governance Practices in the Age of AI* (pp. 1-22). IGI Global Scientific Publishing.

Shabani, M., & Marelli, L. (2019). Re-identifiability of genomic data and the GDPR: Assessing the re-identifiability of genomic data in light of the EU General Data Protection Regulation. *EMBO reports*, *20*(6), e48316.

Siahaan, J. R., Pagalung, G., Demmallino, E. B., Saleng, A., Sulaiman, A. A., & Nagu, N. (2025). Reframing Sustainability in Post-Mining Landscapes: A Foundational Framework for Institutional and Behavioral Integration in Indonesia. *Sustainability*, *17*(12), 5278.

Temara, S. (2025). Ethics for Responsible Data Research: Integrating Cybersecurity Perspectives in a Digital Era. In *IRB, Human Research Protections, and Data Ethics for Researchers* (pp. 103-144). IGI Global Scientific Publishing.

Tikkinen-Piri, C., Rohunen, A., & Markkula, J. (2018). EU General Data Protection Regulation: Changes and implications for personal data collecting companies. *Computer Law & Security Review*, *34*(1), 134-153.

Uddagiri, C., & Isunuri, B. V. (2024). Ethical and privacy challenges of generative AI. In *Generative AI: Current Trends and Applications* (pp. 219-244). Singapore: Springer Nature Singapore.

ur Rehman, S., & Huma, A. (2024). Governance Practices at Higher Education in Punjab and Sindh to Achieve the Goals of Higher Education Policies. *Journal of Asian Development Studies*, *13*(4), 506-520.

Venugopal, G. (2024). *Exploring Reinforcement Learning Models for Various Aspects of Decision Making* (Doctoral dissertation, International Institute of Information Technology Hyderabad).

Vlahou, A., Hallinan, D., Apweiler, R., Argiles, A., Beige, J., Benigni, A., ... & Vanholder, R. (2021). Data sharing under the General Data Protection Regulation: time to harmonize law and research ethics?. *Hypertension*, *77*(4), 1029-1035.

Weng, Y., Isleem, H. F., Hindi, K. E., & Ezugwu, A. E. (2025). Natural language processing for extracting consumer sentiment dynamics through multimodal social media analysis to predict microeconomic consumption pattern shifts. *Journal of Big Data*, *12*(1), 254.

Yang, H. (2025). *Examining First-Year Chinese International Students' Perceptions and Experiences with Non-Academic Misconduct Policies and Procedures* (Doctoral dissertation, University of Southern California).

Zahiri, F., & Sahal, A. (2025). Integrating Islamic Sharia Principles into Educational Leadership: A Strategic Management Perspective. *Edu Spectrum: Journal of Multidimensional Education*, *2*(1), 47-58.

Zhu, W., Huang, L., Zhou, X., Li, X., Shi, G., Ying, J., & Wang, C. (2025). Could AI ethical anxiety, perceived ethical risks and ethical awareness about AI influence university students' use of generative AI products? An ethical perspective. *International Journal of Human–Computer Interaction*, *41*(1), 742-764.

Zhu, Y., Zhu, Z., & Xu, W. (2025, September). Cross-border higher education cooperation under the dual context of artificial intelligence and geopolitics: opportunities, challenges, and pathways. In *Frontiers in Education* (Vol. 10, p. 1656518). Frontiers.

Appendix A

Questionnaire

Dear Participant,

We are conducting an academic study titled "Evaluation of Research Ethics and Data Protection Policies in Higher Education Institutions in Pakistan", which seeks to assess the role of institutional policies in promoting ethical research practices and ensuring data protection across Pakistani universities. You are kindly invited to participate in this research by completing a short survey questionnaire. Your insights and experiences will be invaluable in helping us understand current practices, challenges, and opportunities for policy improvement in the higher education sector. The survey will take approximately 12–15 minutes to complete. All responses will be kept strictly confidential and used solely for academic purposes. Participation is voluntary, and you may withdraw at any stage without any consequence. If you agree to participate, please proceed with the linked questionnaire. Should you have any questions or require further information, please do not hesitate to contact us.

We sincerely appreciate your time and contribution to this important research.

Warm regards,

Abbas Rashid Butt
Research Fellow,
Lahore Institute for Research and Analysis (LIRA)
Email: abbas.rashid@lira.uol.edu.pk

Dr. Syed Raghab Ali
Executive Director,
Lahore Institute for Research and Analysis (LIRA)
Email: raghab.ali@lira.uol.edu.pk

Dr. Zaheer Ahmad
Project Director,
The University of Lahore
Email: zaheer.ahmad@uol.edu.pk

1. Respondent
   a) Researcher Administrator
   b) Ethics Committee Member
   c) Faculty Member
   d) Postgraduate Student

2. Gender
   a) Male
   b) Female
   c) Prefer not to say

3. Age Group
   a) 20 – 29 years
   b) 30 – 39 years
   c) 40 – 49 years
   d) 50+ years

4. Qualification
   a) Master's Degree
   b) M.Phil.
   c) Ph.D.
   d) Post Ph.D.

5. Experience
   a) Less than 2 years
   b) 2 – 5 years
   c) 6 – 10 years
   d) More than 10 years

6. Institution type
   a) Public University
   b) Private University

7. Province/Region of Institution
   a) Punjab
   b) Sindh
   c) Khyber Pakhtunkhwa
   d) Bolochistan
   e) Other

8. Discipline / field of study
   a) Social Sciences
   b) Natural Sciences
   c) Engineering and Technology
   d) Health Sciences
   e) Arts and Humanities

9. Participation in Ethics or Data Protection training
   a) Yes
   b) No

10. Involvement in Research Ethics Committee
    a) Yes
    b) No

A	Attitude towards Data Protection and Research Ethics	SA	A	N	DA	SD
1	Ethics in research is essential to upholding academic honesty at the university level.					
2	It is the responsibility of the researchers to protect participants' data.					
3	Complying with ethical standards enhances the quality and integrity of research.					

4	Respect for data protection principles fosters trust between the researchers and participants.					
5	I commit to adhering to the ethical principles at all stages of my research.					
6	I always ensure that my research practices align with institutional and ethical guidelines.					

B	Subjective Norms	SA	A	N	DA	SD
1	My organization expects me to follow ethical standards and data protection practices in conducting research.					
2	I must follow research ethics guidelines due to being bound by formal policy and regulation at my institution.					
3	My coworkers remind me to be ethically engaged in research and data management.					
4	My research supervisor also leads by example by following research ethics and data confidentiality strictly.					
5	There is a well-developed culture of ethical research in my department or research group.					
6	I would feel uncomfortable if I ignored research ethics or data protection regulations because of the way other people would react to it.					

C	Policy Availability and Clearness	SA	A	N	DA	SD
1	Research ethics policies have been developed by my organization.					
2	My university does have a written policy that addresses data protection in research.					
3	The research ethics policies of the institutions are easily accessible to all researchers.					
4	I am satisfied with the well-written and concise ethics policy reports of my organization.					
5	I know where my university's research data protection policy documents can be accessed.					
6	My university regulations clearly lay down the rules of behavior in accordance with data protection and ethical principles.					

D	Academic Integrity Policies	SA	A	N	DA	SD
1	I believe that plagiarism and falsification of data issues are taken very seriously in my university.					
2	Research outputs in my institution typically represent ethical and honest scholarship.					
3	My university researchers adhere to proper authorship and citation guidelines.					
4	I am confident that ethical approval is obtained before research on human subjects.					
5	My institution has clearly stated sanctions for academic dishonesty.					
6	I frequently reflect on ethical issues when conducting or overseeing research.					

E	Policy-Behavior Gap	SA	A	N	DA	SD
1	There is a stark contrast between my organization's official ethics and data protection policies and the way these are practiced on the ground.					
2	Even with well-defined policies, enforcement of research ethics is uneven in my university.					
3	Researchers are encountering challenges in ensuring ethics and data protection legislation due to institutional inadequacy.					
4	Monitoring alone will not suffice to ensure ethics policies are being implemented.					
5	Employees sometimes disregard ethical guidelines due to practical issues or demanding workload.					
6	There is data protection and ethics training but not for the purposes of increasing compliance.					

F	Ethical Decision-Making Intentions	SA	A	N	DA	SD
1	I will follow my institution's research ethics and data protection policies strictly with all my research activities.					
2	If I find myself in an ethical dilemma while carrying out research, I intend to consult my institution's ethics committee.					

3	I am committed to protecting the confidentiality and privacy of the research participants.					
4	If I happen to notice unethical research practice, I plan to report the same to the relevant authorities.					
5	I intend to update my ethics and data protection knowledge regularly in order to comply.					
6	I will integrate ethical concerns into all stages of research studies.					

G	Digital Literacy	SA	A	N	DA	SD
1	I am confident in my ability to store digital research data securely following best practice.					
2	I understand the correct procedures for keeping confidential sensitive research data.					
3	I am aware of common threats on the internet (e.g., hacking, phishing) that could compromise research data security.					
4	I can utilize computer software effectively to protect research data from misuse.					
5	I know institutional policies for protecting digital data and privacy.					
6	I know my responsibility in safeguarding digital data in research studies.					

H	Legal and Regulatory Awareness	SA	A	N	DA	SD
1	I am aware of the Higher Education Commission (HEC) research ethics regulations in Pakistan.					
2	I am familiar with international data protection law that informs research practice, for example, GDPR.					
3	I am aware of the legal consequences of not adhering to research ethics and data protection laws.					
4	My organization has well-defined policies on research ethics legal and regulatory requirements.					
5	I proactively keep myself up to date with advances in national and international research ethics and data protection legislation.					
6	I am sure I can use legal and regulatory principles to perform ethical research.					

I	Organizational Culture	SA	A	N	DA	SD

1	Ethical conduct is greatly valued and promoted in my organization.					
2	The management of my organization always upholds integrity in scholarship and research.					
3	Integrity and ethics issues are a standing agenda item in routine meetings and decision-making forums.					
4	My organization encourages researchers with higher ethical standards.					
5	Ethical misconducts are confronted openly and never suppressed in my organization.					
6	There is shared knowledge among employees regarding the importance of academic honesty.					

Appendix B

Semi-Structured Interview Guide

Topic of Research Paper: Evaluation of Research Ethics and Data Protection Policies in Higher Education Institutions in Pakistan

Participants: Heads of Research Offices, Members of Ethics Committees, Senior Faculty Members

Purpose: To identify how research ethics and data protection policies are developed, challenges faced in implementing them, and how they are enforced in HEIs in Pakistan.

Section 1: Introduction

Could you describe your role and experience with research governance at your institution briefly?

How would you elucidate the significance of research ethics and data protection in your university?

Section 2: Development of Policies

Related Constructs: Policy Availability and Clearness, Legal and Regulatory Awareness

How were data protection and research ethics policies established in your institution?

Are the policies supported by national (e.g., HEC) or international (e.g., GDPR) standards?

How well are these policies written down, explained, and made available to staff and students?

To what extent do you believe current policies meet practical requirements and realities of research ethics and data management?

Section 3: Implementation and Practice

Related Constructs: Organizational Culture, Subjective Norms, Attitudes

5. What is the institutional culture in relation to academic integrity and ethical research?

6. What are the faculty and student expectations regarding ethical behavior and data protection?

7. Are there any examples where institutional norms facilitated or impeded ethical research conduct?

8. How are staff and students informed about their ethical role?

Section 4: Monitoring and Enforcement

Related Constructs: Policy-Behavior Gap, Perceived Behavioral Control

9. In what way are policies on research ethics and data protection enforced in practice in your institution?

10. Are you aware of any gap between policy and behavior or implementation? If yes, what are the principal reasons?

11. What steps are taken for monitoring compliance? Are they effective or not?

12. How do institutional leaders react to violations of ethics or abuse of data?

Section 5: Capacity Building and Training

Related Constructs: Digital Literacy, Legal and Regulatory Awareness

13. What support or training is there for researchers and students on ethical behavior and data protection?

14. How would you assess the degree of digital literacy of researchers when dealing with secure handling of data?

15. Are there any difficulties in keeping staff up to date with legal and ethical expectations in research?

Section 6: Ethical Decision-Making

Related Constructs: Ethical Decision-Making Intentions

16. What are the processes or support mechanisms used in addressing ethical problems when they occur?

17. Do researchers feel free and able to bring to light unethical conduct or data protection violations?

18. How is ethics in research encouraged or incentivized in your institution?

Section 7: Future Improvements and Recommendations

What are the most significant challenges in upholding research ethics and data protection in your institution?

What specific recommendations would you make to enhance policies, training, and enforcement measures?

ACADEMIC PLAGIARISM: AN EMPIRICAL SOCIOLOGICAL STUDY OF ATTITUDES AMONG STUDENTS AND SCHOLARS IN BULGARIA

Valentin Valkanov, PhD, New Bulgarian University, Sofia, Bulgaria
(vvalkanov@nbu.bg)

Abstract

The following article examines three basic themes in regard to social attitudes towards academic plagiarism: perception of what is ethical academic behavior, training in academic ethics and attitudes toward usage of AI instruments in academic tasks. Special emphasis is put on plagiarism as a primary concern with academic ethics. The study analyses data collected with qualitative and quantitative methods – group interviews (focus groups) and surveys among students and scholars within five of the major Bulgarian universities that maintain a profile in the field of humanitarian sciences and education. The article mainly, although not entirely, focuses on quantitative results. In general, Bulgarian scholars and students agree that further education in academic ethics and writing skills is needed. A special emphasis is put on artificial intelligence instruments which have rapidly become the modern go-to problem solver for many students who are unable to reach their academic goals.

Keywords: academic plagiarism, scholars, students, AI, empirical study, sociology

Empirical Sociological Inquiry into Academic Plagiarism

Academic plagiarism is one of the most serious issues of scientific communities and the production of scientific results. It is also closely related to major issues of higher education as it concerns both groups of students and academic staff. The development and maintaining of academic ethics are a constant process, at the same time closely dependent on local communities even though some global trends in their research are recognized – issues such as the pressure for faster and better results, rapid production of academic texts, multiplication of student and staff activities due to unrelated (in the strict sense) social pressures from an evolving ever more demanding and rapidly changing society, etc.

The present article discusses some specific aspects of these issues, relying on an empirical sociological study conducted by a multidisciplinary team of Bulgarian researchers in the fields of philology and sociology. Focus points are: 1. General perception of ethical academic behavior and plagiarism; 2. Training in academic ethics to avoid plagiarism; 3. Artificial Intelligence and paper writing services.

Research Methodology

The results presented hereby are based on data from a sociological inquiry which took place in June 2025 and was conducted by Alpha Research – a renowned Bulgarian sociological agency.

- Methods: questionnaire based quantitative surveys; qualitative study – focus groups.
- Target groups: students and scholars in the humanities from six of the largest and most prestigious Bulgarian universities that keep a humanitarian profile
- Students: 500 surveyed and 14 interviewed in two focus groups

- Qualitative interviews were conducted with students from the following universities: University of Veliko Tarnovo; University of Plovdiv; Sofia University; South-West University
- Scholars: 101 surveyed and 11 interviewed in a focus group
- Qualitative interviews were conducted with students from the following universities: New Bulgarian University; University of Plovdiv; Sofia University; South-West University; University of Ruse

Achieved sampling structure for both groups:

Table 1. *Achieved sampling structure for students by university affiliation and number of years in higher education.*

Students	
University	**Completed survey interviews**
University of Veliko Tarnovo	76
New Bulgarian University	39
University of Plovdiv	241
Sofia University	66
South-West University	78
Year of study	**Completed survey interviews**
1st	143
2nd	127
3rd	96
4th	73
Master's program	51
Doctoral program	10
Total	**500**

Table 2. *Achieved sampling structure for scholars by university affiliation and number of years of lecturing.*

Scholars	
University	**Completed survey interviews**
University of Veliko Tarnovo	9
New Bulgarian University	38

University of Plovdiv	11
Sofia University	30
South-West University	9
University of Ruse	4
Years of lecturing	**Completed survey interviews**
Up to 3 years	4
3-5 years	1
5-10 years	10
10-15 years	10
15-20 years	15
More than 20 years	61
Total	**101**

Perception of Academic Plagiarism

The study has used a variety of indicators in order to gain a more thorough and in-depth understanding of academic plagiarism as perceived by scholars and students. As plagiarism is a core ethical problem, we have measured a general indicator for ethical behavior – what does upstanding behavior mean for both groups.

Figure 1. *The students' perceptions of "upstanding behavior in academia"*

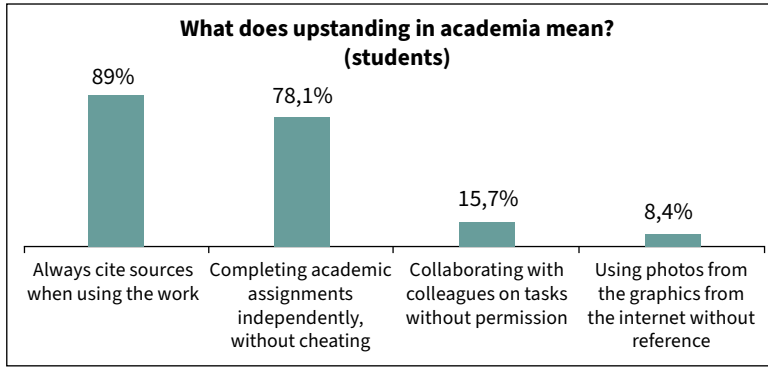
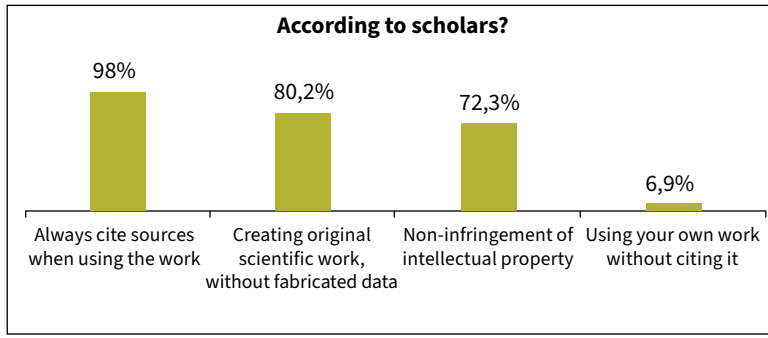


Figure 2. *The Scholars' perceptions of "upstanding behavior in academia"*



Scholars are unanimous about citing sources when using somebody else's work as can be expected, unlike students who are generally of the same opinion, but one in every ten does not consider this to be a necessity. Restricting oneself from cheating in exams and fabricating data is also widely considered upstanding behavior by 78-80% of the surveyed population. The question remains whether the other 20 – 22% could be prone to such activities as they do not find them unethical.

Students generally consider collaboration with colleagues without permission a problem (84% among them don't find this to be an example of upstanding behavior). Freely using photos or graphics from the internet – common with them when preparing term papers or other academic texts – is even more widely considered unethical. We could form a hypothesis that they have a generally high sensitivity to intellectual property from the digital sphere as scholars but are slightly less sensitive when citing a more traditional type of scientific output. Previous studies have shown that students are generally more prone to plagiarism (cheating overall) as they tend to consider some acts acceptable which makes them "cheat inadvertently" (Hughes & McCabe, 2006; McCabe, 2005, cited in Doró, 2014). But considering the digital sphere, a possible explanation to the hypothesis could be found in the process of socialization as most students currently

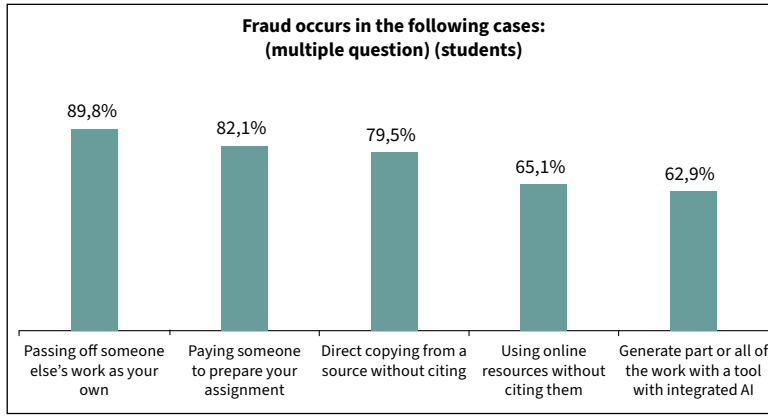
involved in higher education have been brought up and socialized in a largely more digitalized cultural and public sphere. A more practical take on that matter could be focused on educating students about ethical behavior in academia, which will be more thoroughly discussed later in this paper.

For scholars, non-infringement of intellectual property is a serious ethical boundary, but perhaps a bit less stable in some cases as 72% consider it upstanding behavior. Using their own work without citing it, on the other hand, is rarely considered ethical (only 7% share this opinion).

The study has also made a deeper dive into student's understanding of what is "fraud" in the academic environment. All the tested hypotheses fall well within the perceived meaning of "fraud" as only "using online resources without citing them" (65%) and "generating part or all of the work with a tool with integrated AI" (63%) are not that unanimously considered as fraudulent activities. "Direct copying from a source without citing" (80%), "paying someone to prepare your assignment" (82%) and "passing off someone else's work as you own" (90%) are commonly recognized as traits of fraudulent behavior.

Considering this data, we can identify a prevalent issue with unethical usage of online intellectual property and AI instruments which are often used freely when preparing academic texts and other materials. Whereas online resources like texts could remain uncited and images without a specified source, the issue with AI instruments is much more complex. This could make it harder to cope with as they are often used for various academic tasks, but no clear guidelines on how to acknowledge their role in the final product have been established. This question will be more thoroughly examined further in the paper.

Figure 3. *The students' perception of "fraud"*



Generally speaking, unethical behavior is considered as a lack of acknowledgement for the work of others and failing to put in the expected intellectual effort in one's own work in order to gain original results. More precisely, plagiarism is usually perceived as using information or data without indicating the source. Nonetheless, the currently discussed sociological inquiry shows a potential for a breach of academic ethics as certain albeit usually *minor* groups of scholars (from around 10% who do not find "passing off someone else's work as you own" to be fraudulent behavior to around 35% who do not see the need to cite online resources) and students (around 10% of whom do not find it necessary to cite recourses, and 22% who don't find in mandatory to finish academic assignments "independently and without cheating") remain uncertain about keeping some common ethical boundaries. A greater issue arises with AI instruments since boundaries in their academic usage have hardly been established at all.

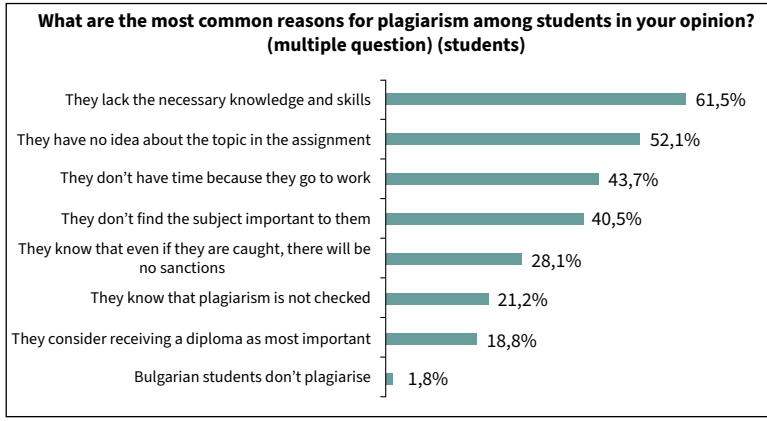
As established in previous research, students demonstrate a bit more flexible attitudes toward (potentially) unethical academic practices, which provokes an even deeper dive into the reasons behind them, focusing on the issues of plagiarism – the

appropriation of ideas, passages etc. from another work or author (Hanks, 1979, cited in Park, 2003), an act of "theft of words or ideas, beyond what would normally be regarded as general knowledge" (Park, 2003, p.472). The survey examines various hypotheses about why students tend to plagiarize according to students themselves.

The study reveals that the lack of necessary knowledge and skill is the primary reason for student plagiarism, shared by 62% of them. Falling a bit behind is the lack of ideas about the assignment topic (52%) which can be considered closely related to the primary reason. Third comes a common issue with modern western societies – lack of time due to work engagements (44%) – a problem with many students. We could hypothesize that this issue is especially acute with students from social groups that either find it hard to provide financial means to support their children through higher education, or the students' emphasis on personal development and desire to emancipate themselves after finishing high school and reaching adulthood. An issue related to the latter comes in fourth place (41%) – subjects considered to be unimportant by students. As some subjects could potentially be excluded from various programs, there is an understanding among some students that certain disciplines do not provide them with useful and practical information and therefore can be easily ignored without consequence. Whether this is indeed the case falls outside of the scope of this paper, but such an understanding is persistent and results in lower class participation and lower grades respectively. The reasons for plagiarism that follow are related – lack of sanctions for those students who get caught (28%) and lack of plagiarism checks (21%). These can be considered potential deficits of institutions which are supposed to provide particular rules to frame the ethical atmosphere inside and make sure that these rules are upheld. Last comes a hypothesis that demonstrates a somehow denigrating attitude towards higher education in general – only

the diploma matters (19%). Such a disposition can be traced to general social issues in national context – institutional distrust, devaluation of knowledge and expertise due to *recent* developments and ongoing socio-political processes resulting in general lack of proper acknowledgement of the effort for gaining proper and high-quality education.

Figure 4. *The students' reasoning behind plagiarizing*



Generally speaking, Bulgarian students are no exception when it comes to the common reasons for plagiarism like lack of understanding of what is academic misconduct, severe external pressure, cultural issues, etc. (Miles et al., 2022), as well as of ideas or bad time management (Doró, 2014), but the study under discussion demonstrates a more contemporary social issue that is *frequently* pointed out by students – the need (or desire) for students to work, which could interfere not only with completing their academic tasks, but also class participation and general attitude towards higher education.

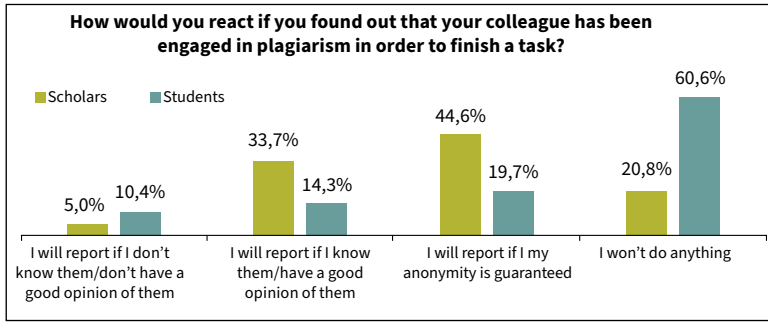
Focus groups reveal the same issues – lack of interest or understanding of the assignments, which often leads to poor results. The inability to deal with tasks in a satisfying manner

and in time pushes students to alternative means of finishing a course – an ever more common usage of AI tools.

The issue of the reasons behind plagiarism stands a bit differently with scholars, but a very similar source of tensions can be observed in its core – the constant pressure for more and more scientific production. The notorious "publish or perish" principle mentioned in the focus group with scholars is a good way to understand how this attempt at pushing for more and more production can result in somehow shared tolerance towards unethical practices. The study finds that about one third of Bulgarian scholars would report plagiarism in any situation, one in every five people would restrain from doing anything, most (45%) would report plagiarism only if their anonymity is guaranteed. At the same time students are far less prone to reporting plagiarism (we could hypothesize that this attitude extends to other unethical actions as well) – 61% state that they wouldn't do anything.

It is out of the scope of the current study to search for the roots of the issue of tolerance towards plagiarism. Common factors leading to academic plagiarism have been researched and summarized (Krishnamurthy & Savitha, 2021, p. 307), but the study does contribute to their understanding as it adds a significant motive, acknowledged by Bulgarian scholars, who participated in the interviews – unethical actions can be tolerated because they are conducted by members of staff who are often friends, not just colleagues, relying on each other for their career advancement. Such close social ties create an environment where people are sometimes hesitant to address ethical issues and particularly plagiarism because they can be easily escalated above the particularities of the problem at hand to a more general stance of view – somebody "told" on somebody else. The issue becomes personal; therefore, its effects become far more multifaceted. Other common factors.

Figure 5. *Reactions towards plagiarism in the academic community.*



Scholars were also asked to evaluate the institutional *ethics committees* of their own universities and the results are far from optimistic – only 6% give an excellent mark, 11% give them a very good mark, some (17%) find them good, average (13%) or poor (5%) and 18% are not informed about their work, while the largest group among the scholars are unable to evaluate them at all (29%). Respectively, scholars evaluate the measures against plagiarism among both students and other scholars in Bulgaria also poorly – about 53-55% of them rate measures as "poor" or "average" (from a scale from 2-poor, 3-average, 4-good, 5-very good and 6-excellent). None of them give an excellent grade, which clearly indicates a serious problem which, if left unaddressed, is at risk to not only remain unsolved, but also be taken as a new form of normalized behavior – if everybody uses AI instruments to skip academic effort, then we cannot do anything about it, but take it as something normal.

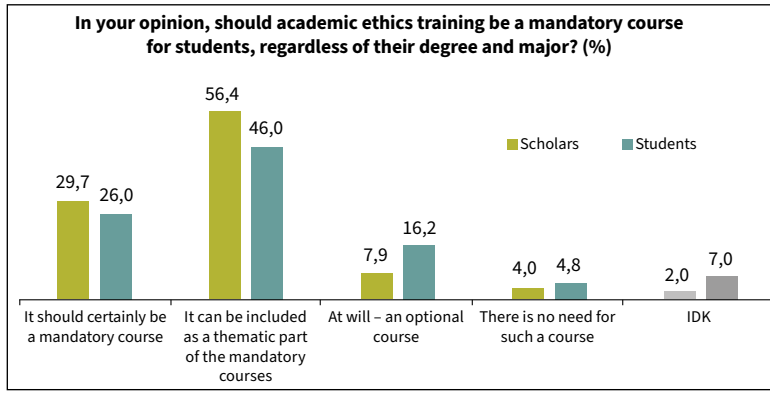
The next section delves a bit deeper into this issue and presents some possible scenarios for proactive behavior, agreed upon by higher education communities.

Training in academic ethics

Training in academic ethics is one of the potential means for solving or at least mitigating the issue of plagiarism and other

related unethical behavior in academia. Most Bulgarian scholars and students share the opinion that training in academic ethics can be included as a thematic part of mandatory disciplines and a smaller part (26-30%) state that it should be a mandatory discipline – an indication that higher education communities welcome further efforts in this area and that established practices in most major Bulgarian universities are insufficient.

Figure 6. *Attitudes toward the need for training in academic ethics*



The study demonstrates a general agreement on the need for further education in academic ethics for students including issues arising from modern technological developments like AI. A large majority of scholars also agree that plagiarism among students is common – only 20% state that less than half of students plagiarize. Most academics (61%) also share the opinion that such training should also be available for everyone, regardless of their academic position and degree. The study corroborates with previous findings by Miles (2022) (citing Devlin, 2006, McGowan, 2016 and Perkins et al., 2020) who discusses the overall academic culture and its values.

Scholars and students are optimistic about the possibility of at least partially solving the issues of plagiarism among students

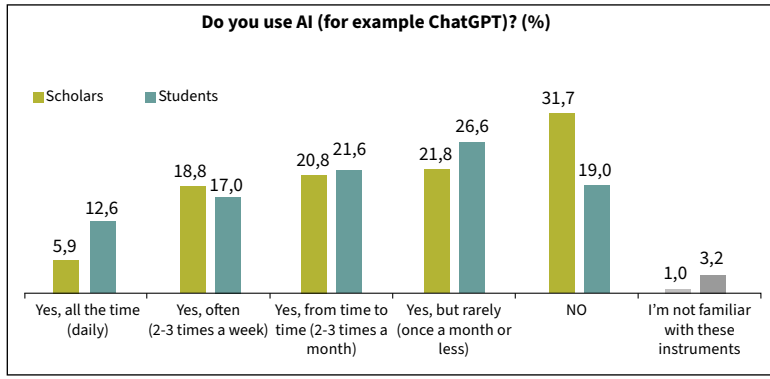
in Bulgaria. Strategies for avoiding plagiarism could be found in academic literature and include: developing skills in analyzing sources, differentiating between one's own ideas and those of others; properly citing sources and referencing; use of detection software (Krishnamurthy & Savitha, 2021, p. 308), etc. But dealing with the issue should be more directly and openly approached at an institutional level by universities (Devlin, 2006, McGowan, 2016 and Perkins et al., 2020, cited by Miles et al., 2022) including all members of staff.

AI Instruments

The issue of the ethical use of artificial intelligence has rapidly become perhaps the most major one in the examination of academic ethics. The wide range of opportunities it gives users and the potential to save massive amounts of time and effort gives way to a variety of practices that can often be on the borderline of unethical behavior.

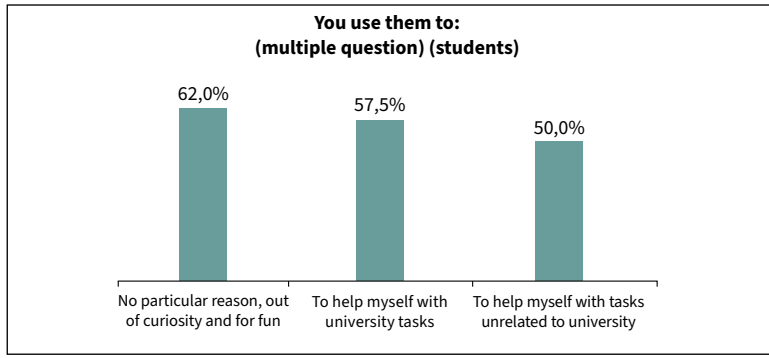
AI and the rapidly widening range of free and easy to use instruments with integrated AI have almost instantaneously become a household name. Three years after one of the (or maybe the) most famous AI powered chatbots ChatGPT was commercially introduced, Bulgarian scholars and students are rarely hesitant to use it. As expected, students are a bit more frequent users of AI powered tools, but scholars do not fall far behind. Only 19% of students state that they do not use such instruments, whereas a bit more – 32% of scholars abstain from using AI instruments (almost nobody states they are unfamiliar with them).

Figure 7. *AI instruments usage frequency among scholars and students*



But what are AI tools used for? Most students use them for a wide variety of activities – above all comes fun and curiosity (62%) but closely following is handling tasks related to the university (58%) or not (50%). The high levels of usage frequency and range indicate that AI has rapidly become common with active young people – those who study and those who also work while studying. As we already mentioned, this combination can also become problematic due to the fact that it restricts students' time and strength and they become more prone to unethical behavior, including plagiarism.

Figure 8. *AI instruments usage among students*

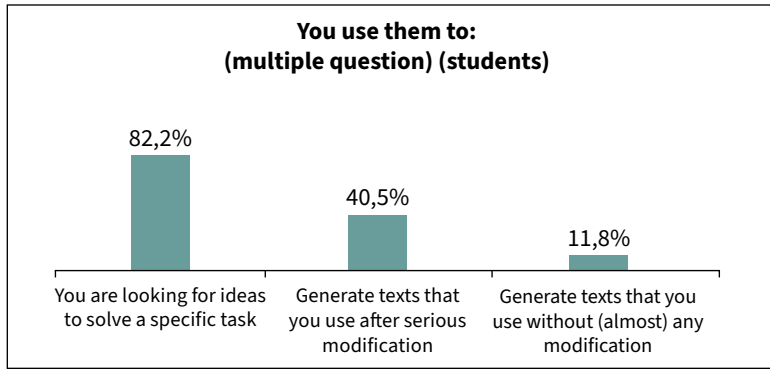


Interviews with students reveal that they follow general trends in AI usage among university graduates such as "writing assistance" and "research organization" (GC, 2025) among other more or less unethical activities. This trend might extend to some alarming concerns raised by Baughan et al. (2021, cited by GC, 2025) related to students who tend to fully rely on AI tools for their assignments leading to lesser human input, which in itself could easily result in poorer educational quality in spite of higher grading if academic communities do not act accordingly. In this regard, researchers are not unanimous about the effects of the rapid integration of AI tools. Some (Kuhl et al., 2020, referred to in GC, 2025) have established that they may enhance critical thinking skills of students, while others support the argument that such an over-reliance could lead to "superficial learning and lower cognitive engagement" "reducing student's capability to critically evaluate information and develop original arguments" (GC, 2025: 51, referring to Selwyn & Aagaard, 2022).

As more than half of the surveyed Bulgarian students use AI instruments for university related activities, they were asked to point out more precisely how they use them. The vast majority (82%) stated that they primarily look for ideas to solve particular tasks. Participants in the focus groups also considered this to be a common and ethically accepted means of usage of such instruments. A borderline scenario would be the second hypothesis we tested – generating texts that are used after serious modification. As 41% of students state that they use them in this way, we can conclude that the commonly agreed upon need for training in academic ethics should focus on drawing the boundary between the ethical and unethical take on AI generated texts and other products. And lastly, there are those who admit that they directly copy AI generated texts without even modifying them. Students and scholars in the focus groups alike had no doubts that this is a form of unethical and unaccepted behavior. Another issue that arises here is more

focused on the legal side of the matter, as plagiarism involves a particular affected party – the person or team that have had their ideas or work improperly appropriated by others. Whether there is a way for us to tell where AI instruments take their "ideas" from and how or if they form "new knowledge" at all, using existing knowledge, is both a technical and an epistemological issue.

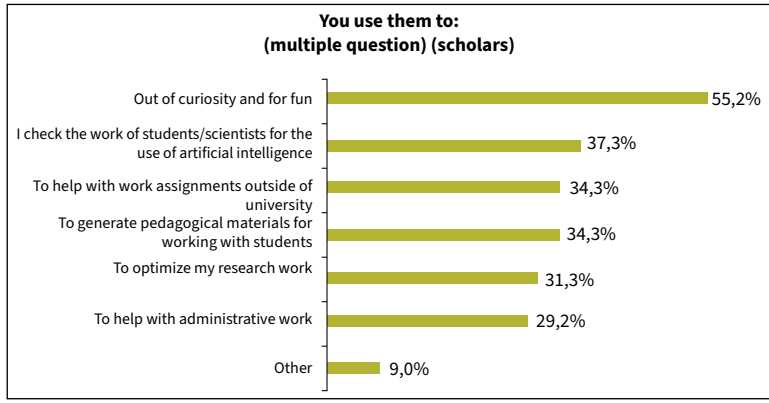
Figure 9. *University related AI instruments usage among students*



As we already observed, AI instruments usage is not common only with students, but also with scholars who take on a wide variety of activities with their help. And yet most common among all activities is again for curiosity and fun, which comes to show that AI instruments present a great interest to potentially any social group, but definitely with those who work with knowledge and face intellectually related tasks daily. What follows after fun and curiosity is a range of activities varying from checking other people's work for AI (37%), help with different assignments unrelated to the university (34%), generating pedagogical materials (34%) or optimizing research (31%) and administrative tasks (30%). Roughly every third scholar has already integrated AI instruments in their everyday task management, which shows that what is needed is not just students' training on how to use AI, but also scholars' and

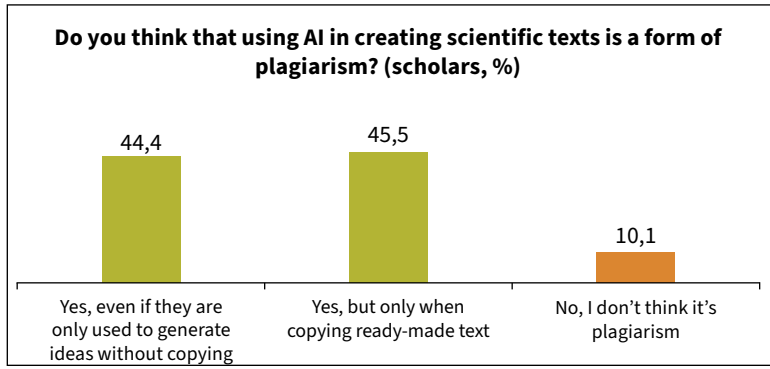
teachers' training for optimization of their daily academic tasks. At the same time, during the focus groups discussion an interesting topic arose around how AI could be helpful for research. The boundary between ethical and unethical usage was not particularly set between idea generation and copying of text and references, but scholars agreed that AI instruments need to be handled with great caution as scientists and teachers are, just like most students, under pressure to produce more and better texts and academic materials in general.

Figure 10. *AI instruments usage among scholars*



Scholars are *a bit more cautious* when setting the boundary between ethical and unethical usage of AI tools at the idea generation/text and references copying threshold. Their opinions are divided between two options – whether idea generation even without copying text should be considered plagiarism and whether only copying ready-made text should be considered plagiarism. A narrow 10% of scholars are of the opinion that AI should be used as freely as desired, which again shows that a small part of the group does not consider the common ethical boundaries and could be considered prone to fraudulent activities (even *by accident*).

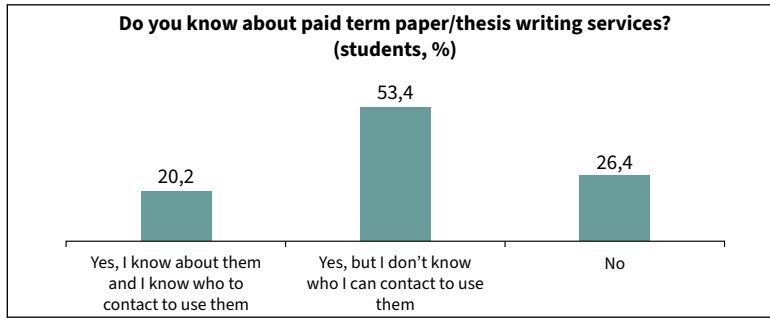
Figure 11. *Scholars' attitudes towards AI instruments usage*



Paper writing services (paper mills)

Another matter that the survey touches on concerns the paper writing services that students sometimes use when they have numerous tasks or are generally incapable of completing some of them. The students surveyed show a good general knowledge of these services as only 26% among them state that the services in question are not familiar to them and every one in five knows who they need to contact if they want to use such a service. It can be concluded that these practices *are still thriving* in Bulgarian universities and can still be found by students even after the introduction and rapid spread of AI.

Figure 12. *Students' attitudes towards paid paper writing services* (*paper mills*)



Conclusions

The understanding of what ethical behavior in academia consists in, and more precisely academic plagiarism among scholars and students, can be considered generally adequate as only narrow groups fail to point out certain attitudes and actions considered to be crucial for the ethical conduct of research and education in the humanities. Students, as expected, find the principles tested in this inquiry a bit less clear, but at the same time recognize the need for further education in ethics and particularly how to avoid plagiarism, which often remains unnoticed by them in their own work. Most students and scholars agree that instruction in this sphere would help and should be available to everyone, even mandatory for younger scientists and students. What is also recognized is the inability to solve the problem entirely as there will always be people who will cheat in their work; therefore, the best solutions may come only from the community itself.

Commercial instruments with integrated artificial intelligence have become extremely popular since the introduction of ChatGPT three years ago on the 30th of November 2022. It has changed the field of higher education a lot – both scholars' scientific and teaching work, and students' task-solving process. AI has "changed the game" as it delivers fast and easy answers to questions but fails to provide the very essence of education by relieving students of the effort needed to learn and cope with complex problems. This makes AI a central issue in the area of academic ethics and plagiarism as students tend to use it freely and are often hesitant where the boundary between plagiarism and getting help (with ideas, for example) lies. Scholars are a bit more cautious with AI instruments although their curiosity is almost as intense as their students'. Both groups appreciate using AI for routine or automatic tasks, as well as for matters unrelated to academia or work. This calls for urgent action – to rapidly develop a code of practice, laying down principles for ethically accepted usage of AI instruments

in academia. This responsibility lies primarily in the hands of particular institutions and in state jurisdiction, which can provide general guidelines in usage of AI as an operator of intellectual property – an important subject of law and essential in the ethical making of science in the Western tradition.

Acknowledgment

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References

Baughan, P., Smith, J., & Johnson, K. (2021). Academic integrity and AI tools: Challenges and solutions. *Journal of Academic Ethics, 19*(*4*), 567-582.

Devlin, M. (2006). Policy, preparation, and prevention: Proactive minimization of student plagiarism. *Journal of Higher Education Policy and Management 28*(*1*):45–58. doi:10.1080/13600800500283791

Doró, K. (2014). Students' perceptions of cheating and plagiarism: An exploratory study among Hungarian EFL undergraduates In Fregan, B. (Ed.), *Success and challenges in foreign language teaching* (pp. 43-47). Budapest: Nemzeti Közszolgálati Egyetem.

GC, P. B. (2025). The Use of Artificial Intelligence among University Students: A Narrative Inquiry. *Academia Journal of Humanities & Social Sciences. 2,* 49-61. 10.3126/ajhss.v2i1.77160.

Hanks, P. (Ed.) (1979). *Collins Dictionary of the English Language*. Glasgow: William Collins

Hughes, J.M.C. & McCabe, D.L. (2006). Academic misconduct within higher education in Canada. *Canadian Journal of Higher Education, 36*(*2*): 1-21.

Krishnamurthy, C & Savitha, K. (2021). Issues of Plagiarism in Academics: An Overview. *Libraries and Resource Management in the Knowledge Society*, 304-311. Shree Publishers and Distributors. Available at SSRN: https://ssrn.com/abstract=4793992

Kuhl, P. K., Lim, S. S., & Guerriero, S. (2020). AI and critical thinking in education. *Journal of Educational Psychology, 112*(4), 567-582.19.

McCabe, D.L. (2005). Cheating among college and university students: A North American perspective. *International Journal of Educational Integrity, 1*(1): 1–11.

McGowan, S. (2016). Breaches of academic integrity using collusion. *Handbook of Academic Integrity* (Bretag T, ed.), 221–248. Singapore: Springer Reference. doi: 10.1007/978-981-287-098-8_36.

Miles, P. J., Campbell, M., & Ruxton, G. D. (2022). Why Students Cheat and How Understanding This Can Help Reduce the Frequency of Academic Misconduct in Higher Education: A Literature Review. *Journal of undergraduate neuroscience education: JUNE: a publication of FUN, Faculty for Undergraduate Neuroscience, 20*(2), A150–A160. https://doi.org/10.59390/LXMJ2920

Park, C. (2003). In Other (People's) Words: Plagiarism by university students-literature and lessons. *Assessment & Evaluation in Higher Education, 28*(5), 471–488. doi: 10.1080/02602930301677.

Perkins, M., Gezgin UB, Roe J. (2020). Reducing plagiarism through academic misconduct education. *International Journal for Educational Integrity 16*(1), 1-15. doi: 10.1007/s40979-020-00052-8.

Selwyn, N., & Aagaard, J. (2022). AI and superficial learning in education. *Journal of Educational Psychology, 114*(2), 234-249.

NAVIGATING AI IN HIGHER EDUCATION: FACULTY PERSPECTIVES ON STUDENT MOTIVATION AND ACADEMIC INTEGRITY

Tetyana Kozlova, Professor, Zaporizhzhia National University, Ukraine (tetyana_kozlova@znu.edu.ua)

Svitlana Zapolskykh, Associate Professor, Zaporizhzhia National University, Ukraine (lanazapolskykh@gmail.com)

Marharyta Berezhna, Associate Professor, Zaporizhzhia National University, Ukraine (margaret.berezhna@gmail.com)

Viktoriia Pohonets, Associate Professor, Zaporizhzhia National University, Ukraine (pogonets518@gmail.com)

Abstract

The study examines faculty perspectives on student AI use in a Ukrainian university philological department. Using quantitative research design, anonymous survey data were collected in spring 2025 from forty-two academic staff members and 216 students. The analysis addresses faculty experiences with AI in teaching, their views on student AI use, and their attitudes toward ethical concerns. The study examines instructors' engagement with AI-enabled tools, their interpretations of students' AI-related practices, and their ethical evaluations of such use. The results point to a cautiously positive stance among faculty, who acknowledge the instructional benefits of AI while remaining attentive to risks related to integrity, authorship, and learner independence. Students' reliance on AI is largely understood as instrumental, reflecting practical goals such as improving efficiency, enhancing academic performance, and

addressing linguistic or cognitive constraints. The study contributes context-specific insights into ethically responsible AI integration in philological higher education.

Keywords: academic integrity, AI tools, faculty perception, higher education, pedagogy, student motivation.

Background and Rationale

The rapid integration of artificial intelligence (AI) tools into higher education has fundamentally transformed teaching, learning, and assessment practices. Widely used in education and research (Holmes et al., 2019; Selwyn, 2019), these technologies are associated with improved efficiency, creativity, and access to knowledge. Nevertheless, they also introduce significant pedagogical and ethical challenges, particularly with regard to academic integrity. Beyond undermining academic fairness, students' overreliance on AI in completing assignments may jeopardize their interpersonal and higher-order cognitive skills.

To mitigate possible negative impact of AI tools, students require structured guidance on the proper application of technological innovation. Faculty members play a crucial role in balancing the advantages of AI with necessity to uphold trust, originality, and fairness in academic performance (Cotton et al., 2024; Curtis, 2025). The intended use of AI tools to support learning objectives largely depends on academics' attitudes toward AI, their awareness of its pedagogical implications, and their willingness to develop clear course policies, design learning activities, and ensure transparent communication of ethical expectations. Thus, well-regulated AI integration requires both institutional responsibilities, such as integrity policies, and individual faculty practices, including ethical guidance (Akgun & Greenhow, 2022; Fawns et al., 2024). Prior studies indicate that academic integrity has been conceptualized and practiced differently across cultural contexts (Vassileva et al.,

2025; Yankova, 2024), which suggests that AI-related integrity frameworks should be interpreted in light of local academic cultures.

The depth and diversity of the referenced literature suggest that student use of AI tools and institutional policy responses are now well-established research domains. Despite this, faculty perspectives – particularly how educators conceptualize student motivations for AI use and how they negotiate emerging problems of academic integrity – remain unevenly explored across regional and cultural contexts (Fitch 2025; Kinskofer & Tulis, 2025; Marshik et al. 2024; Ocado 2025). Moreover, empirical evidence concerning these issues remains scarce with respect to Western European institutions, including those in Ukraine. Within the Ukrainian higher education context, faculty perceptions of students' motivations for AI use acquire particular importance due to the country's unique socio-cultural and educational circumstances. While higher education institutions combine traditional academic values with progressive attitudes toward technological innovation and European integration, they also operate under conditions of prolonged stress caused by military conflict, population displacement, infrastructural disruption, and unequal access to digital resources. These conditions may directly shape both student reliance on AI tools and faculty interpretations of such practices.

This study examined faculty perceptions of students' motivations for AI use and the associated implications for academic integrity within the Department of Foreign Philology at Zaporizhzhia National University (Ukraine). In particular, it explored (1) faculty experiences with AI in their own teaching practices, (2) their views of why and how students use AI tools, and (3) their attitudes toward the ethical implications of such use. Examining faculty perspectives on student motivation and academic integrity at a Ukrainian university provides insights to help educators understand the implications of AI use and

guide its meaningful integration, while considering factors that align instructors' expectations with students' motivations and priorities.

Methodology

Research design

This study employs a quantitative research design to examine how university faculty perceive students' use of artificial intelligence (AI) in learning, particularly in relation to motivation and academic integrity. Quantitative methods are well-suited for identifying patterns and trends across larger participant groups (Banawa, 2025), allowing for objective interpretation of self-reported behavior and attitudes (Cohen et al., 2018).

Participants

The study sample comprised forty-two academic staff members and 216 students from the Department of Foreign Philology, Zaporizhzhia National University (Ukraine). Faculty participants represented a range of academic positions and teaching experience, while student participants were enrolled in various BA and MA-level philology programs. The survey was conducted anonymously in spring 2025.

Research instrument

Data were collected using a structured survey, developed to measure several key variables associated with AI in educational contexts. The questionnaire was divided into parallel faculty and student sections and included multiple-choice and Likert-scale questions. The instrument was adapted from existing survey frameworks used in similar studies of AI in higher education (Guo et al., 2025), ensuring both content validity and relevance.

Key variables

The survey focused on four interrelated domains: student motivation for using AI (as perceived by faculty and reported by students); ethical stance toward AI in academic settings; faculty teaching practices involving AI tools (e.g., for instruction, assignment design, or evaluation); awareness and enforcement of academic integrity policies in the context of AI.

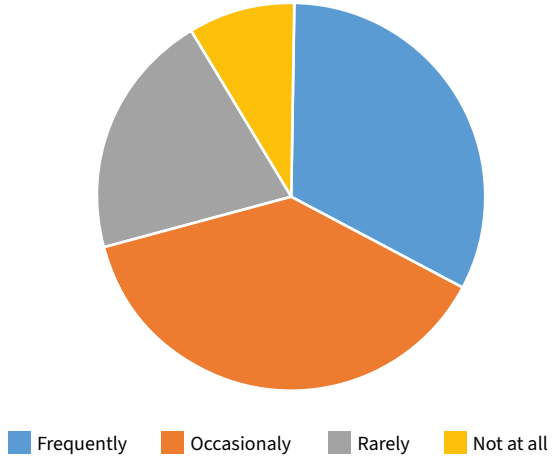
Data analysis

The data were processed using descriptive statistical methods, including frequency and percentage distributions to highlight trends in behavior and perception across both groups. A comparative perspective was applied to examine differences and alignments between faculty perceptions and student self-reports. This approach is consistent with survey-based educational research aiming to inform policy and institutional decision-making (Cotton et al., 2024). Ethical approval was obtained from the university's research ethics committee. Participation was voluntary, and informed consent was secured from all respondents.

Faculty Use of AI in Teaching Practice

The survey results reveal a gradual yet discernible integration of AI technologies into the teaching practices of faculty members at the Department of Foreign Philology, Zaporizhzhia National University. The extent of adoption varies among instructors, reflecting differing levels of confidence, familiarity, and pedagogical priorities. Notably, 33.3% of faculty members reported frequent use of AI in their teaching, while 38.1% indicated occasional use. In contrast, 19.1% reported rare use, and 9.5% stated they never incorporate AI into their instructional activities. These findings are illustrated in Figure 1, which presents the frequency of AI use among faculty members.

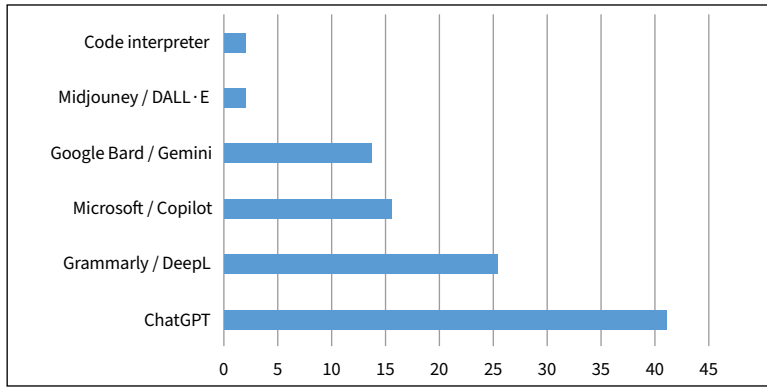
Figure 1. *Frequency of AI Use in Teaching*



Among the most familiar AI tools, faculty members of the Department of Foreign Philology most frequently identified ChatGPT (41.2%), followed by Grammarly or DeepL (25.5%), Microsoft Copilot (15.6%), Google Bard/Gemini (13.7%), Midjourney or DALL·E (for image generation) (2.0%), and the Code Interpreter (2.0%) (Figure 2). This toolset indicates that the AI applications in use are predominantly text-based, supporting linguistic, writing, and translation-related tasks—an outcome that aligns well with the department's philological profile. Notably, this trend resonates with global practices in the humanities and language education, where generative AI is increasingly integrated to enhance writing fluency, provide real-time language support, and facilitate multilingual communication. Studies have shown that tools such as ChatGPT and DeepL are widely adopted in language learning and teaching settings due to their capacity to assist with idea generation, text correction, and vocabulary expansion (Wu et al., 2024). Pedagogically, the adoption of these tools reflects a shift toward AI-assisted scaffolding, where instructors and

learners rely on AI not as a replacement for linguistic expertise, but as a complementary instrument that enhances productivity and language awareness. This integration suggests an evolving instructional paradigm where educators must develop critical AI literacy and ethical frameworks to guide students in using these technologies responsibly and effectively.

Figure 2. *Familiarity with AI Tools Among Faculty Members*

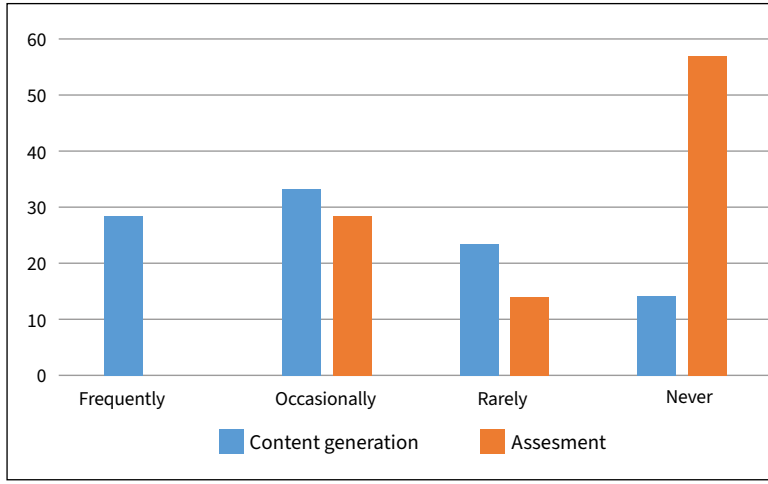


The survey results indicate varying levels of AI integration among faculty in the context of instructional content development and assessment. Specifically, 28.6% of respondents reported frequent use of AI tools to elaborate and refine the content of learning tasks for students, while 33.3% use AI for this purpose occasionally, and 23.8% reported rare usage. Notably, 14.3% of instructors indicated that they have never used AI to support or detail the content of instructional activities for higher education students. In terms of assessment, 28.6% of faculty members occasionally use AI to evaluate student assignments, whereas 14.3% rarely do so, and a majority – 57.1% – do not use AI for student evaluation purposes at all.

These findings are consistent with prior research suggesting that faculty tend to initially adopt AI for content generation and

task facilitation, while remaining more cautious about relying on AI for assessment (Akgun & Greenhow, 2022; Kutty et al., 2024). This trend reflects broader concerns regarding academic integrity, transparency, and reliability in automated grading. Figure 3 – Faculty Use of AI by Function – illustrates specific instructional purposes for AI integration and underscores the contrast between content-focused and assessment-related applications.

Figure 3. *Faculty Use of AI by Function*

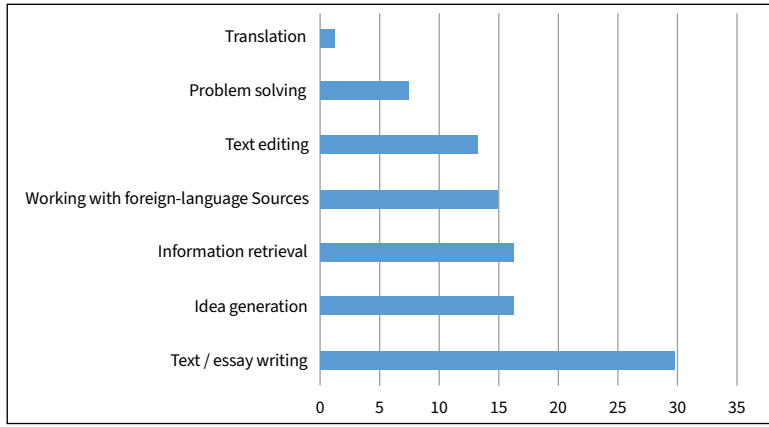


Despite the growing integration of AI, faculty demonstrate a measured and experimental approach to its adoption. AI is more likely to be viewed as an auxiliary tool rather than a replacement for traditional teaching methods. This aligns with findings from recent studies showing that faculty across disciplines are more open to using AI for idea generation or task support than for autonomous grading or feedback. Indeed, 'students and teachers felt that GenAI could be used as a teaching aid, but not as a substitute for the teacher's role' (Wu et al., 2024).

Moreover, faculty attitudes reflect a degree of ethical ambivalence, particularly when it comes to AI's role in content creation and evaluation. While 95.2% of instructors report informing students about ethical AI use and academic integrity, only 14.3% express a clearly positive attitude toward student use of AI, and 38.1% express disapproval. This ambivalence suggests unresolved tensions between innovation and academic responsibility, reinforcing the need for institutionally supported frameworks that guide AI usage in pedagogically sound and ethically responsible ways (Cotton et al., 2024).

According to faculty members of the Faculty of Foreign Philology, the primary purposes for which students use AI tools relate predominantly to text production and ideation. Specifically, 29.9% of instructors identified essay or text writing as the main use of AI by students, followed by idea generation (16.4%), information retrieval (16.4%), working with foreign-language sources (14.9%), text editing (13.4%), problem solving (7.5%), and text translation (1.5%) (Figure 4).

Figure 4. *Faculty Perceptions of Students' AI Use by Purpose*



These findings suggest that students primarily perceive AI as a writing assistant and support tool for academic productivity, particularly in tasks requiring structured or formal output. The prominence of text generation and ideation indicates that AI is being employed not only for mechanical assistance but also for creative scaffolding, aligning with broader trends in digital learning environments. At the same time, the relatively low engagement with tasks such as translation or complex problem solving may reflect either a lack of trust in AI's domain-specific capabilities or limited student familiarity with its advanced functionalities.

Faculty generally interpret this behavior as outcome-driven, reflecting a tendency among students to prioritize task completion over process-oriented learning. This perception raises concerns about reduced student autonomy and the potential erosion of critical thinking, particularly when AI reliance becomes habitual or uncritical (Cotton et al., 2023). While students may view AI as a convenient shortcut or productivity enhancer, faculty also acknowledge the risk of dependency, especially among learners with weaker academic foundations or insufficient discipline-specific training.

These observations underscore the importance of contextualized instruction on the appropriate and ethical use of AI in academic settings. When properly framed, faculty insight into student motivations can inform targeted pedagogical strategies that both leverage AI constructively and safeguard academic integrity. This includes raising student awareness of AI's limitations, fostering reflective use, and integrating AI into curricula in ways that support critical engagement rather than passive consumption.

Academic Integrity: Faculty and Students' Attitudes

As artificial intelligence (AI) tools become increasingly integrated into academic environments, concerns surrounding plagiarism, authorship, and the authenticity of student work have moved to the forefront of institutional discourse. Faculty at Zaporizhzhia National University demonstrate a proactive stance in addressing these challenges: 95.2% of instructors report informing students about ethical standards and the responsible use of AI in academic contexts. This signals an institutional awareness of the ethical complexities AI introduces into the learning process.

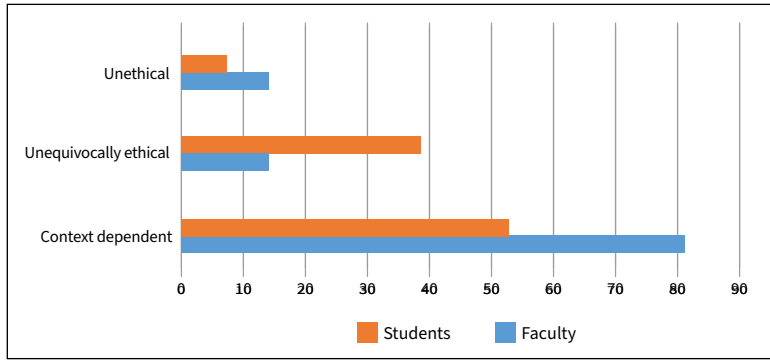
When evaluating the ethical acceptability of AI in education, both faculty and student attitudes reveal significant nuance. A majority of faculty respondents (81.0%) consider the ethics of AI use to be context-dependent, highlighting that acceptability hinges on factors such as purpose, timing, and transparency. In contrast, 14.2% of faculty perceive AI use as inherently ethical, while 4.8% regard it as unethical (see Figure 5). These positions echo wider international debates on how AI tools challenge conventional understandings of authorship, originality, and learner autonomy (Khan, 2023).

Among students, similar complexity emerges: 39.1% view the use of AI in learning as ethically acceptable, whereas a majority (52.9%) adopt a situational approach, suggesting that ethical judgments depend on how and when AI is employed. A smaller proportion (8.0%) consider AI use in education to be unethical. This parallel between faculty and student perspectives indicates a shared awareness of ethical ambiguity, though students appear slightly more inclined to accept AI as an appropriate tool within academic contexts.

Together, these findings highlight the importance of fostering ongoing dialogue and ethical literacy among all

academic stakeholders. As AI tools become more embedded in educational practice, understanding how both instructors and learners conceptualize ethical boundaries is critical to the development of responsible, context-aware policy and pedagogy.

Figure 5. *Students' and Faculty Views on the Ethical Acceptability of AI Use in Education*



Faculty perspectives on student use of AI for academic tasks further illustrate this ambivalence. Nearly half (47.6%) expressed a neutral stance, while 38.1% reported negative perceptions, and only 14.3% responded positively. This distribution suggests that although AI is now a recognizable component of educational practice, it remains far from being fully normalized or pedagogically embraced – especially in relation to academic honesty and independent learning (Khan, 2023).

Importantly, the intentional incorporation of AI into task design remains limited. Only 33.3% of faculty occasionally design assignments that permit or require AI use, while 42.9% have never done so. This gap reveals a missed opportunity to embed AI into learning processes in a structured, transparent, and ethically guided manner. Without such scaffolding, student use of AI risks becoming ad hoc or concealed, further complicating efforts to maintain academic integrity.

Underlying many of these concerns is the growing recognition that generative AI tools can facilitate forms of academic dishonesty by enabling the effortless creation of content that appears original but lacks genuine learner input. This blurring of authorship boundaries raises urgent questions about how to delineate acceptable levels of machine contribution, and how to adapt institutional policies to address the ethical and pedagogical challenges introduced by emerging technologies (Luckin & Holmes, 2016).

The findings from this study reveal a persistent tension between the opportunities afforded by AI and the foundational values of higher education. While faculty broadly acknowledge the potential of AI to enhance learning efficiency, support content generation, and increase access to knowledge, they also express deep concern about its impact on student autonomy, critical thinking, and academic integrity. This ambivalence is mirrored in student responses: although a significant share views AI use as ethical or situationally acceptable, there remains uncertainty about the boundaries of responsible use.

Bridging this ethical and pedagogical divide will require more than ad hoc classroom responses. It demands institutional dialogue, clearly articulated guidelines, and the integration of AI ethics into curricular and assessment design. By fostering a shared understanding among faculty and students – and by treating AI not as a threat but as a tool to be critically and transparently engaged – higher education institutions can ensure that innovation serves, rather than undermines, the values of meaningful learning and academic integrity.

Implications for Policy and Pedagogy

The findings of this study underscore the urgent need for institutional action in establishing clear ethical and pedagogical frameworks for AI use in higher education. As both faculty and students increasingly integrate AI into academic practice,

universities must move beyond informal or individual responses and adopt systematic, transparent policies that define the acceptable scope of AI-assisted learning and assessment.

Institutional responsibility for ethical guidance

The high percentage of faculty (95.2%) who report informing students about responsible AI use reflects a shared concern for maintaining academic integrity. However, in the absence of unified standards, educators are left to interpret and enforce expectations independently. This fragmentation mirrors international trends, where the rapid adoption of generative AI tools has outpaced policy development (Johnson et al., 2023; Marín et al., 2024).

Promoting AI literacy across stakeholders

Ethical engagement with AI presupposes not only technical familiarity but also a nuanced understanding of its affordances and limitations. Research has shown that students who lack AI literacy may over-rely on these tools or misinterpret their outputs, while faculty often feel underprepared to teach with or about AI technologies (Luckin et al., 2023; Akgun & Greenhow, 2023).

Encouraging AI as a support tool, not a substitute

Educators should be supported in framing AI as an assistive technology that enhances – not replaces – learning processes. This distinction is crucial in preserving student agency and fostering critical thinking. Promoting responsible AI use involves emphasizing the value of collaboration between human cognition and machine support, rather than endorsing the automation of intellectual work (Dawson, 2023).

Embedding AI-awareness in assignment design and assessment

Only one-third of surveyed faculty reported designing assignments that intentionally incorporate AI. This indicates

a missed opportunity to foster digital ethics and critical engagement within authentic tasks. Institutions should encourage the integration of AI-awareness into learning design, ensuring that assessment models reflect current technological realities while safeguarding transparency, originality, and accountability (Zawacki-Richter et al., 2022).

By prioritizing these pedagogical and policy responses, institutions can better navigate the evolving educational landscape, ensuring that academic integrity and educational innovation are mutually reinforcing rather than conflicting values.

Conclusions

This study highlights the evolving attitudes of faculty toward AI integration in higher education, revealing a pattern of cautious optimism. By drawing on data from the Department of Foreign Philology at Zaporizhzhia National University and situating the findings within prior research cited in this article, the study reveals that faculty perception of students' AI tools are shaped by local educational challenges as well as broader systemic pressures. While faculty members recognize AI's potential to enhance teaching and learning processes, their perspectives are tempered by ongoing concerns related to academic integrity, authorship, and student autonomy. Rather than intending to engage in academic misconduct, students primarily use AI for pragmatic purposes, such as saving time, increasing productivity, and overcoming knowledge or language barriers. Taken together, these findings emphasize the need for clear expectations and supportive institutional frameworks. Effective AI integration requires AI-inclusive assignment design, AI literacy in curricula, and transparent policies that guide ethical use and accountability. Without these structures, both students and instructors risk inconsistent practices and miss opportunities for constructive integration.

This study has limitations: it was conducted anonymously and does not provide data on participants' gender, age, and other social and demographic traits influencing perceptions of AI. Nonetheless, the findings suggest that broader contextual factors, including the ongoing war and the drive for progress in education, shape faculty attitudes and students' pragmatic engagement with AI. Future research should explore discipline-specific policies and longitudinal effects of AI use on learning behaviors, including critical thinking, originality, and independent work. Collaboration among educators, institutional leaders, and policymakers is essential to guide AI ethically and thoughtfully, ensuring technological innovation aligns with core pedagogical values. A shared framework addressing both ethical boundaries and practical use can foster responsible, pedagogically sound AI integration in higher education.

In light of these considerations, the authors support a responsible and cautious integration of artificial intelligence into educational and academic practices. During the preparation of this article, ChatGPT was used exclusively for language editing and stylistic refinement of the text. All conceptual frameworks, data analysis, and interpretation of results are the outcome of the authors' independent scholarly work. The authors regard the use of AI tools as appropriate insofar as it enhances the ergonomics and effectiveness of academic work while remaining fully aligned with the principles of academic integrity.

References

Akgun, S., & Greenhow, C. (2022). Artificial intelligence (AI) in education: Addressing societal and ethical challenges in K-12 setting. *Proceedings of International Conference of the Learning Sciences, ICLS*, 1373–1376. EID: 2-s2.0-85145769545

Bawa, R. (2025). Mixed-Methods Research: Combining Qualitative and Quantitative Data. NN/G. https://www.nngroup.com/articles/mixed-methods-research/

Chiu, T. K., Xia, Q., Zhou, X., Chai, C. S., & Cheng, M. (2023). Systematic literature review on opportunities, challenges, and future research recommendations of artificial intelligence in education. *Computers and Education: Artificial Intelligence, 4*, eArticle 100118. https://doi.org/10.1016/j.caeai.2022.100118

Cohen, L., Manion, L., & Morrison, K. (2018). *Research Methods in Education* (*8th ed.*). Routledge. https://doi.org/10.4324/9781315456539

Cotton, D. R. E., Cotton, P. A., & Shipway J. R. (2024). Chatting and cheating: Ensuring academic integrity in the era of ChatGPT. *Innovations in Education and Teaching International, 61*, 228–239. https://doi.org/10.1080/14703297.2023.2190148

Curtis, G. J. (2025). The two-lane road to hell is paved with good intentions: Why an all-or-none approach to generative AI, integrity, and assessment is insupportable. *Higher Education Research and Development, 44*(*25*), https://doi.org/10.1080/07294360.2025.2476516

Fawns, T., & Schuwirth, L. (2024). Rethinking the value proposition of assessment at a time of rapid development in generative artificial intelligence. *Medical Education, 58*(*1*), 14–16. https://doi.org/10.1111/medu.15259

Fitch, E. A. (2025). Faculty Perceptions of Artificial Intelligence as a Teaching and Learning Tool in Higher Education: A Causal-Comparative Study [A Quantitative Dissertation Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy. Liberty University] https://digitalcommons.liberty.edu/cgi/viewcontent.cgi?article=7913&context=doctoral

Guo, S., Shi, L., & Zhai, X. (2025). Developing and validating an instrument for teachers' acceptance of artificial intelligence in education. *Education and Information Technologies, 30*, 13439–13461. https://doi.org/10.1007/s10639-025-13338-6

Hermanto, H., Musrari, M., & Sepriana, A. (2025) Teachers' perceptions of AI tools for enhancing student motivation and learning engagement in higher education. *AI and Developmental Insights in Education, 1*(*1*), 1–14. https://doi.org/10.58524/aidie.v1i1.53

Holmes, W., Bialik, M., & Fadel, C. (2019). Artificial Intelligence in Education: Promises and implications for Teaching and Learning. Center for Curriculum Redesign. https://www.consorciosthem.com/wp-content/uploads/2025/02/sthem-ia-07-holmes-fadel-bialik-artificial-intelligence-in-education-promise-and-implications-for-teaching-and-learning-2019.pdf

Khan, Z. R. (2023). Ethics of artificial intelligence in academia. In T. Bretag (Ed.), *Handbook of academic integrity* (pp. 1–32). *Springer*. https://doi.org/10.1007/978-981-287-079-7_188-1

Kinskofer, F., & Tulia, M. (2025). Motivational and appraisal factors shaping generative AI use and intention in Austrian higher education students and teachers. *Frontiers in Education, 10*. https://doi.org/10/3389/feduc.20251677827

Kutty, S., Chugh, R., Perera, P., Neupane, A., Jha, M., Li, L., Gunathilake, W., & Perera, N. (2024). Generative AI in higher education: Perspectives of students, educators, and administrators. *Journal of Applied Learning & Teaching, 7*, 1–14.

Luckin, R., Holmes, W., Griffith, M., & Forcier, M. (2016). *Intelligence unleashed: An argument for AI in education*. Pearson.

Marschik, T., McCracken, Ch., & O'Marra, M. (2024). Student and instructor perceptions and uses of Artificial Intelligence in higher education. *Teaching of Psychology, 52*(*3*), 319-329. https://doi.org/10.1177/00986283241299745

Ocado, M.K.G. (2025). More than skills: How AI literacy shapes student motivation in the age of education 4.0. *Journal of Technology and Science Education, 15*(*3*), 679-698. https://doi.org/10.3926/jotse.3748

Rashid, T., & Asghar, H. M. (2016). Technology use, self-directed learning, student engagement, and academic performance: Examining the interrelations. *Computers in Human Behavior, 63*, 604–612. https://doi.org/10.1016/j.chb.2016.05.084

Selwyn, N. (2019). *Should robots replace teachers? AI and the future of education* (*1st ed.*). Polity Press.

Selwyn, N., & Gasevic, D. (2020). The datafication of higher education: Discussing the promises and problems. *Teaching in Higher Education, 25*, 527–540. https://doi.org/10.1080/13562517.2019.1689388

Vassileva, I., Yankova, D., & Chankova, M. (2025). The gravity of academic plagiarism in the perception of scholars, students, and science policy makers in Bulgaria. *English Studies at NBU, 11*(*1*), 5–16. https://doi.org/10.33919/esnbu.25.1.1

Wu, F., Dang, Y., & Li, M. (2024). A systematic review of responses, attitudes, and utilization behaviors on generative AI for teaching and learning in higher education. *Behavioral Sciences, 15*(*4*), 467. https://doi.org/10.3390/bs15040467

Yankova , D. (2024). Academic Integrity Policies in HEIs Across Cultures. *English Studies at NBU, 10*(*1*), 5–20. https://doi.org/10.33919/esnbu.24.1.1

Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education–Where are the educators? *International Journal of Educational Technology in Higher Education, 16* (*39*). https://doi.org/10.1186/s41239-019-0171-0

WRITING RESEARCH ETHICALLY UNDER PRESSURE

Irina Dimitrova, Research Fellow, New Bulgarian University, Sofia, Bulgaria
(isdimitrova@nbu.bg)

Abstract (Meta-Abstract)

This paper presents a brief qualitative auto/ethnographic study on the experience of writing research under pressure, prompted by the very experience. The methodology involves reflection and auto-reflection with literature review, target group discussion data, personal observation, and auto-observation. As this abstract is composed *ad hoc* before the complete data collection and analysis and the writing of the paper in question, the methodology is subject to amendment. The focus of the paper is on the phenomenon of writing and doing research under pressure and the various effects this practice might have. Implications may be outlined in the areas of academic ethics, academic psychology, academic staff and project management, research quality, and academic research policies, among others. The study is part of a project on the gravity of plagiarism in the perceptions of university students, teachers, scientists and academic legislators in Bulgaria.

Keywords: auto/ethnography, fictioning, focus-group discussion data, meta-conversation, plagiarism

The Study

The paper presents an auto/ethnographic account of highlights from a focus group discussion among university

students, lecturers, and researchers on plagiarism in academia. The methodology aligns with qualitative research methods. The concept of action research is relevant to the current study, as it was required within seven days of receiving the data. The lack of deadline flexibility in cases of delayed performance at one stage or another creates a challenging circumstance (Granitz & Loewy, 2007) and the risk of erroneous malpractices resulting in poor research quality. In addition, this predicament raises issues of stress management and the researcher's well-being. Creative auto/ethnography and action research emerge as coping techniques to manage the tight deadlines for conceptualizing the current brief outline of the focus group discussion findings and of creating qualitative multiperspectivity (Burrows & O'Sullivan, 2023, p. 51) in auto/ethnography. Conclusions about project management flexibility and meta-conclusions from the walking meta-conversation with focus group discussion data are elicited.

Methodology

As the above abstract was composed *ad hoc* at short notice, the methods and the findings differ from those formulated in the abstract. There is also a shift in the focus of the study toward analyzing the data from the conducted discussion with the participants in one of the target groups under the current project, namely, that of the researchers and the university teachers. This comes as a result of the extended deadline for paper submission, on the one hand, and the already written and presented unwritten paper, on the other.

What follows is an auto/ethnographic performative (Burrows & O'Sullivan, 2023) writing account of the discussion data from the researchers' and university lecturers' opinions on the various aspects of plagiarism. The methodology involves a meta-conversation with the researchers' target-group discussion data resonating with creative approaches to academic writing such as a 'writing-with' approach (Vulcan, 2023), an 'ill-disposed to

monolithic formations' walking research (Beier & Wallin, 2023, p. 27), a 'writing in between' approach (Gibbs, 2023) proposing a multiperspectivity with 'a fictioning practice in mind' (Burrows & O'Sullivan, 2023, p. 51).

The choice of methods is an auto-ethnographic response to short deadlines and the ensuing insufficient time for data processing and analysis to design a statistics-based study as a continuation of the elaborated 26-question survey based on the literature review published under the project (Dimitrova, 2025). The 'raveling worlds' (Vulcan, 2023) around, in-between (Gibbs, 2023) and through the current study could be specified as follows: the writing of another paper – a result of more than a year research and hypothesis building, the seven-day deadline for abstract submission for the current paper, the melting away of the annual holiday, and the resulting stress to be coped with. Walking research (Beier & Wallin, 2023, p. 27) in this study is to be interpreted as a walk through the discussion data with the accompanying author's performative (Burrows & O'Sullivan, 2023) and non-performative responses; a walk that also permeates the writing-with (Vulcan, 2023), and the in-between approaches (Gibbs, 2023) in auto/ethnography. More information about the discussion data from all the focus groups is presented in Valkanov (in this volume). Part of the statistics-based data analysis can be found in Kanushev (in this volume).

The focus group discussion was conducted with eleven researchers and university teachers and recorded in 2025 by a representative of Alpha Research – a Bulgarian consulting, social, and market research company, as part of the project on 'The gravity of academic plagiarism in the perception of scholars, students, and science policy makers in Bulgaria'. Scholars form one of the three focus groups of the project (See also Valkanov, 2025 in this volume; Vassileva, Yankova & Chankova, 2025). The participants' opinions in the present

paper are anonymized for the purposes of the current study in compliance with ethical research principles.

Findings in and out of a Meta-Discourse

Research continuity is like a sunbeam and as willful as a human being can be. Sunbeams are like everything else: a divine emanation with a distinct form, an inform or thought, an energy, a presence, not necessarily in a material body, but in a material energy-matter, interspersed like sun glitter over the smooth surface of a summer lake or the calm sea, or cut grass.

Original ideas do not come on call, said a participant in the target-group discussion interviews. It seems that, precisely because ideas are not on call, we have to strive to reach their position in space-time. We need to walk the road to them, write, pay attention, think, rethink, unthink, research, connect and disconnect, start and stop, and start again to maintain the flow and continuity of research. We have been researching since we were born. Ideas are willful like human beings; they demand our effort, care, attention, work, dedication and deliberation, and so that when we reach them, we will recognize them, partly because we will know that there is no comfortable way back, partly by intuition. Then, we also know that it is worth taking the final steps to present the ideas to the community in a manner relevant to their value, and a significant part of that value is our effort to reach them. The other part is their value to society.

Another participant mentioned the problem of defining plagiarism, stating that education is undoubtedly necessary.

Detached from the text for a while. Writing silence. Divergence. Cooked the potatoes. Had dinner. While preparing the meal, the smell of garlic trespassed through the kitchen fan. Decided to add some garlic. Is that a case of cooking misconduct, or plagiarism from an unknown author? I could have brought some potatoes to the neighbors to thank them for the idea,

mention them in the bibliography, or ask them to do something about the common cooking-fan pipe.

Tolerating plagiarism is the main issue, according to another participant.

Silence in research (Schweiger & Tomiak, 2022) and in life is a form of body language: disengagement, keeping a distance, maintaining a boundary that would otherwise be violated, disinfection, mental hygiene and isolation from a problem. Silence. Reflections. Time off one thing and onto another. An illusory rest to allow oneself to think about the problem subconsciously or laterally, from another perspective, from beneath another 'hat' (Bono, 1970), or to unthink the problem, deconstruct it, reconstruct it, view it as a peculiarity, a *status quo*, a small dust speck; and walk (Beier & Wallin, 2023) it around creativity models (Rowling et al., 2025). Silence as the somatized toleration is a response to the contextual environment, essentially negating itself as such, placing the problem on hold until an adequate context appears to verbalize the problem.

Speaking out is preferably done anonymously; it may be subject to abuse, but it will be much more effective than non-anonymous claims, according to a participant.

Essentially, plagiarism, be it in academia or beyond, is an act of disregarding the peculiarity of another's effort, work, expressivity, character, individuality, or existence. As in any act of violence, objectifying it, dehumanizing it, silencing it, so it can be overwritten and overridden as peculiar to the original author, the original world of context, and ultimately, be assimilated, consumed, and thus, destroyed in its essence due to de-contextualization or re-contextualization where the author is a contextual variable. Plagiarism is an untruth, and as such, it breaches a universal principle, a broken balance seeking its central point. Untruth, therefore, is a mechanism of self-destruction where the victim and the perpetrator become one. This is the paradox of plagiarizing – by denying another's work,

individuality, etc., the perpetrator undermines their own as well, likewise the paradox of theft (Green, 2012).

A focus-group member recalled with bitterness being plagiarized and invited to attend a presentation of their own idea as belonging to someone else, which they could not do – tolerance somatization, the beginning of waiting for a suitable moment to take action or turning into an accomplice in an offence against oneself. Victims of plagiarism may choose to turn the other cheek or not, but silence has its own ways of denouncing. A concluding remark by the latter participant recapitulates that sanctions are not the way forward for addressing plagiarism in academia; instead, there should be a system of warnings before more severe punishments are imposed.

Conclusion (Meta-Conclusions)

Conclusions from the current brief study branch into two main walking directions, in accordance with the focus shift as the scenery changes. Lack of flexibility within project deadlines places unnecessary pressure on research work that may affect negatively research quality. On the other hand, a more creative qualitative study of the issue may provide different perspectives for exploration.

A silencing of the victim seems to emerge as a theme in the focus-group meta-conversational writing-with (Vulcan, 2023) and in-between (Gibbs, 2023) discourse inferred from the tendency of tolerating plagiarism in the academic community, the preference for an anonymous mode of submitting complaints to academic ethics authorities and reacting to instances of plagiarism committed against one's own works. These attitudes suggest policies to be undertaken to provide whistleblower security, on the one hand, and steps to ensure a gradual 'warning system' (as another participant suggests) to prevent plagiarism, on the other hand. More information on current laws regarding the submission of complaints in Bulgaria can be

found in Vassileva & Chankova (in this volume). Education and awareness-raising, e.g., by providing training courses at different educational stages, is a necessary pre-step for the functioning of the 'warning system,' as it will ensure that plagiarism is not the result of negligence regarding the definition of the offence and the rules for ethical academic writing.

The conclusions from the action research and the creative data analysis conducted in an auto/ethnographic walking (Beier & Wallin, 2023), in-between (Gibbs, 2023), and writing-with (Vulcan, 2023) converge to reaffirm the well-known monolithic academic principle that making public use of another's original words or ideas implies mentioning their sources in the bibliography. The specific reasons behind such erroneous practices can vary from one person to another, suggesting, as an opinion expressed in the focus group discussion, that there should be effective punishments as a final measure preceded by a graded 'system of warnings' (a participant's remark). Making this happen in a balanced way, however, requires the coordinated, official, and structured activity of the academic community at the institutional and national regulatory levels.

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References

Beier, J., & Wallin, J. (2023). Walking on Sunshine. In Beier, J. & B. Herzogenrath (Eds.), *New Perspectives on Academic Writing. The Thing That Wouldn't Die.* 25-38. London: Bloomsbury Academic.

Bono, d. E. (1970). *Lateral Thinking: creativity step by step.* Harper & Row Publishers.

Burrows, D., & O'Sullivan, S. (2023). Science Fiction Devices. In *New Perspectives on Academic Writing. The Thing That Wouldn't Die,* 39-52. Bloomsbury Academic.

Dimitrova, I. Preventing Plagiarism in Academia: A Literature Review on the Impacts of Psychology, Culture, Law and Education. *J Acad Ethics 23*, 767–784 (2025). https://doi.org/10.1007/s10805-024-09572-1

Gibbs, A. (2023). Writing In Between. In Beier, J. & B. Herzogenrath (Eds.), *New Perspectives on Academic Writing. The Thing That Wouldn't Die.* 121-136. Bloomsbury Academic.

Granitz, N., Loewy, D. (2007). Applying Ethical Theories: Interpreting and Responding to Student Plagiarism. *J Bus Ethics* 72, 293–306. https://doi.org/10.1007/s10551-006-9171-9

Green, S. P. (2012). Theft Law Adrift (Chapter One). In S. P. Green, *13 Ways to Steal a Bicycle*, 8–13. Cambridge, Massachusetts, and London, England: Harvard University Press.

Rawlings, B. S., Chetwynd-Talbot, D., H. E., Nuttall, A., Quinn, E., T. R., & Roome, H. E. (2025). *Divergent thinking is linked with convergent thinking; implications for models of creativity*. *Thinking & Reasoning*, 1-23. doi:https://doi.org/10.1080/13546783.2025.2485059

Schweiger, E., & Tomiak, K. (2022). Researching Silence: A Methodological Inquiry. *Millennium: Journal of International Studies, 50*(*3*), 623-646.

Vassileva, I., Yankova, D., & Chankova, M. (2025). The gravity of academic plagiarism in the perception of scholars, students, and science policy makers in Bulgaria. *English Studies at NBU, 11*(*1*), 5–16. https://doi.org/10.33919/esnbu.25.1.1

Vulcan, J. (2023). *Writing the Unwritable: Raveling Worlds*. In J. Vulcan, & B. Herzogenrath (Ed.), *New Perspectives on Academic Writing*. 106-109. Bloomsbury Academic.

PLAGIARISM – NORMATIVE CORRECTNESS VERSUS FACTUAL REALITY

Martin Kanoushev, Professor, New Bulgarian University, Sofia, Bulgaria
(mkanoushev@gmail.com)

Abstract

The present article is devoted to a fundamental research problem: in what specific way does the valid normative order (academic ethics) function in Bulgarian academia in the form of rules of (ethical) behavior that regulate and guide the way students and teachers actually behave when they encounter (il)legitimate practices. Therefore, the theoretical context in which this micro sociological study is situated is constructed from the concepts of "normative correctness – rules/maxims of behavior – factual reality"; it is also where, the specific profile of the phenomenon of plagiarism is constructed through interpretative analysis of empirical data. Hence the main objective: to establish the extent (and degree) to which the norms restricting and sanctioning violations of academic ethics have become maxims for actual behavior among the respondents. The working hypothesis reads as follows: there is a significant discrepancy between normative correctness, the system of values constituting academic integrity, and actual reality, the set of actions that make up current scholarly practices, which gradually varies from basic differences through mutual opposition to outright exclusion.

Keywords: *ethics, norm, value, rules, behavior, order, fact, reality*

Method

It is a truism for every professional sociologist that there is no such thing as self-evident, self-explanatory or self-revealing empirical data, even if it has been obtained in the most objective manner, using the most efficient method and with the aid of the most precise methodologies; empirical data must be situated within a rigorous theoretical context relevant to the methodology of sociological research, which is 'the epistemological condition for the possibility of their analytical interpretation' (Fotev, 2004, p. 28).

This article is devoted to an extremely important academic problem: in what specific way, within the Bulgarian university environment, the community-valid normative order (academic ethics) functions in the form of rules for (honest) behaviour, which regulate and guide the actual actions of lecturers and students towards (il)legitimate practices. Consequently, the theoretical context within which this sociological micro study is situated is constructed from the concepts of 'normative correctness – rules/maxims of behaviour – actual reality'; within its framework, through 'interpretative analysis of empirical data' (Goffman, 1974, p. 19), obtained during the implementation of the project 'The gravity of academic plagiarism in the attitudes of academics, students and science policy makers in Bulgaria', the specific social profile of the phenomenon of plagiarism in the Bulgarian university environment will be constructed.

But how should we understand the relationship between normative correctness and factual reality in the academic field? For a norm to be an effective regulator of scientific practices, it must be transformed by the participating actors from a normative rule of conduct into a maxim of actual behaviour, consisting of everyday factual actions. The legitimizing basis of the rule is the norm, which renders the rule valid for the academic community; consequently, the norm is a rule of conduct opposed by the impropriety of deviation, the negativity of violation, and the illegitimacy of disorder. Every norm is a boundary of what is

factually possible; 'in this way, norms become valid as individual manifestations and, as they are consistent with one another, they form the normative system of the academic field' (Fotev, 2012, p. 13).

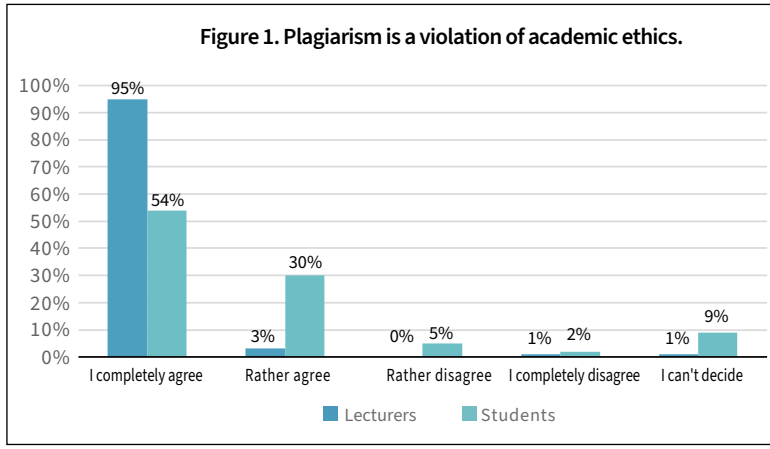
The ethical layer of the normative system consists of interrelated ethical norms, each of which sets a boundary, distinguishing right from wrong action. Based on ethical norms, value judgements are made regarding facts, which are classified as normal or abnormal. Every ethical norm is an imperative that is categorical, as it is grounded in a value that constitutes its essence. Ethical value takes the form of a norm in relation to all empirical realities in the acts of evaluating factual actions (Fotev, 2019, p. 28). The maxim is a figure of subjective practical reference to academic values, which, in the form of norms through legitimate rules of conduct, guide the scholar in their actual actions.

Hence, the main aim of the study: to establish to what extent (and to what degree) the norms regulating, restricting and sanctioning breaches of academic ethics have become maxims for actual behaviour among scholars and students. Moreover, the leading working hypothesis: there is a discrepancy between normative correctness, the system of values constituting academic integrity, and objective reality – the set of actions constituting scientific practices – which may range from a simple difference through mutual opposition to fundamental exclusion.

Conclusion regarding the methodology: This current constellation of norms (values) – rules/maxims (of conduct) – facts (actions), crystallized in the specific intertwining, repetition and divergence between the normative concept of 'plagiarism' and the factual reality of 'plagiarism', is an extremely important issue not only sociologically but also socially.

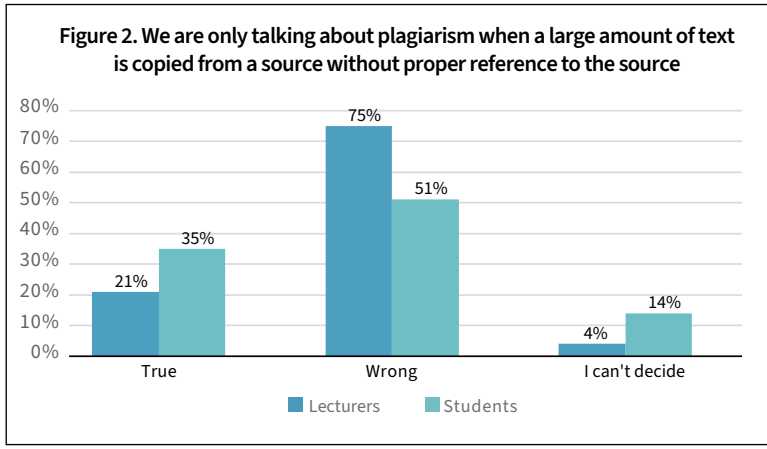
Concept

Respondents describe the normative concept of plagiarism unequivocally and categorically: it constitutes a breach of academic ethics. On this key issue, there is maximum consensus among lecturers, whilst among students the positive responses are split: half of them fully agree with the statement in question, and one in three tends to agree. Negative opinions in both groups are negligible (Figure 1).



Beyond this general observation, a factual level emerges where we witness a series of fluctuations in the concept of plagiarism, whose boundaries are fluid and permeable, forming three concentric circles within which different groups of respondents are situated. The first of these understands plagiarism in the narrowest possible sense of the term, reducing it to its fixed core: according to one third of students and one fifth of lecturers, 'we speak of plagiarism only when a large

amount of text is copied from a source without proper citation of that source' (Figure 2)[1].

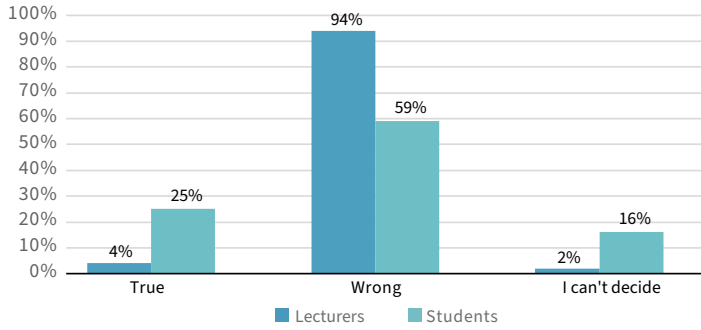


The second group consists of those respondents who have a more comprehensive understanding of plagiarism, as, in addition to its narrowest sense, they also include other illegitimate practices: for example, failing to cite unpublished materials such as lectures and presentations as sources, or citing ideas from a publication that is not their original source if the latter is unavailable, and so on. Conversely, this group comprises a quarter of students who consider the following actions to be legitimate: copying sentences from the internet or a printed publication without citing the source is permissible; citing a source both in the text and in the reference list is not always necessary; combining texts from unattributed sources with one's own text is acceptable; it is permitted to use images from the internet without citing the

1 A significant proportion of the questions (indicators), as well as the response options (scales), in the questionnaires for the empirical sociological study conducted as part of the project 'The gravity of academic plagiarism in the attitudes of researchers, students and science policy makers in Bulgaria', presented and analyzed in this article through graphical representations, have been published in Dimitrova, I. (2025). Preventing Plagiarism in Academia: A Literature Review on the Impacts of Psychology, Culture, Law and Education. *J Acad Ethics 23*, 767–784. https://doi.org/10.1007/s10805-024-09572-1

source; and note – 'if we have paraphrased part of a text, it is not necessary to cite the source' (Figure 3).

Figure 3. If we have paraphrased part of a text, we do not need to cite the source

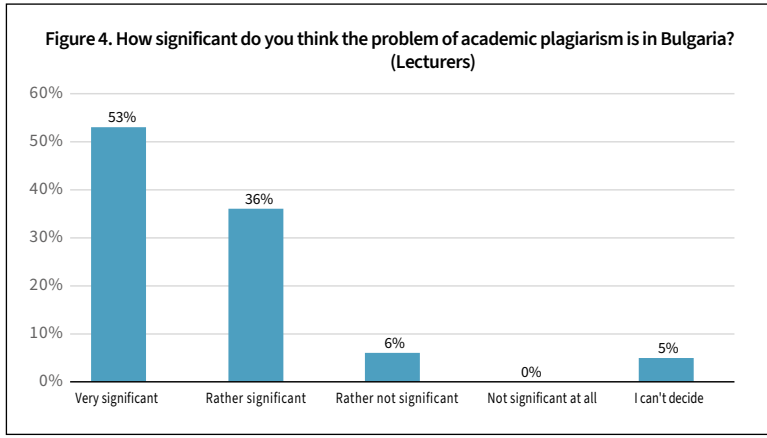


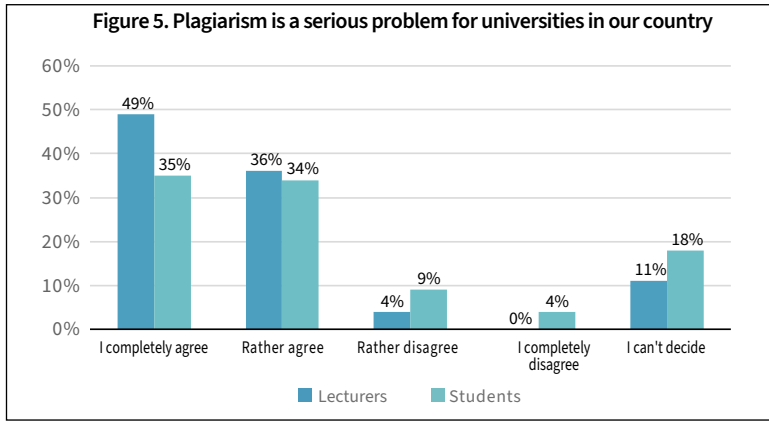
The third group of respondents, who have a broad and detailed understanding of plagiarism, significantly predominates in quantitative terms: in addition to all the listed illegitimate practices, they categorically include in their definition the use of one's own publications without citing them; inaccurate referencing of unpublished texts; failure to cite the source of well-known and publicly available facts; borrowing others' ideas without directly attributing them to their author; the anonymous use of accessible media materials; the extraction of relevant information from the internet without attribution; 'incorrect translation of scientific texts' (Yankova, 2020, p. 190); and so on.

Conclusion regarding the concept of plagiarism: there is a significant discrepancy between the normative concept of plagiarism and the underlying attitudes towards plagiarism, which means that among a certain proportion of respondents – likely encompassing, at the very least, one in five lecturers and one in three students – the normative correctness of academic ethics has not been fully and completely internalized in the form of legitimate rules/individual maxims for actual behaviour.

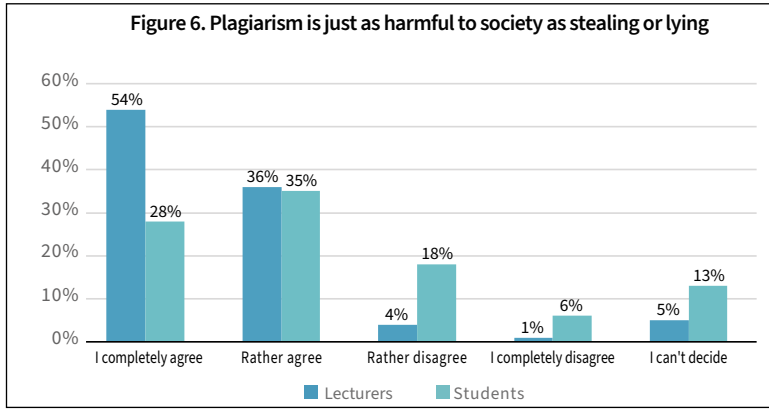
Problem

At the normative level, there is a very high degree of consensus among lecturers regarding the significance of the problem of academic plagiarism in Bulgaria: for half, it is very significant, and for a third, it is somewhat significant. The opposing view is represented to a negligible extent (Figure 4). A similar picture emerges at the practical level: half of the lecturers and a third of the students strongly agree that 'plagiarism is a serious problem for universities in our country', whilst one in three from both groups somewhat agree. Those who disagree account for less than one in ten (Figure 5). Moreover, practically all lecturers agree with the statements that 'plagiarism damages the university's reputation' and that 'it can seriously damage the reputation of academics'. Those who disagree account for less than one tenth of the representatives of this target group.





How should we interpret this series of coincidences between normative opinions and factual statements, and in both target groups? Does humanities education in Bulgaria really suffer from a chronic deficit of academic integrity, creating the conditions for a massive moral crisis? Ultimately, are Bulgarian universities truly overrun by the illegitimate practices of plagiarism? Alternatively, is it time for these actions to be criminalized and for those responsible to face criminal liability: for the vast majority of lecturers and two-thirds of students, 'plagiarism is just as harmful to society as theft or lying' (Figure 6).



Conclusion on the issue of plagiarism: in the view of lecturers and students, plagiarism is a serious problem in the Bulgarian university environment; although a breach of academic ethics, it borders on criminal acts such as fraud, embezzlement or forgery; on crimes against intellectual property, because it constitutes a specific form of misuse of another's work; a harmful phenomenon that damages the public standing of academics and universities.

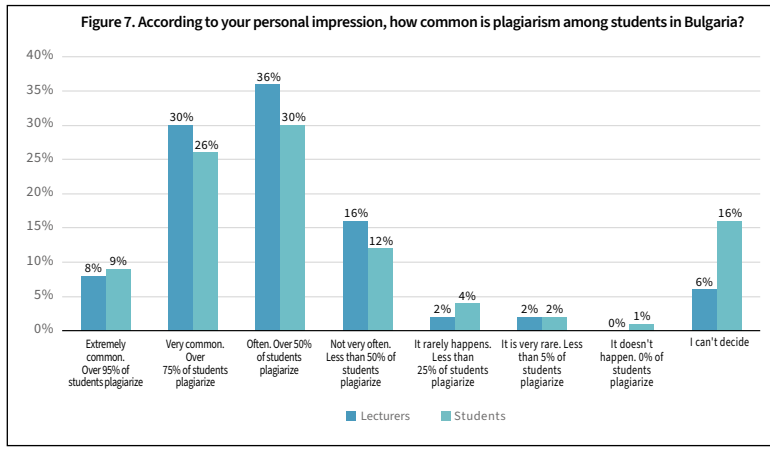
Scope

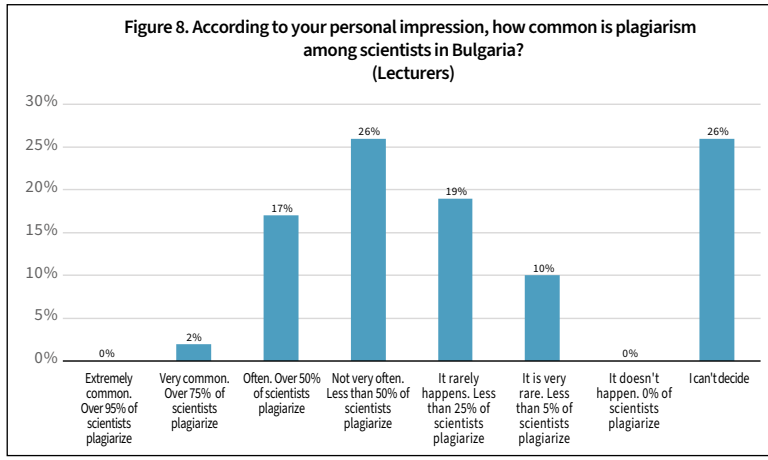
To answer the questions posed, with a view to getting one step closer to the 'true picture' of plagiarism in the Bulgarian university environment, we must interpret the respondents' views on the extent of its prevalence. We shall do this in two comparative-analytical stages.

First of all, we must pay particular attention to the following finding: the distribution of responses from lecturers and students to the question 'In your personal opinion, how common is plagiarism among students in Bulgaria?' is structurally isomorphic with almost equal proportions – around a third of both groups believe that students plagiarize 'often', which amounts to more than half of them. Furthermore, for over a quarter of lecturers and students, the correct answer is 'Very often', which accounts for over 75%.

The three less common responses – "Not very often", "It rarely happens" and "It happens very rarely" – together account for one fifth of the responses from both groups. In addition, one more extremely important fact: not a single lecturer and only three students are convinced that plagiarism does not exist among students (Figure 7).

If we shift our perspective to make a second comparative-analytical move, the picture that emerges is of a very different order: what is the factual assertion of lecturers regarding the prevalence of plagiarism among themselves and among students? Here, there is no structural isomorphism, and the problem is shifted entirely onto the students. For the vast majority of lecturers, more than half of the students plagiarize: this includes the responses 'Often', 'Very often' and 'Extremely often'. They place only one fifth of their own group in the same category. Conversely, the minimalist responses – 'Not very often', 'Rarely happens' and 'Very rarely happens' – cover one fifth of the students and many times more of the academics themselves – over half of them. Not a single lecturer indicated that plagiarism does not exist in the Bulgarian university environment; this finding holds true both for students and for their own group. How it is possible that one in four lecturers is unable to assess how common plagiarism is among academics in Bulgaria remains an unanswered question (Figure 8).





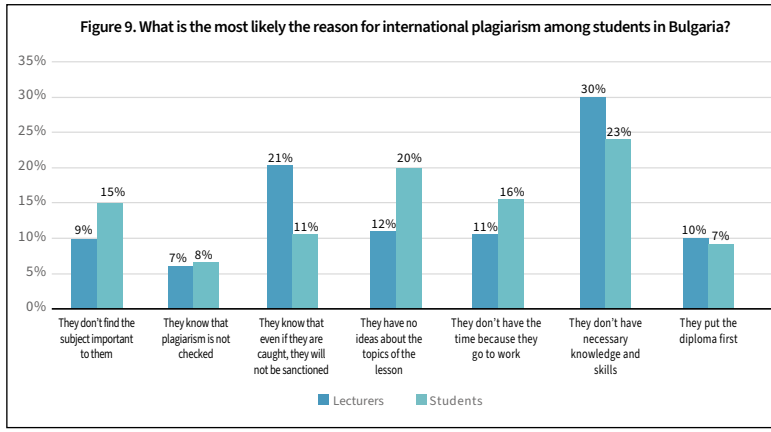
Conclusion on the extent of plagiarism: there is a structural isomorphism of views among lecturers and students regarding the actual prevalence of plagiarism among students: its frequency is very high and covers around two thirds of respondents in both groups. In contrast, the vast majority of lecturers are convinced that plagiarism is primarily a problem among students; in their view, breaches of academic ethics, although they do occur in quite a few cases, are significantly less widespread among scholars.

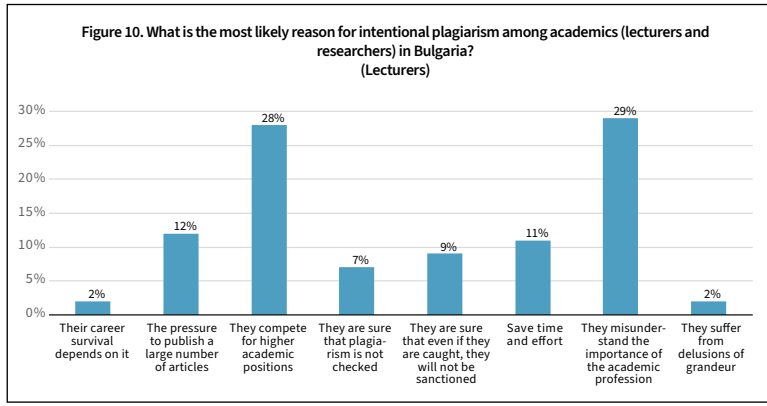
Causes

In practical terms, one reason for deliberate plagiarism among students stands out, as it is the only one on which there is consensus between lecturers and students – both groups of respondents ranked the answer "that students lack the necessary knowledge and skills" as their top choice. From this point onwards, the differences in opinion are extremely significant. For lecturers, the second most important reason is the fact that students "know that even if they are caught, no sanctions will be imposed on them". This is followed by claims that students "have no ideas on the topic of the assignment", that "they have no time because they go to work", that "they prioritize their degree", that

"they do not find the subject important to them", and that "they know that plagiarism is not checked". The ranking of reasons among the students themselves is fundamentally different – in second place, they cited the reason that they plagiarize intentionally because "they have no ideas on the subject of the assignment", in third place that "they have no time because they go to work", fourthly, that they "do not find the subject important to them", fifthly, that they "know that even if they are caught, no sanctions will be imposed on them", and finally, that they "know that plagiarism is not checked" and that they "put their degree first" (Figure 9).

The hierarchy of probable reasons for deliberate plagiarism among academics is particularly provocative and dramatic when the question is put to them directly. Here, the top two responses are that they "misunderstand the significance of the academic profession" and that they "compete for higher academic positions". These are followed by reasons such as "the pressure to produce a large number of publications" and that they "save time and effort". The views that they are "certain that even if they are caught, no sanctions will be imposed on them" and that "they are certain that plagiarism is not checked" are less prevalent, but taken together they account for a significant proportion of respondents in this target group. This statement can also be interpreted as yet another symptom reflecting the underlying attitude of a certain proportion of lecturers towards possible involvement in illegitimate practices (Figure 10).



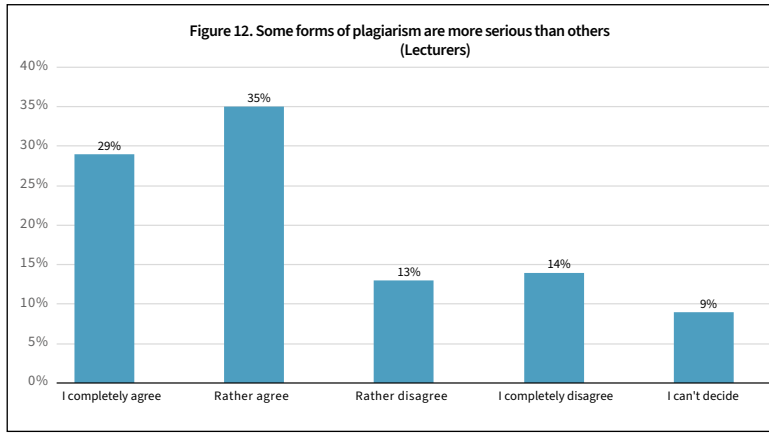


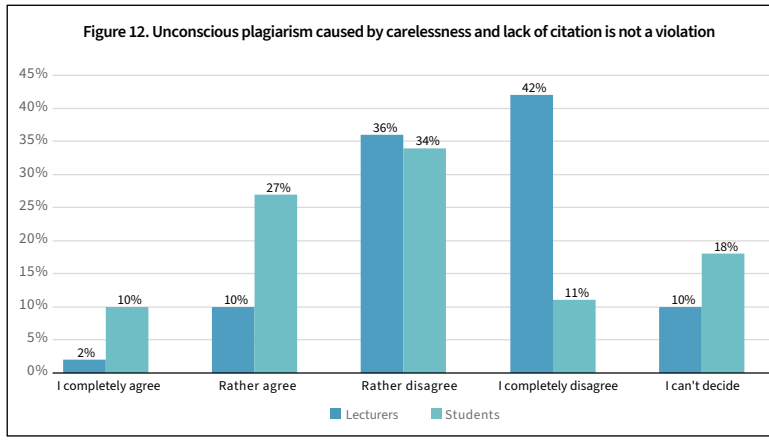
Conclusion on the causes of plagiarism: the causes of deliberate plagiarism among students are multifactorial and hierarchical in nature, but – as is the case for both lecturers and the students themselves – the leading factor is the students' lack of the necessary knowledge and skills. However, the second most important reason highlights a fundamental difference between the two groups – for students, it is linked to a lack of their own ideas for completing a given assignment, whereas according to lecturers, it relates directly to the opportunity for plagiarism – students know that no sanctions will be imposed on them, even

if they are caught committing misconduct. Among the reasons for deliberate plagiarism among academics, two stand out: a lack of understanding of the meaning of the academic profession and competition for higher academic positions. According to a significant proportion of lecturers, the prevalence of illegitimate practices among them is also rooted in the absence of effective regulatory mechanisms: plagiarism is not checked and no sanctions are imposed for it.

Forms

There are two main forms of plagiarism – deliberate (intentional) and unintentional (due to negligence) – towards which lecturers and students have both identical and differing attitudes, and respective dispositions to act. Although the normative concept of plagiarism is uniform and indivisible, subject to the 'either/or' principle, either legitimate or illegitimate behaviour, at the factual level we observe a different type of rationality – plagiarism can be graded into levels with varying degrees of negative weight, which involve different degrees of dishonesty and which cause varying degrees of harm to academic ethics. Evidence of this is the division in lecturers' responses to the statement that 'some forms of plagiarism are more serious than others'. Two thirds of them expressed a positive opinion, whilst a quarter expressed a negative one (Figure 11). What does such a dichotomy indicate? It indicates that, for a significant proportion of academics, the normative correctness of the concept of plagiarism is always correlated with a specific manifestation of actual behaviour: there are minor, insignificant, standard, serious and particularly serious empirical variants of plagiarism, arranged in a hierarchy, comparable and gradable; these are breaches of academic ethics of varying severity, which require sanctions of specific severity.





From this perspective, the theoretical and practical distinction between deliberate and unintentional plagiarism is of great importance, despite the negative attitude towards both illegitimate practices held by four fifths of lecturers and half of the students. They strongly disagree with the statement that 'unintentional plagiarism, caused by carelessness and a failure to cite sources, is not a violation' (Figure 12). One in three students' shares the opposite view: within this group of students, an attitude has formed – albeit unstable and changeable – towards engaging

in such illegitimate practices; its members clearly demonstrate a tolerant attitude towards unintentional plagiarism. This thesis is also confirmed by the empirical fact that over a quarter of students agree with the statement that 'plagiarism among students is justified because the perpetrator learns in this way'. Among academics, positive responses to this question are negligible.

Conclusion regarding the forms of plagiarism: the only difference between unconscious and conscious plagiarism lies in the degree of violation of academic ethics; in the first form, the issue concerns a frivolous, careless and irresponsible attitude towards the normative correctness of the concept of plagiarism; in the second case, it concerns a deliberate abuse of honourably conduct, which causes significant harm to university culture. However, when the issue of plagiarism is considered as a phenomenon in its own right, this distinction between the two forms is blurred: there is maximum consensus among lecturers and significant consensus among students, that it is 'a violation that must be punished' (Figure 13). The introduction of strict sanctions for plagiarism in Bulgarian universities, whether committed intentionally or unintentionally, would help resolve the problem of plagiarism itself – an opinion cited in first place and shared by a third of scientists.

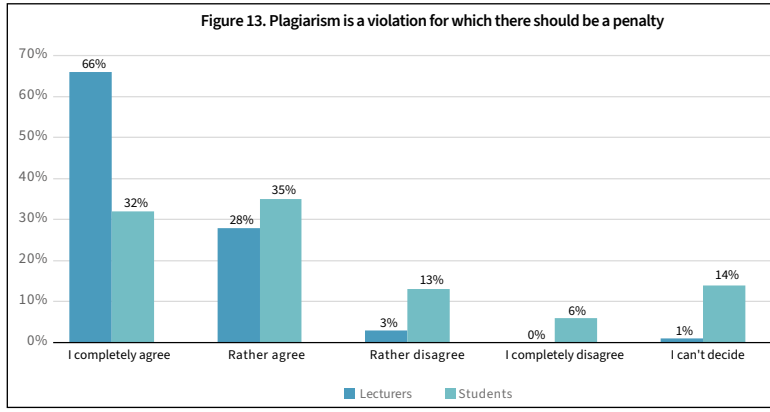
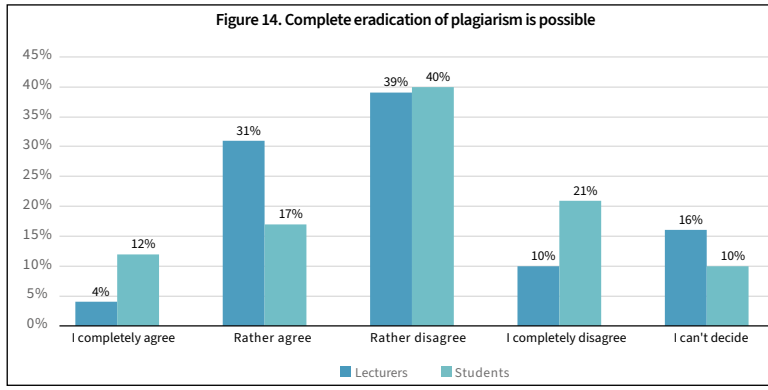
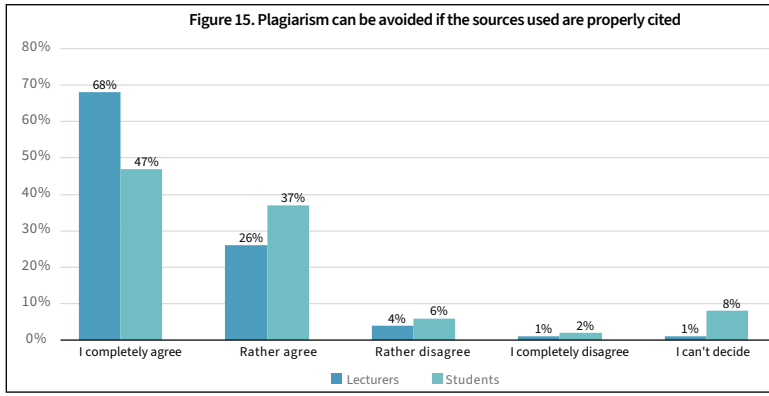


Figure 13. Plagiarism is a violation for which there should be a penalty

Measures

At the regulatory level, a fundamental contradiction clearly highlights the critical situation surrounding the issue of plagiarism. On the one hand, half of the lecturers and two-thirds of the students disagree with the statement that 'the complete eradication of plagiarism is possible'. The proportion holding the opposite view is significantly smaller (Figure 14). On the other hand, however, the vast majority of lecturers and students categorically supports the statement that 'plagiarism can be avoided if the sources used are properly cited'. A negligible number of respondents from both groups (Figure 15) expressed the opposite view. Further evidence for the validity of this thesis is the normative view, shared by all academics with two exceptions, that honourably conduct in an academic environment is expressed in the practical action of 'always citing sources when using the work of other authors'.

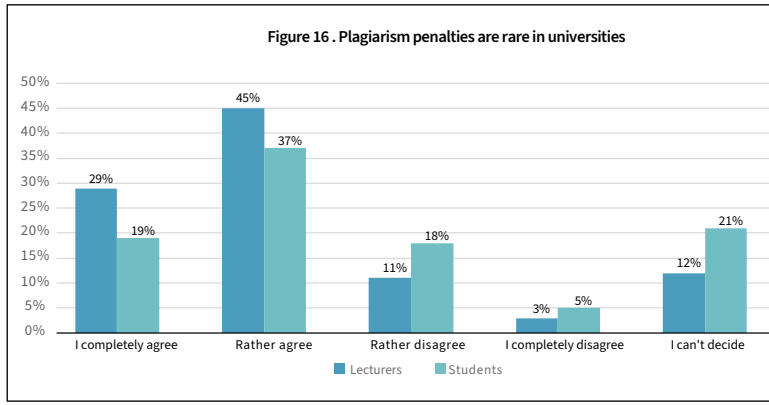


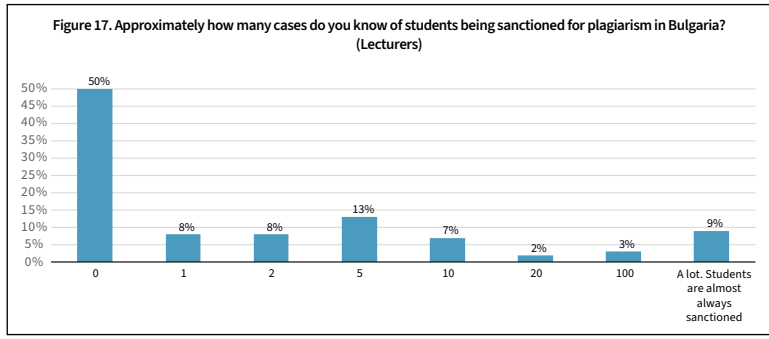


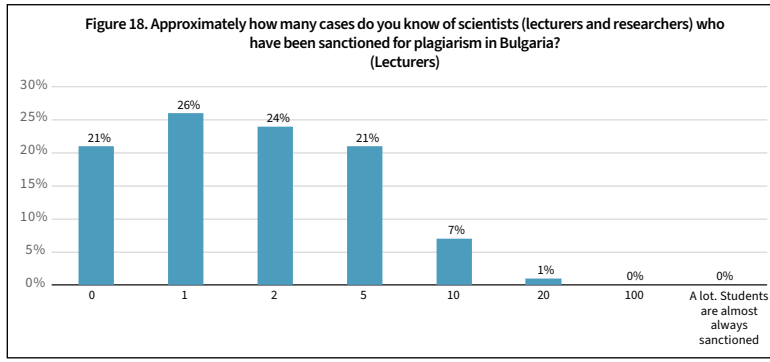
How can we explain this apparent contradiction in the respondents' understanding of academic standards? Is an academic world free of plagiarism even possible, or is it an inescapable, inherent flaw in Bulgarian academic practices? Are there reliable tools for eradicating it, or are we always dealing with palliative measures that cannot resolve the problem? How can we effectively combat plagiarism by employing a combination of strict institutional, administrative, legal, disciplinary and technical measures, given that this is a phenomenon of a moral nature, a violation resulting from a conscious refusal to behave honourably? Ultimately, can we, relying primarily on 'compulsory education in academic ethics and academic writing' (Vassileva & Chankova, 2025, pp. 129–130), completely eradicate an immoral mindset?

To reiterate: 'plagiarism is a breach of academic ethics' (Vassileva & Chankova, 2019, p. 136), for which there should be a penalty – on this point, there is a comprehensive consensus among academics, which also encompasses two-thirds of students. However, in reality, the actual situation is radically different – 'punishments for plagiarism are rare in universities' – a statement supported by over two-thirds of academics and over half of students. Opposing views were expressed by less than a fifth of respondents in both groups (Figure 16). The distribution

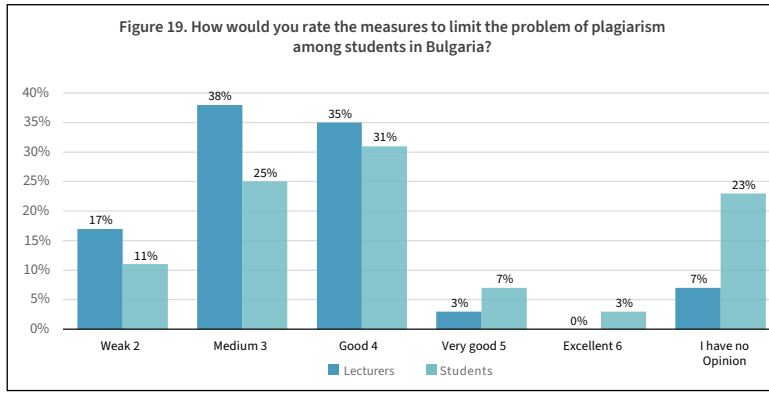
of responses to the factual questions regarding actually sanctioned cases of plagiarism is fully in line with this critical point. Half of the lecturers are not aware of any students who have been punished for a breach of academic ethics. This finding also applies to one-fifth of them, who have no information about researchers sanctioned for plagiarism. Those who share the view that 'students are almost always sanctioned' account for one tenth; however, not a single lecturer gave the answer 'researchers are almost always sanctioned'. The remaining opinions, regarding both punished students and sanctioned academics, range from 1 to 10 cases (Figures 17 & 18).

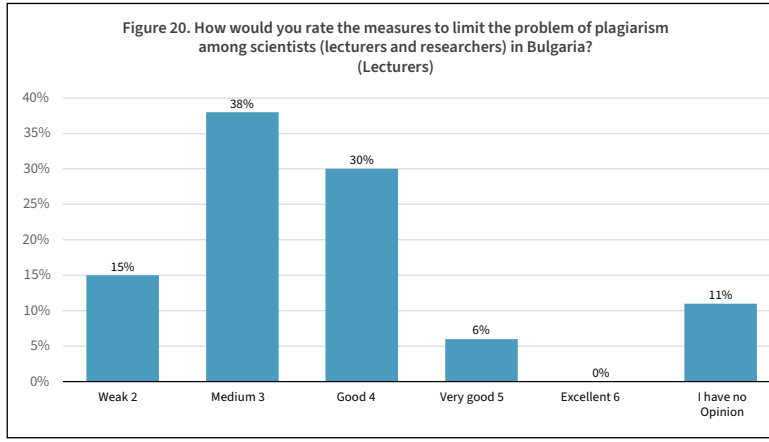






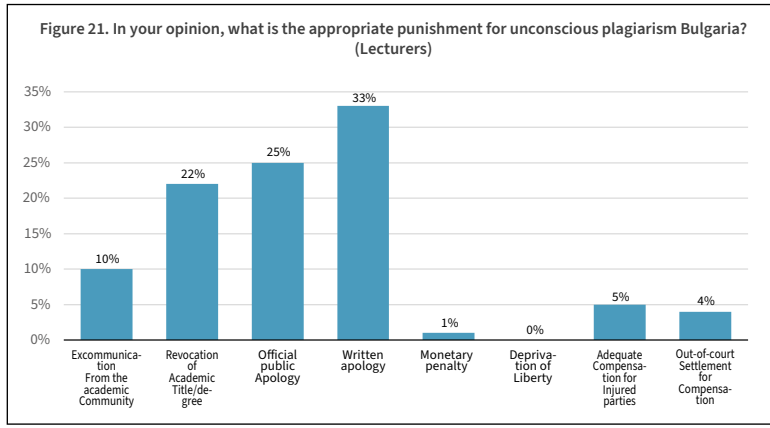
From this statistical picture, a further sociological argument can be drawn at a factual level: there is a critical discrepancy between the views of lecturers and students regarding the enormous significance of the plagiarism problem and its widespread prevalence in Bulgarian universities, and the actual number of students and lecturers sanctioned in Bulgarian universities. This means that the current system of measures to combat plagiarism in our academic environment is inadequate and ineffective, requiring comprehensive reform. This is also evidenced by the ratings respondents gave to the existing measures to curb plagiarism among students. On this key question, the responses from both lecturers and students are overwhelmingly concentrated in the 'Average 3' and 'Good 4' categories, with a significant group selecting 'Poor 2', whilst none of the respondents believes the appropriate rating is 'Excellent 6' (Figure 19). The picture is similar when the question is put to lecturers regarding the effectiveness of existing measures to curb plagiarism amongst academics themselves. Here too, the ratings 'Average 3' and 'Good 4' dominate decisively, accounting for over two-thirds of the responses. For 15% of lecturers, the rating is Poor 2, whilst for none of them is it Excellent 6 (Figure 20).





Let us refocus the analysis on the next, more specific level: from the negligible effectiveness of currently existing measures to combat plagiarism to the preferred penalties for its appropriate sanctioning as a breach of academic ethics. On this important point, there is no consensus among lecturers regarding the appropriate punishment for unintentional plagiarism. Here, the leading positions are contested by sanctions such as a written apology, an official public apology, and the revocation of academic title/degree. Much lower proportions represent other penalties – expulsion from the academic community,

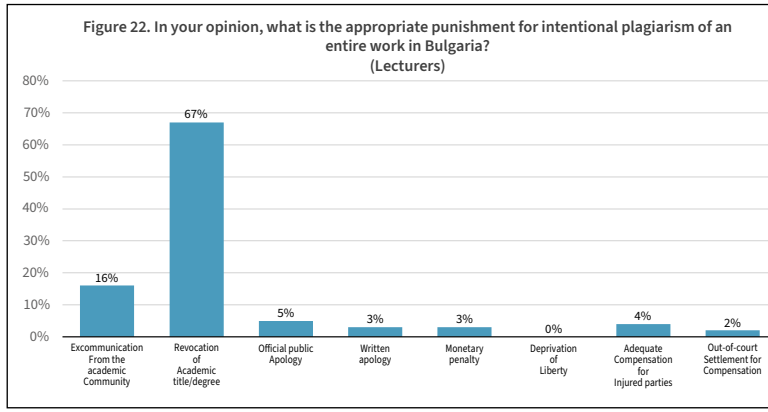
compensation through legal proceedings, out-of-court settlement for compensation, and a financial penalty (Figure 21).



When the question concerns the appropriate penalty for deliberate plagiarism of an entire academic work, the statistical picture is very different. Here, the academic community's opinion is consolidated around a very strict and stigmatising sanction – over two-thirds of academics selected the response 'revocation of academic title/degree'. The second most significant penalty is 'expulsion from the academic community'. The remaining possible answers are represented to a negligible extent (Figure 22).

Hence the distribution of lecturers' opinions on the question 'What other problem, if resolved, would help solve the problem of plagiarism?' Here, similar proportions represent the various opinions, but one of them clearly dominates the others: over a quarter of the academics selected the answer 'introducing strict sanctions for plagiarism, regardless of whether it is intentional or unintentional'. Secondly, 'ending the practice of organising academic panels on a 'friends and family' basis', and in third place – 'raising awareness of the problem through educational courses and various academic initiatives'. Of no less importance

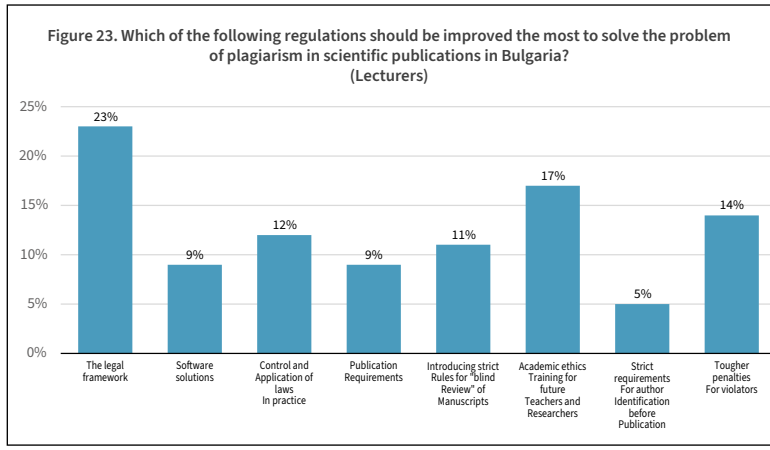
is the response: strict monitoring of citations in publications. The remaining opinions are underrepresented.



Which of the existing regulatory frameworks needs to be improved the most in order to resolve the problem of plagiarism in academic publications? This question is of key importance because it provides us with a detailed picture of researchers' fundamental expectations for positive change in the current negative situation. Here, the top response is 'the legal framework', secondly – 'training in academic ethics for future lecturers and researchers', thirdly – 'stricter sanctions for offenders', and fourthly – 'enforcement and application of the laws in practice' and 'introduction of strict requirements for "blind peer review" of manuscripts' (Figure 23).

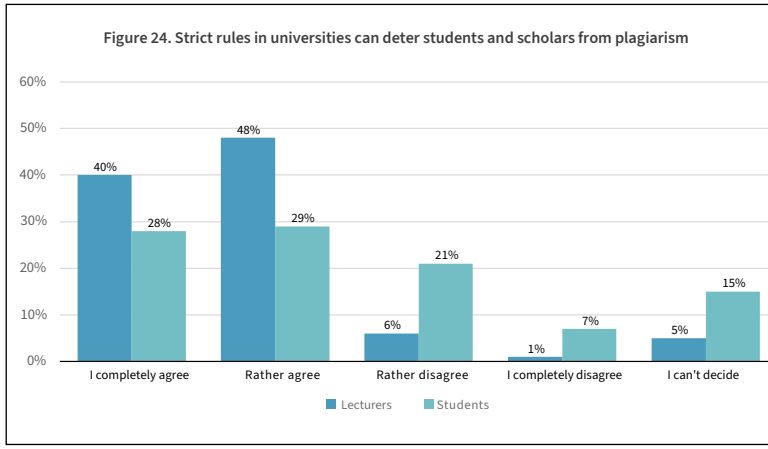
What can we infer from this distribution of lecturers' opinions? On the one hand, we understand that, given the complete consensus among them that plagiarism is a moral problem, as it constitutes a breach of academic ethics, the fundamental tool for curbing it is training in academic ethics, the second most significant opinion. This is also unequivocally evidenced by the answers to a number of other questions: the vast majority of lecturers and students agree with the statement

that improving academic writing skills can reduce plagiarism; to the same extent, they share the view that training in academic ethics should either be a compulsory subject for students or a thematic component of a core lecture course; and also that training in academic ethics should be available to all academics and that it should be a compulsory subject for doctoral students. Furthermore, two-thirds of lecturers and students are convinced that compulsory training in academic ethics will eliminate the problem of unintentional plagiarism among students. One in five holds the opposite view.



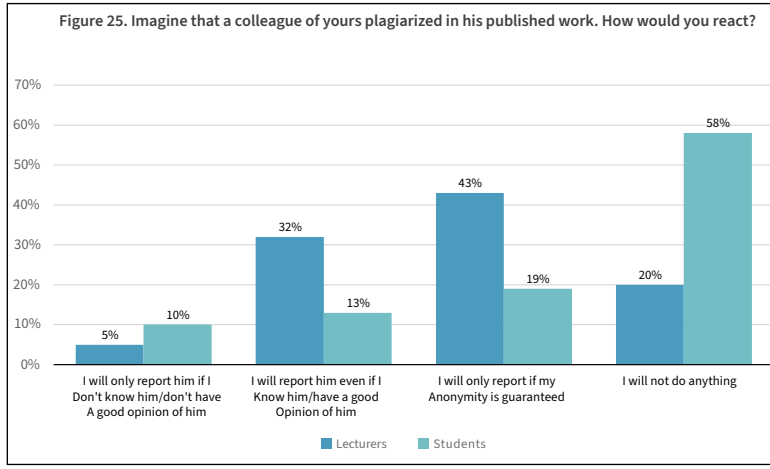
On the other hand, we understand that, despite the full consensus among them that plagiarism is a moral issue, as it constitutes a breach of academic ethics, it must first and foremost be irreversibly curtailed through legal and administrative means. The combined proportion of academics who gave answers relating to the regulatory role of legal norms – a legal framework, stricter penalties for offenders, monitoring and enforcement of laws in practice, and the introduction of stricter requirements for peer review and publication – accounts for over two-thirds of them. This view is supported by the general finding that the vast majority

of lecturers share the opinion that 'strict rules in universities can deter students and researchers from plagiarism' and that the top priority among the issues which, if resolved, would help tackle the problem of plagiarism is the introduction of strict sanctions, regardless of whether the act is intentional or unintentional. How is it possible to resolve a moral problem, consisting of a breach of academic ethics, through legal and administrative means? This remains an open question (Figure 24).



We shall conclude by presenting the underlying layer of expected behaviour at the factual level among respondents: what deep-seated attitudes of academics and students towards individual, personally committed action aimed at countering plagiarism there are. This is evidenced by their responses to the projective question regarding a possible future situation: 'Imagine that a colleague of yours has plagiarised in a published work. How would you react?' Here, the key finding is that one in five lecturers and over half of the students would take no action. Another finding is that there are respondents who would take action, but on one non-negotiable condition: they would report it only if their anonymity were guaranteed. Third in importance

is the group of lecturers and students who demonstrate the most active behaviour in countering plagiarism: they would report it even if they knew the colleague in question and held a favourable opinion of them. Last in terms of presence are those respondents who would report only if they do not know or do not hold a high opinion of the colleague who has plagiarised in their published work (Figure 25).



Conclusion regarding measures against plagiarism: what valid, credible and reliable sociological conclusion might we draw from such a distribution of responses across the two groups? It is as follows: there is a fundamental discrepancy between the consensual normative rejection of plagiarism as a malicious violation of academic ethics by academics and students, and the actual willingness of academics and students to take practical action to personally and individually counter plagiarism. This fundamental discrepancy between normative correctness and actual reality must gradually be overcome, and the corrupt practices of plagiarism must be delegitimised, and consequently rendered meaningless and nullified.

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Bibliography

Dimitrova, I. (2025). Preventing Plagiarism in Academia: A Literature Review on the Impacts of Psychology, Culture, Law and Education. *J Acad Ethics 23,* 767–784. https://doi.org/10.1007/s10805-024-09572-1

Fotev, G. (2004). Value, Fact & Norm. *Criticism and Humanism, 17* (*1*), 27–38.

Fotev, G. (2012). *Spheres of Values.* New Bulgarian University.

Fotev, G. (2019). (ed.). *European Values: The New Constellation.* New Bulgarian University.

Goffman, E. (1974). *Frame analysis.* Harper and Row.

Vassileva, I. & Chankova, M. (2019). Attitudes towards plagiarism in academia. *English Studies at NBU, 5* (*1*), 135–163.

Vassileva, I., Chankova, M. (2025). University Policies on Academic Ethics and Integrity in Bulgaria. In Glendenning, I., Eaton, S.E., Moya Figueroa, B.A., Sivasubramaniam, S.D. (eds) *Ethics and Integrity in Education* (*Research*). *Ethics and Integrity in Educational Contexts, vol 9. Springer, Cham.* https://doi.org/10.1007/978-3-031-98157-9_7.

Yankova, D. (2020). On Translated Plagiarism Academic Discourse. *English Studies at New Bulgarian University, 6* (*2*), 189–200.

AUTHORSHIP AND AI: ETHICAL CHALLENGES, BOUNDARIES AND CONSEQUENCES OF ARTIFICIAL INTELLIGENCE USE IN STUDENTS' ACADEMIC PAPERS AND THESES

Assoc. Prof. Ivanka Sakareva, PhD, South-west University "Neofit Rilski", Blagoevgrad, ORCID ID: 0000-0001-6740-8498 (vanyasakareva@swu.bg)

Abstract

The rapid emergence of artificial intelligence tools such as ChatGPT, Grammarly, DeepL Write, and others transforms academic writing practices related to various disciplines that raise important questions regarding authorship, originality, and ethical responsibility – especially relevant for students required to complete academic assignments like theses, translations, reviews and linguistic analyses. In such cases, the boundaries between AI-assisted text and fully AI-generated content are becoming less clear. This article examines the ethical challenges accompanying this transition, drawing a distinction between supportive functions, such as grammar correction and more autonomous text generation, thus making us rethink what it really means to be the author of your own work. It explores the issues related to the loss and weakening of critical thinking skills, language learning outcomes (due to dependence on AI for completing assignments), and the loss of stylistic, lexical, and grammatical competence, as well as the risks of dependency and intellectual dishonesty. Furthermore, the article analyses contemporary tools for detecting AI-generated content and discusses their limitations, including the potential for false positives and the widespread perception among students that

AI-generated text does not constitute plagiarism. Finally, the article offers practical recommendations to universities and lecturers for developing clear ethical guidelines that ensure the protection of academic integrity in the era of "artificial" authorship.

***Keywords*:** Artificial intelligence, AI tools, critical thinking, academic integrity, ethical responsibility

Introduction to AI tools and Authorship

Recently, one of the most significant changes in the way education is delivered has been the rise of artificial intelligence in academic writing. AI tools like ChatGPT, Grammarly, DeepL Write, and many more platforms have completely changed how researchers and students approach writing and translation. This has an impact on all phases of their academic work, from the initial idea and planning to structuring arguments and creating theses to final editing and revision. With artificial intelligence technologies developing from auxiliary tools to essential elements in the academic writing process for millions of students worldwide in a matter of years, this technological revolution is happening at a rate never seen before. As mentioned by Cotton et al. (2023) these technologies challenge the principles of authorship, originality, and intellectual ownership that have formed the basis of academic integrity, even as they provide previously uncommon support for grammar correction, vocabulary improvement, and even writing. It is clear that these tools improve access to high-quality academic writing, particularly for students for whom English is not their first language. However, they also affect the process of analyzing and dealing with ideas, reformulating thoughts, and creating one's own academic voice, which is the foundation of academic development. Furthermore, Perkins (2023) adds that establishing ethical norms to handle the increasingly unclear boundaries between AI-assisted and fully AI-generated work

is necessary to ensure academic integrity and maintain trust in the educational system as traditional concepts of authorship are challenged in the digital age. This problem is further complicated by the fact that different institutions and academic fields take different approaches to the use of artificial intelligence, leading to misunderstandings and ambiguous standards and expectations. This becomes particularly important when students need to complete significant academic work such as theses, translations, critical reviews, and linguistic analyses – assignments that have always served as proof of their ability to think and work independently. There is a significant difference between using AI to help improve work that has been already created and depending on it to write everything from draft and this is exactly what authorship means in today's academic world. Since most students use artificial intelligence in one way or another, the question is not about whether they use it but rather how they use it and whether it advances or restricts their development as learners. This article focuses on these complex ethical issues, systematically examining how they affect students' critical thinking skills, their ability to independently analyze and synthesize information, the process of learning foreign languages and developing language competence, as well as the overall integrity, reliability, and quality of academic research in the contemporary educational environment.

The Impact of AI on Academic Writing Practices

Artificial intelligence tools are transforming students' approach towards academic writing - from thinking and planning to drafting, revising and editing. This change is reshaping almost every stage of the writing process. At a basic level, AI tools offer instant grammar and style corrections, resembling a spell-check assistant (Fitria, 2021). However, their options reach even further

into paraphrasing, summarization, translation, and sometimes the creation of entire original pieces according to feedback from the user. This varies in importance and may either be limited to minimal intervention or total AI-generated content. On the one hand, tools like Grammarly mostly assist with providing superficial corrections and stylistic suggestions. On the other hand, large language models such as ChatGPT can write essays, research summaries, and analytical arguments with minimal human input beyond the original prompt (Sullivan et al., 2023). This spectrum makes it harder to distinguish between AI-generated content that may undermine human creativity and AI-assisted work that really supports it.

What I have noticed during my classes is that my students have become incredibly dependent on AI tools, being satisfied with getting good grades rather than focusing on gaining knowledge. My concern is that they are not actually learning the skills they need. I could give an example with translation exercises. I have students who can complete perfectly translation assignments using tools like Google Translate or DeepL, but when I ask them to translate something on the spot during class, they are completely lost. They have become so reliant on these tools that they never developed the mental muscle memory for thinking through language patterns on their own. When students completely submit the translation process to AI, they effectively skip the most important step of language learning: the effort to generate meaning by themselves. Moreover, this way they ignore the most important processes that are beneficial for developing skills and require cognitive effort, such as finding the most appropriate term, correcting themselves, being unsure and not completely sure, solving a translation problem, which stimulates learning. These software programs just give a false sense of ability and competence. Especially this fact is extremely disturbing because the problem is not visible. AI use offers smooth, free-of-mistake translation that seems perfect

at first glance and on the surface in comparison to traditional difficulties in learning which usually appear as clear errors or doubts regarding translating terms and their equivalence. Therefore, these findings have major consequences for how we grade translation abilities in higher education because, due to the use of artificial intelligence, students' works, assignments or projects cannot fully and adequately reflect what students actually know and if they are able to complete the task alone. A clear example of this could be seen in a working atmosphere where one should immediately translate a complicated document taking into account cross-cultural meaning or reviewing such for a customer without using AI. If the student has spent their university years using AI entirely for such activities, they will not be ready to complete the task successfully. What will help them be a competitive employee would be the skills acquired and the critical thinking.

The same thing happens with writing. Students will use AI to paraphrase sources or summarize readings, and their work looks perfectly polished. However, when the time comes for in-class writing or discussions, they cannot synthesize or even analyze information or put ideas into their own words. They have outsourced these critical thinking skills to AI without realizing it. What is really bothering is how my students' writing is starting to sound the same. Everyone's essays have this similar tone – polished but somehow generic. It seems that they are all using the same AI writing style instead of developing their own academic one. While reading papers it is easy to tell which students had written everything themselves versus those who had heavily relied on AI. The papers that used AI were accurate, but they felt empty and missed the personality and unique perspective that make student writing interesting. There are important consequences for this absence of individual expression outside of the university classroom. In major such as English Philology and Applied Linguistics, and the course of

Translation Studies students practice and train to be excellent readers and good communicators and this is central for their professional personality. They should be able to interpret arguments, to communicate coherently and to understand the text register, tone and cultural nuances. If they focus only on AI programs, i.e. ChatGPT, DeepL or Grammarly, as most often used ones, to complete the task these skills will not be gained.

Consequences for Language Learning Outcomes

Everything mentioned above is concerning because developing one's own writing style is essential for academic achievement. Through this process, students learn to express complex ideas, convey their personality, and demonstrate comprehension. When students rely predominantly on AI, they lose the opportunity to find their own way to express what they want to say. When AI generates the arguments, provides the analysis, or structures the ideas, students can slip into a passive role, simply accepting what the AI produces rather than doing the hard cognitive work themselves (Rudolph et al., 2023). This passivity leads to surface-level learning instead of genuine understanding. Students might complete their assignments and have very good grades, but they do not develop the critical thinking skills that are supposed to be the point of higher education. Moreover, students lose confidence in their own writing abilities, or even worse, they never develop that confidence in the first place. This dependency can go beyond individual assignments and fundamentally shape how students approach their academic work, potentially creating graduates who lack the skills to produce independent scholarly work. When students rely on AI to translate sentences, generate vocabulary, or construct complex grammatical structures, they do not indeed practice what they actually need to learn. There

is a concept in learning theory called "desirable difficulty", that is the idea that certain challenges, while initially frustrating, lead to deeper and longer-lasting learning (Bjork, 1994). Similarly, students who depend on AI for translating, writing, paraphrasing or summarizing may never truly master these essential academic skills. That is why classroom discussions and writing are beneficial and educative.

For a BA student working on their thesis or translation projects, AI detection tools create some genuinely unfair situations. Studies on the topic reveal examples where students have spent months in writing a thesis or a translation project, and then an AI detector shows their work as potentially generated by a machine. False positives can damage your academic reputation, create enormous stress, and force you into the uncomfortable position of having to prove your work is really yours (Perkins et al., 2023).

Then comes the question of plagiarism which students face. This is precisely where they do not believe there is a problem with plagiarism as they do not consider AI-generated texts to be problematic because the definition is clear enough: it means taking someone else's words or ideas without crediting them (Stevenson, 2010). However, AI-generated content is different, and that is where students get confused. If they use AI to write sections of their thesis, it is not like they are copying from another person. The AI created this text specifically for them and it did not exist before they asked for it. There is no human author to steal from, no original source to cite. This is why so many students do not see AI-generated content as plagiarism in the traditional sense. It feels more like using a tool than stealing someone's work.

Ethical Challenges, Recommendations and Conclusions

The emergence of AI-generated content has fundamentally challenged traditional understandings of academic integrity. While AI systems cannot be considered authors in the conventional sense and their outputs are not directly copied from human sources, this ambiguity has raised considerable debate about whether and how universities should handle AI use in their academic integrity rules. A growing number of scholars have begun to reframe this issue, moving away from narrow definitions of plagiarism toward a broader concern with academic integrity and the authentic representation of one's own intellectual work (Rudolph et al., 2023). From this viewpoint, submitting AI-generated content as one's own is completely dishonest, whether or not it fits the traditional definition of plagiarism. Yet this way of thinking about the problem has not gained universal acceptance. Students and professors alike disagree on what responsible AI use actually looks like in education, with widespread confusion and disagreement about where to draw ethical lines when it comes to getting help from these tools.

The integration of AI into academic writing presents both opportunities and serious challenges that demand our attention. While these tools can help with efficiency and accessibility, their overuse threatens to undermine the very skills we are supposed to be developing in higher education, i.e. critical thinking, analytical abilities, language proficiency, and our own unique scholarly voices. When students rely too much on AI to generate text and arguments, translate texts, or revise our writing, they risk becoming passive consumers rather than active creators of knowledge. They might complete their assignments and be graded excellently, but what will be lost is the challenging process that builds their competence as writers, thinkers, and

future professionals in fields like English Philology and Applied Linguistics. Therefore, all these findings mentioned above have major consequences for how we grade translation and writing abilities in higher education because due to artificial intelligence usage students' works, assignments or projects cannot fully and adequately reflect what students actually know and if they are able to complete the task alone. Accordingly, we have to change the way we assess students including more classroom exercise that will reveal their true skills without using technology. The gap between what students are able to do with AI and what they can do by themselves is a significant risk for the learning goals that translation and language learning tools aim to fulfil in addition to becoming an issue of academic integrity. There is a huge risk of producing graduates – professionals who lack the abilities and skills meant to be acquired through their BA degrees if we continue to use the standard traditional assessing methods. The key is finding a balance, which means using AI as a supportive tool when appropriate while ensuring that students are still doing the hard cognitive work that leads to learning and intellectual growth. It is difficult to define what balance is. As BA students in translation or linguistics, but also other fields, this is something they need to think about seriously because it does not relate to their grades, but also to their future careers and professional development.

The academic integrity and personal development as independent scholars of students and researchers alike, depend on understanding this distinction and making conscious, ethical choices about when and how one uses these technologies. It refers not only to following the rules and regulations but also to taking responsibility for one's own education. Lecturers who assign the tasks should not assess the ability to generate some refined texts, but rather the way of thinking, analyzing and creating – skills that are crucial for students' development as professionals in their spheres. This is of great importance for

their future career. Therefore, well-informed decisions have to be taken in order to advance in one's job. AI could be used, as long as its use is proper and conscientious. Finally, the quick and time-saving suggestions and paragraphs AI offers today could cost the essential capabilities that would be needed tomorrow.

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References

Bjork, R. A. (1994). Memory and metamemory considerations in the training of human beings. In J. Metcalfe & A. Shimamura (Eds.), *Metacognition: Knowing about knowing* (pp. 185-205). MIT Press.

Cotton, D. R. E., Cotton, P. A., & Shipway, J. R. (2023). Chatting and cheating: Ensuring academic integrity in the era of ChatGPT. *Innovations in Education and Teaching International*, 1-12. https://doi.org/10.1080/14703297.2023.2190148

Fitria, T. N. (2021). Grammarly as AI-powered English writing assistant: Students' alternative for writing English. *Metathesis: Journal of English Language, Literature, and Teaching*, 5(1), 65-78. https://doi.org/10.31002/metathesis.v5i1.3519

Stevenson, M. (2010). *D.Pecorari,* Academic writing and plagiarism: A linguistic analysis. *Australian Review of Applied Linguistics*, Volume 33, Issue 2, Jan 2010, p. 23.1 – 23.4. DOI: https://doi.org/10.2104/aral1023

Perkins, M. (2023). Academic integrity considerations of AI large language models in the post-pandemic era: ChatGPT

and beyond. *Journal of University Teaching & Learning Practice*, 20(2), 7. https://doi.org/10.53761/1.20.02.07

Rudolph, J., Tan, S., & Tan, S. (2023). War of the chatbots: Bard, Bing Chat, ChatGPT, Ernie and beyond. The new AI gold rush and its impact on higher education. *Journal of Applied Learning and Teaching*, 6(1), 364-389. https://doi.org/10.37074/jalt.2023.6.1.23

Sullivan, M., Kelly, A., & McLaughlan, P. (2023). ChatGPT in higher education: Considerations for academic integrity and student learning. *Journal of Applied Learning and Teaching*, 6(1), 1-10. https://doi.org/10.37074/jalt.2023.6.1.17

GUIDELINES FOR UPHOLDING ACADEMIC INTEGRITY AT BULGARIAN UNIVERSITIES AND RESEARCH INSTITUTIONS

Irena Vassileva, Professor, New Bulgarian University, Sofia, Bulgaria (ivasileva@nbu.bg)

Mariya Chankova, Associate Professor, South-West University, Blagoevgrad, Bulgaria (mariyachankova@gmail.com)

Abstract

The article presents detailed recommendations on preventing plagiarism and the responsible use of AI in the Bulgarian academic community, which require a combination of policies, educational, and technological measures across universities and research institutions. Mandatory training in academic integrity for students, teachers, and researchers should raise awareness about ethical writing, proper citation, and the limitations of AI, emphasizing critical thinking, original contribution, and evaluation of AI-generated material for accuracy and bias. National authorities such as the Ministry of Education and Science should establish standardized guidelines for preventing plagiarism and managing AI. Regular audits, inter-university cooperation and sanctions for violations would reinforce these measures. In conclusion, preventing plagiarism and regulating the use of AI in the Bulgarian academic community depends on a culture of integrity. By combining clear rules, education, technological oversight, and national coordination, universities and research institutions can ensure that scholarship remains authentic, ethical, and reliable in the context of evolving digital tools.

***Keywords*:** academic integrity, plagiarism, artificial intelligence, education, scholarly research, academic publications

Introduction

The proposed "Guidelines" have been developed within the framework of the project "The gravity of academic plagiarism in the perception of scholars, students, and science policy makers in Bulgaria," funded by the Bulgarian National Science Fund (Contract No. KP-06-N70/9 of 2022) (see Vassileva, Yankova, Chankova 2025). The need for such guidelines arose as a result of the findings of a sociological survey conducted among the aforementioned groups (see Kanushev in this volume) which highlighted the following issues:

Lack of proper understanding regarding:

- what constitutes plagiarism and its various manifestations;
- the appropriate use of plagiarism detection tools;
- the responsible use of artificial intelligence in the processes of teaching, learning, assessment, and publication of research findings.

Furthermore, the detailed analysis of the Ethics Codes of most Bulgarian universities conducted as part of the project (see Vassileva, Chankova 2025) revealed a lack of:

- clear definitions of the terms "academic integrity," "plagiarism," and their manifestations;
- consistent rules regarding the reporting of academic misconduct and provisions guaranteeing the rights and protection of the whistleblower against retaliation;
- concrete support and training for students and faculty/researchers;
- specificity and transparency of the sanctions provided for;
- rules for the use of AI in research and teaching;

- rules for the use of AI in scientific publications

Last but not least, it should be noted that there is a lack of standardised and binding documents regulating the resolution of the aforementioned issues at the national level, despite the existence of numerous such documents at the international level and within the EU (see Chankova, Vassileva, 2024; Additional Sources).

Objectives of the Guidelines for Academic Integrity

- To develop detailed guidelines for identifying and preventing plagiarism, as well as for the responsible use of AI within the Bulgarian academic community;
- To protect academic reputation by establishing standardised, binding guidelines for preventing plagiarism and managing AI;
- To foster a culture of integrity by combining clear rules, training, technological oversight, and national coordination
- To ensure that universities and research institutions can guarantee the authenticity, ethics, and reliability of scientific research in the context of evolving digital tools;
- To lay the groundwork for legislative initiatives to develop a legal framework regulating compliance with the principles of academic integrity.

Academic integrity – characteristic features

Academic integrity is a set of ethical principles and standards that govern the behavior of members of the academic community – students, faculty, researchers, and administrative staff. It is the foundation of trust, quality, and the authority of educational and research institutions.

The main characteristic features of academic integrity are as follows:

- Honesty – involves presenting the truth without deception or distortion of facts. In academic work, this means accurate citation, proper presentation of results, and avoidance of plagiarism.
- Trust – is built through consistent, honest behavior. The academic community must be able to rely on every member to follow the rules and act ethically.
- Fairness – requires consistent standards and criteria for evaluating and recognizing achievements. This means objectivity and impartiality in academic evaluation.
- Responsibility – every participant bears personal responsibility for their actions, research, and statements. This includes both adherence to academic standards and correcting violations of those standards.
- Respect – promotes recognition of others' work and ideas, as well as a culture of dialogue, discussion, and collaboration.
- Courage – means a willingness to uphold ethical principles even in difficult situations, when there is pressure to compromise.

Ethical principles in academic and research activities:

Ethical principles form the foundation of academic integrity and ensure reliability, trust, and moral responsibility in scholarly research. Of particular importance among these are accuracy, objectivity, transparency, and accountability, as well as respect for the rights and well-being of the people and animals involved in research activities.

1. Accuracy

Accuracy means striving for a true, precise, and complete presentation of facts, data, and results. The researcher must avoid errors, falsification, or distortion of information. Accuracy

is manifested at all stages of the research process – from data collection and analysis to the publication of results. It is a guarantee of the reliability and scientific value of the research

2. Objectivity

Objectivity requires that research and its results not be influenced by personal biases, interests, or external pressure. A scholar should be guided solely by facts and scientific evidence, not by expectations or a desired outcome. Objectivity is a key principle for maintaining academic neutrality and trust in scholarly work.

3. Transparency and accountability

Transparency means openness and clarity in all aspects of research activity – methodology, data used, funding sources, and potential conflicts of interest. Accountability requires the researcher to take full responsibility for their actions, decisions, and results. This includes a readiness to explain and defend their scientific methods, correct errors, and provide access to information when it is ethically and legally permissible.

4. Respect for the rights and well-being of research participants

Ethical responsibility toward the people and animals involved in research is a fundamental principle of modern science.

- In research involving humans, this includes protecting personal data, ensuring informed consent, maintaining anonymity, and preventing any form of harm, discrimination, or psychological pressure.
- Experimenting on animals requires adherence to the principles of humane treatment, minimizing suffering, and using animals only when there is no alternative method for achieving scientific objectives.

Types of academic integrity breaches

The main types of academic misconduct are as follows:

- Plagiarism.
- Exam cheating – copying, using prepared exam materials, etc.
- Purchasing exam papers from companies / having them written by others (so-called ghostwriters).
- Unauthorized collaboration among students on a given assignment (collusion).
- Results falsification/fabrication – occurs primarily in the experimental sciences with the aim of proving a desired result and may manifest as the manipulation of data, images, and processes, altering data, submitting non-existent data, concealing data, and a number of other similar methods, which leads to the impossibility of repeating the results in subsequent experiments, the retraction of publications, and the tarnishing of the image of the scientists involved, with all the resulting consequences. Especially in fields such as medicine, pharmacy, and similar disciplines involving experiments on humans and/or animals, the consequences can be fatal.
- Use of another person's identity – instances where a researcher claims authorship of a study conducted by someone else, or where the name of a prominent researcher is used without their knowledge.
- Ethical violations in research involving humans or animals – insufficient information provided to participants regarding potential consequences or side effects.
- False declarations regarding participation in experiments / authorship / lack of conflict of interest / sources of funding.

Plagiarism – types and methods of detection

Copying

- Using the same or very similar text or idea as the original text or idea without citing the source or using quotation marks.
- This includes: copying materials, structures, ideas, or concepts from a book, article, report, or other written document; a presentation; an essay; a work of art; a design; a drawing; a diagram; a computer program or software; a website; the internet; another electronic resource; or another student's assignment.
- This also includes combining cited and uncited (copied) passages.

Translated plagiarism

- "The conversion of text from one language to another with the intention of concealing its origin" (Gipp, 2014, p. 11).
- It is considered a form of disguised plagiarism (as opposed to literal plagiarism, Gipp, 2014).

Inappropriate paraphrasing

- Rewording a passage by changing only a few words or phrases, while largely retaining the original structure or flow of ideas, without citing the source.
- This includes texts in which a person rephrases another person's ideas or wording without citing the source, as well as combining quotations and paraphrases in a single text without proper citation. (Adapted from UNSW's plagiarism policy)

Self-plagiarism

- When an author reuses their previously submitted or published work and presents it as new without citing the original, either in full or in part.

- This practice – also known as recycling, duplication, or multiple publication of research results – involves resubmitting material without disclosing the information. It also includes publishing the same material in different languages.

Incorrect citation

- Citing works that have not actually been read, without indicating the secondary source through which they were obtained.
- This may include fabricating sources or citing incorrect sources in a manner that goes beyond ordinary typographical errors. (Adapted from UNSW's plagiarism policy)

Methods and tools for detecting plagiarism:

- Use of text-matching software such as Turnitin, StrikePlagiarism, iThenticate, and SafeAssign.

  A common mistake when using such products is to consider only the similarity percentage; however, it is necessary to exclude properly cited direct quotations, terms and phrases standard to the academic field, as well as bibliographic data.
- Using online search engines (most commonly Google) to check text passages that appear suspicious.
- Using reverse translation if translated plagiarism is suspected. Indicators here may include frequent changes in style, or unusual grammatical and/or lexical constructions.
- In texts written in a foreign language, changes in style are also an indicator of possible plagiarism, especially among students who do not have sufficient proficiency in the foreign language (for details on these approaches, see Yankova, 2020).
- The reader may be familiar with the original of the copied text.

Ethical use of Artificial Intelligence

Overview

The most recent challenges for academic integrity have been posed by the liberalization of the access to Generative Artificial Intelligence. The term "artificial intelligence" is more of a metaphor, or a marketing ploy, intended to create associations and expectations for technology capable of performing actions that typically require human judgment, understanding, and creativity (Bender & Hanna, 2025). The types of technologies covered by this general term are extremely diverse, largely involving either the principle of automation or the use of Large Language Models for natural language processing via computer technologies (Bender et al., 2021). For convenience, the term "Generative AI" will be used to refer to those technologies that use Large Language Models (LLMs) to generate linguistic material simulating human-produced written text. In the theoretical and methodological literature, this term may include decision-making systems (with applications in banking, the private and public sectors, etc.), classification (with applications in the fields of security, advertising, etc.), recommendations (with applications in e-commerce, social media algorithms, etc.), machine translation and speech-to-text conversion, and text and image generation (see Bender & Hanna, 2025).

Gen-AI impact on academic production and ethics should be considered across four aspects: security, policy, instruction and balance.

- Security: Take into account key issues related to data protection, the prevention of harm (both physical and psychological), and a human-centered approach to ensure that people are at the heart of the operational process. Security concerns also include the impact of AI on the environment—the consumption of energy and other resources required to power and maintain operational systems (Henderson et al., 2020).

- Policy: Develop clear and transparent institutional policy about the ethical use of Gen-AI in the academic setting for learning, research, publishing; develop tutorials and supporting materials for use aimed at students and faculty members.
- Instruction: Introduce formal training for both students and faculty – open seminars, online tutorials and workshops, webinars, electives; introduce discussion sessions on the use of AI tools for pedagogical purposes.
- Balance: Navigate issues of student miserliness (Stanovich, 2018), user procrastination, decreased motivation for critical thinking and independent research (Niloy et al., 2024, Farrokhnia et al., 2023; Kasneci et al., 2023).

Using Gen-AI for learning (undergraduate and graduate students)

A complete ban on the use of generative AI tools, although implemented in some higher education institutions, is considered unrealistic and unmanageable (see Chankova, Vassileva, 2024). There are also technophile scholars who emphasize the emancipatory and democratizing effect of students' use of AI (e.g., Perkins, 2025). Our team's guiding principle is to ensure a genuine learning process that leads to the development of knowledge and skills among university students.

Data from a large-scale study conducted for the purposes of the project (see this volume: Kanushev, Valkanov, Chankova) show that the main ways students use AI are: finding answers/solving problems (61%) and generating text (39%). The detailed picture includes the following specific categories of activities: searching for information and ideas, time optimization/automation of tasks, and writing assistance (help with spelling, grammar, word choice, corrections, style, text organization and structuring, and explanations of terms). The following

information-training ecosystem emerges: AI has taken the niche of a personal, personalized assistant that does all kinds of work on the student's behalf. The student directly uses the results of these tools (for a detailed analysis of the data, see Chankova, this volume).

Although this topic falls outside the scope of these recommendations, it is worth noting that we consider the use of AI in primary and secondary education to be entirely counterproductive and unnecessary. There is not a single study showing that AI contributes positively to the development of any knowledge or skills related to information literacy, critical thinking, or analysis among students in these age groups. When we add the systemic limitations of AI (hallucinations, factual errors, biases, misrepresentations, prejudices, disinformation potential that appear to be amplified in conversational AI – van Dis et al. 2023), and the complete lack of need to automate the learning process for students in these age groups, we believe that the use of AI is associated with disproportionately more harm in both the short and long term. The use of AI for pedagogical purposes by teachers is not included in this assessment.

The following questions shape our approach to this matter: given the automation and (apparent) conveniences offered by generative AI, what is worth learning? What implications would these tools have for the role of universities in the age of AI? What implications for communication, work processes, and academic output? What is the flip side of automation processes: to quote critically minded researchers, "We find ourselves asking: if they couldn't be bothered to write this, why should we be bothered to read it?" (Bender & Hanna, 2025, p. 52). In this regard, it would be important to provide a precise definition of overreliance regarding the delegation of tasks to AI, which, coupled with the development of poor information-seeking practices and the development of practices that spare cognitive effort, leads to cognitive effort savings, laziness (cited

above), and the atrophy of fundamental processes related to the development of declarative memory (Oakley et al., 2025). These processes, on their part, are connected to accumulating cognitive debt (Kosmyna et al. 2025) in the long term. These considerations lead us to the following recommendations for an ethical application of Gen-AI to university settings (these are partially based on an empirical action research study conducted among students, Chankova, in preparation):

- The use of Gen-AI for (partial) generation of an assignment with the intent to submit it as the student's own work, without critical engagement, editing and without substantial contribution on the part of the student is considered unethical. This is a breach of academic integrity akin to ghostwriting from Section 3.
- Using Gen-AI to paraphrase somebody else's text with the intention to circumvent text-matching systems is considered unethical. This breach constitutes cheating.
- Using Gen-AI to generate translations that the student uses to submit as one's own in the context of foreign language learning, bypassing the formative aspects of language learning, is considered unethical. This use would also count as cheating.
- Using Gen-AI to obtain quick answers to examination questions is considered unethical. This use would count as cheating.
- Using Gen-AI to generate or fill in missing data or to draw conclusions that are not based on real results is considered unethical. This breach would qualify as falsification or fabrication.

Any text generated by AI in response to a question has the following two systemic weaknesses: first, it may reproduce verbatim partially or in a patchwork fashion, one or more published texts (that is, contain plagiarized sections); second, AI is unable to indicate where the elements of the generated

response were sourced from (that is, there is a lack of transparency regarding sources). These and other considerations form the basis of the "human in the loop" concept. The essence of this idea is to highlight the importance of checking the text generated by AI for factual errors, fabrications, inaccuracies, hallucinations, and incorrect data due to misrepresentations predetermined by the available training data (van Dis et al., 2023). Therefore, it is necessary to train students to conduct information searches, form critical and analytical thinking, which is connected to keeping key decision-making to humans (Niloy et al., 2024).

There have been different suggestions in the literature for integrating Gen-AI into the learning process, defined by the needs and the objectives that underscore formative and summative assignments. One such model is called AIAS (AI Assessment Scale, Perkins et al., 2024, and a remodelled scale by Perkins, Roe & Furze, 2025) and it offers a scale for the integration of AI into assessment assignments (Table 1).

Table 1. *Remastered AI Assessment Scale by Perkins, Roe & Furze, 2025*

1	No AI	The assignment is completed without using AI. The students rely solely on their own knowledge.
2	AI Planning	AI is used only at the planning stage of the project for ideas, brainstorming, bouncing off creative paths, reflection, information search. On this stage, what is assessed is the student's ability to develop these ideas autonomously.
3	AI Collaboration	AI is used for cooperative work, starting from idea generation, reflection, development, feedback. The student is supposed to critically engage with AI's suggestions and to develop them appropriately.
4	Full AI	In this configuration, AI is fully exploited for the completion of the assignment in its totality, as the focus is on critical engagement and directing AI for complex problem-solving.
5	AI Exploration	Creative use of AI in the framework of a particular domain. Devising novel approaches to solving concrete tasks.

This Assessment Scale is not a plan of integrating AI into the education process, but rather a suggestion as to how to explore Gen-AI's capabilities in the context of student assessment by proposing different degrees of engagement with Gen-AI instruments depending on the particularities of the scientific domain. It should be noted here that, despite the enthusiasm and interest on the part of students in these instruments, they do not have uniform knowledge or skills in using these instruments, and it falls on the instructor to decide whether and how to include AI tools in the subject curriculum. Such a decision is binding for the instructor in two different ways: first, what necessitates the inclusion of AI in the curriculum, and second, how AI inclusion is going to improve the students' learning outcomes (see Appendices).

Table 2. *A comparison between Fostaty-Young & WIlson* (2000)*, Ouyang & Jiao* (2021)*, through the perception of Wood & Moss* (2024)

Model	Level	Characteristics
AI-led	Ideas	Learn about basic AI tools and capabilities; focus on AI functionality; learn how to use AI effectively; focus on the ethical use of AI; understand the limitations of AI
AI-aided	Connections	Active use of AI for collaborative tasks; incorporating AI in learning strategies; develop in-depth abilities to use AI for learning; critical assessment of AI's use
AI-augmentation	Application	Creative use of AI; effective use and adaptation to novel applications; deep understanding of the ethical boundaries of AI use, including bias, personal data protection and equal access.

Table 2 presents an applied model adapting the basic stages of knowledge development in education, which allows us to assess the completion of learning objectives, including critical thinking, and to prevent AI overreliance.

Overreliance can be defined along the following concrete dimensions:

- when the human user trusts the AI-generated output in an unfamiliar situation (which the human user has no knowledge about), even when this output contradicts existing contextual elements or the user's own judgment (Klingbeil et al., 2024);
- when the human user trusts AI-generated output without questioning it, which leads to mistakes in task completion, for example in the course of learning. Delegating these decisions to AI can seriously interfere with the development of cognitive skills such as critical thinking, analytical thinking and decision-making (Zhai et al., 2024).

Therefore, the question of integrating AI in the context of studies should be considered in terms of ensuring that the tool does not replace cognitive effort on the part of the learner.

Using Gen-AI by researchers and instructors

The question about using AI for research optimization is still being discussed in the literature, with the main focus being which research tasks can and should be delegated to AI (van Dis et al., 2023).

The researcher's responsibility about the scientific production they author concerns the following aspects:

- the author is responsible for the accuracy and authenticity of the facts, data, references, and cited works;
- the author is responsible for the ethics and the transparency of the study they conducted and they should disclose any use of Gen-AI tools for the production of the manuscript in accordance with the recommendations of the institution or publisher;

- the author is responsible for making decisions about the publishing, endorsing or transferring authorship rights, corrections, retractions; for this reason, a Gen-AI tool cannot be a co-author (see for example Elsevier, Publishing Guidelines).

The ethical and transparent disclosure of Gen-AI instruments is required for any **"substantial and intentional"** use of AI in the elaboration of the scientific production for the purposes of literature review, data processing and analysis, content generation or synthesis, image processing and generation (Resnik & Hosseini, 2024). The Commission of Publication Ethics (COPE) has suggested the following principles for fair and transparent practices in academic publishing:

- When publishing a research paper, authors should adhere to basic ethical guidelines and describe in detail and clearly how and for what purpose AI (if used) was employed, either within the Methods Section or in a special dedicated section of the manuscript.
- The use of AI to create, modify or manipulate original data or results is considered a breach of academic integrity and research ethics because it relates to data fabrication and falsification, and potentially to confidential information breaches.
- The use of Gen-AI tools for language editing such as grammar correction, spelling, style and general language editing to improve readability does not require disclosure.
- The decision whether any disclosed use of AI on the author's part falls within the ethical uses and whether it complies with the publishing norms rests with the chief editor.
- Reviewers should not use AI for reviewing scientific production: sharing parts of manuscripts or entire manuscripts with AI constitutes a breach of confidentiality regarding unpublished manuscripts, which may lead to

copyright infringements and violations of data protection regulations.

- Of course, the research as a whole and the author in particular should make an indisputable and significant contribution to the advancement of knowledge in the relevant scientific field.

The International Association of Science, Technology, and Medical Publishers (STM) has published detailed guidelines for the ethical use of AI in the preparation of scientific manuscripts, which is equally relevant for our purposes. According to these guidelines, the activities involved in preparing a manuscript are classified into nine categories:

Table 3. *Proposal for the classification of activities performed using AI by the International Organization of Scientific, Technical, and Medical Publishers.*

AI-aided activities	Activity description	Activity does NOT include
1. Refinement, correction, editing or formatting the manuscript to improve clarity of language	AI is used to improve general readability and language clarity of the manuscript	**This activity does not include** text generation or synthesis, nor does it include text analysis as part of the research
2. Writing or drafting the manuscript	AI is used to generate parts or the entire manuscript, to expand significantly, to generate summaries	**This activity does not include** using text editing software, nor textual analysis as part of the research
3. Translating the manuscript to another language for the purpose of publishing	AI is used to translate authorial text to include in the manuscript	**This activity does not include** translation of source materials
4. Refining or formatting of data	AI is used to improve data presentation and clarity in the manuscript	**This activity does not include** data analysis, data generation, nor data visualisation (see Activity 6)

AI-aided activities	Activity description	Activity does NOT include
5. Generating illustrations, diagrams, tables, charts, etc. with illustrative or esthetic purposes	AI is used to generate visual elements for the purposes of visualization, for example, generating an image of people laboring on a field in ancient times	**This activity does not include** visualization of research data
6. Generating images, charts, diagrams, tables, etc. to visualize research data	AI is used to generate tables, charts, graphs, diagrams etc.	**This activity does not include** using traditional statistical software (STATA, SAS, R), nor generating images for aesthetic purposes
7. Refinement or formatting of code presented in the manuscript	AI is used to present code reported in the manuscript	**This activity does not include** generating new code for the research purposes
8. Assisting with gathering references	AI is used to conduct literature search	**This activity does not include** using applications for citation formatting (such as BibTeX), nor generating plausible-sounding references that do not exist
9. Presentation of any generated content as if it were original research from non-machine sources **– this use of AI tools is prohibited in the context of academic publishing**		**This activity does not include** cases in which AI-generated answers are the subject of study

STM recommends that stakeholders adapt this classification to the specific goals of their publication in order to clearly define the permissible scope of action for research authors, as well as which activities authors should disclose to ensure a fair and transparent process for the dissemination of research.

Regarding the use of AI by instructors in the development of instructional materials, it would be difficult to cover the full range of possible instructional materials (see the Appendices for examples). Generative AI enables the creation of multimodal materials, including text, images, video, and audio elements, as well as computer code for HTML or other types of computer-generated content. Teachers and trainers typically focus on the ability to automate the preparation of personalized materials specifically tailored to a particular problem, question, or difficulty: this capability is exploited in foreign language instruction (for example, Pokrivcakova, 2019). To fully leverage these capabilities, a detailed strategy should be developed for writing prompts that provide comprehensive instructions to the AI regarding the final form of the materials being developed. The process of generating the materials is typically quite time-consuming, given the inevitable need to "train" the AI on the specific characteristics of the materials being developed. To avoid issues related to plagiarism, it is recommended to provide detailed instructions as well as examples to serve as a guide.

Given the characteristics of generative AI described above, the following principles should be taken into account when using these systems to develop educational materials:

- All AI-generated suggestions should be checked for accuracy, appropriateness in relation to the specified parameters, factual errors, and logical gaps;
- Assess the ethical implications of using AI to grade and generate feedback on tests and written assignments: whether it violates student confidentiality or personal data, and how the automation of this process affects the learning process. According to the principles of academic integrity, the use of AI for checking and grading assignments should be disclosed;

- Assess the need to automate the development of educational materials using AI, as well as the potential drawbacks and actual benefits.

Challenges and potential drawbacks

- AI may potentially rebalance the academic skills set

  Which independent skills—such as information management, data analysis, critical thinking, synthesis, and the ability to communicate academic findings in writing—will remain essential? It is necessary to assess the risk of losing human potential and autonomy in the research process due to the accelerated spread and pervasiveness of AI in the field of knowledge creation (van Dis et al., 2023). Producing scientific content at an accelerated rate, spurred by the pressure to publish lots of papers quickly, could undermine trust in the quality of scientific production (Bender & Hanna, 2025).

- AI-assisted writing of scientific texts and the notion of "authorship"

  New concepts emerge to supplement notions denoting different aspects of collaborative writing (for example, Floridi's "distance writing", 2025), a process which may normalize some types of collaborative writing that are currently categorized to be breaches of academic ethics, especially in academic writing. Related notions such as creativity and originality may acquire different denotations as well. It has been announced recently that "[a]cademic publishers are selling access to research papers to technology firms to train artificial-intelligence (AI) models" (Gibney, 2024, p.1), among which Taylor & Francis and Wiley, a fact that has spurred consternation among researchers, especially because this was done without consultation with the authors and has clear implications on copyright. Problems are currently being discussed related to patent law (George & Walsh, 2022), copyright laws (Gervais,

2020), and lawsuits are filed over code and images used for AI training (van Dis et al., 2023; Bender & Hanna, 2025).

- The risk of flooding scientific output with low-quality work, fabricated data, and/or fraudulent schemes for profit (Bender & Hanna, 2025, p. 121)

Maintaining a high level of academic output is of paramount importance in the age of AI: high quality requirements and the maintenance of rigorous review standards should be supported by institutional rules and regulations.

- Saturating the internet by secondary AI-generated texts, the so-called AI slop:

  The dangers of AI slop consist in the possibility of AI-generated texts, images and other productions to be used as training data, so that they may crop up in new AI-generated responses to prompts. Slop is defined as being "lazy, derivative, endlessly recycled outputs from text, image, and avatar models" (Madsen, Puyt, 2025). In academia, AI slop is connected to low-quality, substandard production which may contain inconsistencies, fabrications, misrepresentations, irrelevances, problems in reasoning (Resnik, Hosseini, 2026); this may lead to a gradual disappearance of the human element, with corresponding consequences for the reliability of the final product.

- Risks connected to AI's sycophancy

  This is a particularity of AI's conversational interface that consists in a flattering type of "behavior" of the bot towards the user, with a tendency to enthusiastically embrace and validate the user's input. In and of itself this characteristic can potentially pose risks in relation to:

  - its influence over the correctness and the veracity of the generated text response by the LLM;
  - its impact in disseminating disinformation;

- its interference with developing ethical AI that is capable of upholding principled ethical positions (Malmqvist, 2025).

AI developers have themselves recognized the potential risks and, after ChatGPT 4o reached peak levels of flattery, have partially scaled back this feature. The structural characteristics of this type of AI allow the system to be "trained" in flattery, since, as studies show, both humans and test models prefer plausibly phrased flattering responses over truthful ones (for example, Sharma et al., 2025). Thus, users can potentially train AI to repeat back their biases, prejudices, and erroneous assumptions in the process of using the model.

Consequences of violations of ethical standards

Breaches of academic ethics have serious consequences for both the individual and the academic community, as well as for society as a whole.

Consequences for students or researchers

A person who commits a violation may face disciplinary sanctions – ranging from a warning to expulsion from the educational institution or the revocation of an academic degree. The offender also risks serious damage to their reputation, which hinders their future academic or professional prospects. In academic circles, even a single proven violation can lead to lasting mistrust and isolation.

This is why it is necessary for university regulations to specify concrete sanctions for each type of violation.

- For students: the most common violations include plagiarism, cheating on exams, using unauthorized materials, falsifying data, submitting someone else's work as one's own, and violating citation and referencing rules.

- Academic sanctions – depending on the severity of the violation, sanctions may include:
- Warning or reprimand – for minor cases or a first offense.
- Lowering of the grade or annulment of the exam – when the grade or final result is affected.
- Suspension of the right to take exams for a specified period.
- Expulsion from the educational institution – for serious or repeated violations.
- For researchers: the most common violations include plagiarism, falsification or manipulation of data, illegitimate authorship, violations in the peer review process, and unethical treatment of research participants.
- Academic sanctions – depending on the severity of the violation, sanctions may include:
- An official warning or reprimand;
- Revocation of an academic degree or title;
- A ban on participating in research projects or receiving funding for a specified period;
- Revocation of publications or retraction of articles from scientific journals;
- Termination of employment contract or removal from office;
- Public disclosure of the violation, for the purpose of protecting the academic community.

Some of these sanctions are enshrined in Bulgarian law, but are not enforced in many cases. The codes of ethics examined also lack specificity on this issue.

Violations of academic ethics by researchers undermine trust in scientific results, damage the prestige of institutions, and can lead to a loss of funding and international reputation.

Consequences for the institution

Educational and research institutions where cases of unethical conduct are identified lose public trust. This can lead to a drop in rankings, the revocation of accreditations, or

a reduction in funding. The reputation of faculty and students may also be undermined.

In this regard, Bulgarian universities, unfortunately, often see instances of unethical behavior being denied or covered up by their respective administrations, with an apparent lack of understanding that such actions have exactly the opposite effect, as they do not remain hidden from the media and the public sphere. This necessitates a significant shift in attitudes within educational and research institutions toward full transparency and a commitment to ensuring accountability on the part of both those at fault and the administration, as well as the entire academic community, and the creation of an atmosphere of zero tolerance for such behavior.

On the other hand, a positive trend toward adherence to international standards has recently been observed in the practice of academic publishing in Bulgaria, particularly in journals that are indexed in global databases such as Scopus and Web of Science, or that are striving for such indexing. At the same time, however, local collections of articles and journals are still being published that do not subject submitted articles to review, and if they do apply a peer-review process, it is largely a formality, based on the principle of "anything goes." Furthermore, such publications often contain 2–3-page articles that can hardly be seriously called "articles," yet this does not prevent authors from counting them as publications and receiving the corresponding recognition in the form of career advancement, participation in projects, and so on.

Therefore, universities and research institutions must thoroughly review their own publications in terms of quality and scientific merit and fund only those that meet internationally recognized criteria.

Legal consequences

Violations of academic standards not only lead to ethical and disciplinary sanctions but may also have legal consequences,

especially when intellectual property rights are involved or applicable laws have been violated.

- Copyright infringements

  Plagiarism constitutes not only a violation of academic ethics but also a violation of the **Copyright and Related Rights Act** (State Gazette, 2023). The unauthorized use of another person's text, ideas, data, or findings without permission and without citing the source may result in:

- Civil liability – the obligation to compensate the victim for pecuniary and non-pecuniary damages;
- Administrative sanctions – fines or other measures imposed by competent authorities;
- Criminal liability – in more serious cases, where an intentional violation is proven with the aim of obtaining material or professional gain.
- Revocation of academic degrees and titles
- If it is proven that a diploma, dissertation, or academic title was obtained through plagiarism or fraud, the competent authorities (the Ministry of Education and Science) may revoke the respective document. This decision is legally binding and results in the loss of all rights arising therefrom under the Act on the Development of Academic Staff in the Republic of Bulgaria (State Gazette, 2022).
- Violations related to the use of research results and funding
- Providing false information in research projects, reports, or funding applications may result in penalties under the Public Finance Act or the Criminal Code if fraud or misuse of public funds is involved.
- Reputational and professional consequences

  Although not strictly legal, reputational damage often has real legal consequences – such as termination of employment contracts, loss of membership in professional organizations, and the impossibility of participating in future projects.

The legal consequences of violating academic norms underscore that academic ethics is not merely a moral category but also part of the legal system. The protection of intellectual property and adherence to ethical standards form the foundation of a fair and credible academic enterprise.

- Consequences for the academic community and society

  When scientific findings are based on fraud or plagiarism, the entire process of knowledge accumulation is undermined. This can lead to erroneous conclusions, ineffective policies, and a waste of resources.

Reporting academic misconduct

Reporting academic misconduct is an important mechanism for maintaining integrity, transparency, and trust in the academic community. It involves formally notifying competent authorities or institutions of actions that violate academic and ethical standards – such as plagiarism, data fabrication, cheating, fraud, or unethical conduct in research.

- Who can report academic misconduct

  Reports may be submitted by:
  - students, faculty members, and researchers;
  - reviewers, editors, or members of academic committees;
  - any person who has witnessed a violation.

  Anonymous reports must also be investigated if they contain sufficient concrete evidence.
- Where to file a report

  Reports are typically submitted to:
  - the administration of the relevant institution (dean, rector, academic supervisor);
  - the Academic Ethics Committee of the higher education institution or research organization;

- the Academic Ethics Committee of the Ministry of Education and Science, when the case is of particular significance, extends beyond the scope of a single institution, or has not been resolved by the local committee.

- Procedure for reviewing a report

  After a report is filed, an examination is conducted, which includes:
  - gathering and analyzing evidence;
  - hearing the parties involved
  - preparation of a report by the commission
  - imposition of appropriate sanctions in the event of a proven violation.

The procedure is conducted with due regard for confidentiality and the protection of the person who filed the report, in order to prevent retaliation or pressure.

- Protection of whistleblowers

In Bulgaria, the protection of whistleblowers is regulated by the **Act on Protection of Persons, Reporting Information, or Publicly Disclosing Information about Breaches** (State Gazette, 2025). This law implements European Directive (EU) 2019/1937 and guarantees protection for all those who, in good faith, report violations, including in the academic sphere.

Whistleblowers are protected from any form of pressure, threats, discrimination, or retaliation. It is prohibited to aggravate their professional or academic standing – for example, through demotion, exclusion from projects, unfair evaluation, or disciplinary action.

Academic institutions are required to:

- establish internal channels for reporting and reviewing complaints;
- designate an independent body responsible for handling reports;

- take measures to protect the whistleblower if there is a risk of pressure or retaliation.

Protecting whistleblowers fosters a culture of transparency, integrity, and accountability. It demonstrates that the academic community does not tolerate misconduct and supports those who contribute to its ethical and professional development.

Summary

- A clear and detailed definition of every aspect of academic integrity at both the national and university levels will eliminate ambiguities and establish a precise understanding of what it encompasses.
- Providing comprehensive explanations of all forms of academic misconduct, along with clearly defined fair and appropriate sanctions, will raise awareness among stakeholders regarding the severity of such violations and their consequences.
- Detailed identification of all stakeholders, along with clear guidelines regarding their right to report misconduct and the protections granted to them, will encourage reporting and reduce passive acceptance of unethical behavior.
- The development of targeted support mechanisms will help prevent violations and ensure that policy is aligned with teaching practice. It is essential to provide appropriate opportunities for academic staff, particularly for early-career researchers.
- Developing AI policies that comply with EU regulations will help prevent the misuse of new technologies for academic fraud. Instead, such policies should outline constructive ways to integrate AI into teaching, learning, and research.
- Providing easy and transparent access to codes of ethics and related documents via university websites will help raise awareness of these guidelines and highlight their central role in academic life.

- Adherence to academic ethics is not merely a formal requirement, but the foundation of the research and educational process. Violations of these principles have profound moral, professional, and social consequences that affect all members of the academic community. Therefore, it is essential to foster a culture of integrity, transparency, and respect for intellectual work.

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References

Act on protection of persons reporting information or publicly disclosing information about breaches. (2025).

Bender, E. M., Gebru, T., McMillan-Major, A., & Shmitchell, S. (2021, March). On the dangers of stochastic parrots: Can language models be too big?. In *Proceedings of the 2021 ACM conference on fairness, accountability, and transparency* (pp. 610-623).

Bender, E. M., & Hanna, A. (2025). *The AI Con: How to Fight Big Tech's Hype and Create the Future We Want*. HarperCollins.

Chankova, M. (in preparation). An action research approach to ethical considerations of students' use of generative AI in educational settings. A case study.

Chankova, M., Vassileva, I. (2024). Академична почтеност: между нормативна уредба и възприятия за етиката на използването на генеративен ИИ. *Етика, Наука, Образование. Година II, Брой 2*, 91-104. 10.54664/EKZC7283

Davis, M. & Rogerson, A. (2025). Is It Ethical? Exploring Scenarios of Student Use of AI to Ensure Learning and Preparation for the Workplace. *Workshop presented at the European Conference on Ethics and Integrity in Academia 2025*, June 16-19, Uppsala, Sweden.

EduKitchen (2023, January 20). *Chomsky on ChatGPT, education, Russia and the unvaccinated*. [video] Youtube. https://www.youtube.com/watch? v=IgxzcOugvEI&t=276s

Farrokhnia, M., Banihashem, S. K., Noroozi, O., & Wals, A. (2023). A SWOT analysis of ChatGPT: Implications for educational practice and research. *Innovations in Education & Teaching International*, 1–15. https://doi.org/10.1080/14703297.2023.2195846

Floridi, L. (2025). Distant Writing: Literary Production in the Age of Artificial Intelligence. *Minds and Machines, 35*(*3*), 1-26. http://dx.doi.org/10.2139/ssrn.5232088

Fostaty-Young, S. and Wilson, R.T. (2000). *Assessment and Learning: The ICE Approach*. Portage & Main Press, Winnipeg, Manitoba.

Georgiou, G. P. (2025). ChatGPT produces more "lazy" thinkers: Evidence of cognitive engagement decline. *arXiv preprint arXiv:2507*.00181.

George, A., & Walsh, T. (2022). Artificial intelligence is breaking patent law. *Nature, 605*(*7911*), 616-618.

Gervais, D.J. (2020). The Machine as Author, *105 Iowa Law Review*. 2053. https://scholarship.law.vanderbilt.edu/faculty-publications/1164

Gibney, E. (2024). Has your paper been used to train an AI model? Almost certainly. *Nature, 14 August 2024*. https://doi.org/10.1038/d41586-024-02599-9

Gipp, Bela (2014). *Citation-based Plagiarism Detection: Detecting Disguised and Cross-language Plagiarism Using Citation Pattern Analysis*. Wiesbaden: Springer Vieweg.

Henderson, Peter, Jieru Hu, Joshua Romoff, Emma Brunskill, Dan Jurafsky, and Joelle Pineau (2020). Towards the Systematic Reporting of the Energy and Carbon Footprints of Machine Learning. *Journal of Machine Learning Research 21, 248*, 1–43. http://jmlr.org/papers/v21/20-312.html

Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., Groh, G., Günnemann, S., Hüllermeier, E., Krusche, S., Kutyniok, G., Michaeli, T., Nerdel, C., Pfeffer, J., Poquet, O., Sailer, M., Schmidt, A., Seidel, T., ...Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences, 103, Article 102274*. https://doi.org/10.1016/j.lindif.2023.102274

Klingbeil, A., Grützner, C., & Schreck, P. (2024). Trust and reliance on AI—An experimental study on the extent and costs of overreliance on AI. *Computers in Human Behavior, 160*, 108352. https://doi.org/10.1016/j.chb.2024.108352

Kosmyna, N., Hauptmann, E., Yuan, Y. T., Situ, J., Liao, X. H., Beresnitzky, A. V., ... & Maes, P. (2025). Your brain on ChatGPT: Accumulation of cognitive debt when using an AI assistant for essay writing task. *arXiv preprint arXiv:2506.08872*, 4.

Madsen, D. Ø., & Puyt, R. W. (2025). When AI turns culture into slop. *AI & SOCIETY*, 1-2.

Malmqvist, L. (2025, June). Sycophancy in large language models: Causes and mitigations. In *Intelligent Computing-Proceedings of the Computing Conference* (pp. 61-74). Cham: Springer Nature Switzerland.

McAdoo, T. (2023). How to cite ChatGPT. APA Style Blog. https://apastyle.apa.org/blog/how-to-cite-chatgpt

Niloy, A. C., Bari, M. A., Sultana, J., Chowdhury, R., Raisa, F. M., Islam, A., ... & Hossen, M. A. (2024). Why do students use ChatGPT? Answering through a triangulation approach.

Computers and Education: Artificial Intelligence, 6, 100208. https://doi.org/10.1016/j.caeai.2024.100208

Oakley, B., Johnston, M., Chen, K. Z., Jung, E., & Sejnowski, T. J. (2025). The Memory Paradox: Why Our Brains Need Knowledge in an Age of AI. *arXiv preprint arXiv:2506.11015*.

Ouyang, F. and Jiao, P. (2021). Artificial intelligence in education: The three paradigms. *Computers and Education: Artificial Intelligence, Volume 2, 100020*, https://doi.org/10.1016/j.caeai.2021.100020

Perkins, M. (2025). Advancing Ethical AI Integration with the AI Assessment Scale (AIAS). *Keynote address at the 11th International European Conference on Ethics and Integrity in Academia*, Sweden, Uppsala, June 16-19.

Perkins, M., Furze, L., Roe, J., MacVaugh, J. (2024). The Artificial Intelligence Assessment Scale (AIAS): A Framework for Ethical Integration of Generative AI in Educational Assessment. *Journal of University Teaching and Learning Practice, 21*(*06*). https://doi.org/10.53761/q3azde36

Perkins, M., Roe, J., & Furze, L. (2025). Reimagining the Artificial Intelligence Assessment Scale: A refined framework for educational assessment. *Journal of University Teaching and Learning Practice*. https://doi.org/10.53761/rrm4y757

Pokrivcakova, S. (2019). Preparing teachers for the application of AI-powered technologies in foreign language education. *Journal of Language and Cultural Education, 7*(*3*), 2019. 135-153. https://doi.org/10.2478/jolace-2019-0025

Public finance act. (2017). State Gazette, No. 91 of 14 November 2017.

Resnik, D. B., & Hosseini, M. (2025). Disclosing artificial intelligence use in scientific research and publication: When should disclosure be mandatory, optional, or unnecessary?. *Accountability in research*, 1-13. https://doi.org/10.1080/08989621.2025.2481949

Resnik, D. B. & Hosseini, M. (Mar/Apr 2026). The Vicious Spiral of Al Slop. *American Scientist; Research Triangle Park* 114: 2, 86-89.

Roig, M. Avoiding Plagiarism, Self-plagiarism, and Other Questionable Writing Practices: A Guide to Ethical Writing, The Office of Research Integrity. https://ori.hhs.gov/content/avoiding-plagiarism-self-plagiarism-and-other-questionable-writing-practices-guide-ethical-writing

Sharma, M., Tong, M., Korbak, T., Duvenaud, D., Askell, A., Bowman, S. R., ... & Perez, E. (2023). Towards understanding sycophancy in language models. *arXiv preprint arXiv:2310.13548*.

Stanovich, K. E. (2018). Miserliness in human cognition: The interaction of detection, override and mindware. *Thinking & Reasoning, 24*(*4*), 423-444.

STM Association. (n.d.). STM: International Association of Scientific, Technical and Medical Publishers. https://stm-assoc.org/

UNSW Sydney. (2022). Plagiarism policy.
https://www.unsw.edu.au/content/dam/pdfs/governance/policy/2022-01-policies/plagiarismpolicy.pdf

Van Dis, E. A., Bollen, J., Zuidema, W., Van Rooij, R., & Bockting, C. L. (2023). ChatGPT: five priorities for research. *Nature, 614*(*7947*), 224-226.

Vassileva, I., Chankova, M. (2025). University Policies on Academic Ethics and Integrity in Bulgaria. In: Glendinning, I., Eaton, S.E., Moya Figueroa, B.A., Sivasubramaniam, S.D. (eds) *Ethics and Integrity in Education* (*Research*). *Ethics and Integrity in Educational Contexts, vol 9*. Springer, Cham. https://doi.org/10.1007/978-3-031-98157-9_7

Vassileva, I., Yankova, D., Chankova, M. (2025). The gravity of academic plagiarism in the perception of scholars,

students, and science policy makers in Bulgaria. *English Studies at NBU, Volume 11, Issue 1*, 5-16.

Wood, D., & Moss, S. H. (2024). Evaluating the impact of students' generative AI use in educational contexts. *Journal of Research in Innovative Teaching & Learning, 17*(2), 152-167. https://doi.org/10.1108/JRIT-06-2024-0151

Yankova, D. (2020). On Translated Plagiarism in Academic Discourse. *English Studies at NBU, 6*(2), 189-200. https://doi.org/10.33919/esnbu.20.2.1

Zhai, C., Wibowo, S., & Li, L. D. (2024). The effects of over-reliance on AI dialogue systems on students' cognitive abilities: a systematic review. *Smart Learning Environments, 11*(1). https://doi.org/10.1186/s40561-024-00316-7

Additional Sources

COPE (n.d.). Committee on Publication Ethics. https://publicationethics.org/.

Elsevier Generative AI policies for journals. https://www.elsevier.com/about/policies-and-standards/generative-ai-policies-for-journals.

ETINED Council of Europe Platform on Ethics, Transparency and Integrity in Education. https://www.coe.int/en/web/ethics-transparency-integrity-in-education/academic-integrity-and-plagiarism.

General Guidelines for Academic Integrity. https://academicintegrity.eu/wp/wp-content/uploads/2022/04/Guidelines_amended_version_1.1_09_2019.pdf.

H2020 INTEGRITY. https://h2020integrity.eu/.

ICAI. https://www.academicintegrity.org/aws/ICAI/pt/sp/home_page.

The European Code of Conduct for Research Integrity. REVISED EDITION 2023. https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/

european-code-of-conduct-for-research-integrity_horizon_en.pdf.
Turnitin.https://www.turnitin.com/solutions/academic-integrity.
Wiley https://authorservices.wiley.com/ethics-guidelines/index.html#22.

APPENDICES

1. Checklist to assist students concerning the ethical dimensions of authorship in students' academic production

When preparing a written assignment, you should be able to answer affirmatively the following list of questions:

- Am I the real author of this text?
- Is it correct for me to put my name as the author of this text?
- Is it me speaking in this text?
- Will I be able to answer questions about the text?
- Have I accomplished the learning goals connected with this assignment?
- Have I followed the instructions about appropriate use of AI for this assignment? (adapted from Davis & Rogerson, 2025)

These questions delineate the boundaries of the student's responsibility in submitting written assignments, in alignment with the principles of academic fairness, transparency and responsibility.

2. Paraphrase

Original text:

„Преводът на академични текстове не е механичен процес на заместване на думи от един език с други. Той включва интерпретиране на намеренията на автора, разбиране на дисциплинарните конвенции и възпроизвеждане на подходящия тон и ниво на формалност." (Петрова, 2001, p. 72)

Incorrect paraphrase (plagiarism):

Превеждането на академични текстове не е механичен процес на заместване на думи от един език на друг. То включва тълкуване на намеренията на автора, разбиране на дисциплинарните норми и възпроизвеждане на подходящия тон и степен на формалност (Петрова, 2001).

Problem:

The original has been reproduced almost verbatim with minimal changes. The structure and sequence of ideas are the same as in the original. Even when the source is cited, this is considered patchwork plagiarism (i.e., partial copying with minor changes).

Correct paraphrase:

Както отбелязва Петрова (2001), преводът на академични текстове изисква много повече от просто замяна на думи между езици. Преводачът трябва да улавя замисъла на автора, да познава особеностите на конкретната научна област и да поддържа стил, който съответства на академичните стандарти и очаквания.

Correct paraphrasing includes the following elements:

- The student has used their own words and structure.
- The ideas have been paraphrased and logically organized.
- The source has been cited correctly.
- The text demonstrates understanding and interpretation.

The process of paraphrasing step by step:

- Read the text and understand its meaning

Paraphrasing academic texts is a complex process that involves understanding the meaning, genre, and style, rather than simply substituting words.

- Break the paragraph into meaningful parts

For example: Преводът не е механичен процес: той изисква интерпретация на намеренията на автора; изисква познаване на академичните норми; изисква възпроизвеждане на подходящ тон и формалност.

- Find and replace words and phrases with synonyms or phrases with similar meanings.

„не е механичен процес“ → „не представлява просто техническо пренасяне“

„интерпретиране на намеренията на автора“ → „разбиране на замисъла на автора“

„дисциплинарните конвенции“ → „спецификите на научната област“

„тон и ниво на формалност“ → „стил и степен на официалност“

- Consider sentence structure change.

Instead of three short sentences, one complex sentence may be formulated.

Using expressions such as “according to” or “as X notes”, the reference to the author is made quite naturally.

- Write the new text in accordance with your personal style.

Final suggestion (correct paraphrase):

Според Петрова (2001), превеждането на академични текстове не се свежда до механично пренасяне на думи между езици. То изисква разбиране на идеите на автора, познаване на особеностите на научния жанр и създаване на изказ, който отговаря на нужната академична формалност.

- **Check to ensure the meaning is preserved; the wording and structure have been changed; the source is cited.**

3. Translated plagiarism

The following example of translated plagiarism is drawn from the peer-review experience of one of the authors of this article. The original text was published by Author 1 in 2014 in Bulgarian. In the 2024 publication, Author 3 uses a literal

translation into English, citing as the source (without quotation marks) in parentheses at the end a 2019 publication in English by Author 2. This example demonstrates how Author 2 used translated plagiarism, which was then reproduced by Author 3, revealing the potential for plagiarism to multiply.

Автор 1, 2014

Новата образователна парадигма, резултат от развитието на образованието в условията на информационното общество, в педагогически аспект е личностно ориентирана и зачита правата на личността и в частност на детето, в дидактически аспект е ориентирана към ключови компетенции, в които трансверсалните умения и метапознанието имат доминираща роля, в психологически аспект развива мисленето и неговите качества.

Смяната на образователната парадигма променя цялостната система на образование. Формалното образование не е в състояние да задоволи потребностите на хората от перманентно квалифициране и преквалифициране. В общество на знанието не съществува понятие като „завършено образование". Появява се мрежа от образователни дейности, които не са регламентирани от закони, правилници и разпоредби, но са регламентирани от интересите и потребностите на участниците в тях, провеждат се във или извън образователните институции и завършват с постигането на много конкретна цел. Този вид образователни дейности изпълват съдържанието на понятието неформално образование. Има и знания, които човек придобива всекидневно и самостоятелно, извън всякаква система на организирано преподаване. Тази система на образование се нарича неформално образование, информално образование, самостоятелно учене.

Автор 3, 2024

The new educational paradigm, the result of the development of education in the conditions of the information society, in the

pedagogical aspect is personally oriented and respects the rights of the person and in particular the child, in the didactic aspect it is oriented towards key competences in which transversal skills and metacognition have a dominant role, in a psychological aspect develops thinking and its qualities.

Changing the educational paradigm changes the entire system of education. Formal education is unable to satisfy people's needs for permanent qualification and retraining. In a knowledge society, there is no such thing as "completed education". A network of educational activities appears, and they are not regulated by laws, rules and regulations, but are regulated by the interests and needs of the participants in them, take place inside or outside educational institutions and end with the achievement of a very specific goal. This type of educational activities fills the content of the concept of non-formal education. There is also knowledge that one acquires daily and independently, outside of any system of organized teaching. This system of education is called non-formal education, informal education, independent learning (Автор 2, 2019).

4. Self-plagiarism

The requirements for obtaining a doctoral degree in Bulgaria, in addition to the completion of the doctoral thesis, include the submission of publications related to the dissertation topic. In order to comply with the requirements for transparency and academic ethics, the doctoral candidate must take care not to mislead the reader regarding the originality of the work presented. This means that the following should not be permitted:

- Self-recycling: if parts of the research work have been published in the form of an article, the results may be used for the purposes of the dissertation only after properly citing the published results and without repeating the wording of the previous publication.

- Presenting previously published results as new: this requires careful planning and consideration of which results to publish prior to the dissertation defense, bearing in mind that the dissertation should demonstrate a significant scientific contribution to the field. It is possible to work on a side issue that is not included in the dissertation—such an approach allows for a more comprehensive or in-depth examination of the problem.
- Using your own graphs, tables, or ideas without citing the previous work.
- Duplication of content in different languages without explicit indication.

5. A detailed prompt for Gen-AI for developing instructional material

This prompt was originally designed by Ngyuen Van Toan[1], and has been translated into English for convenience. The goal here is to demonstrate the complexity of prompt-engineering when the educational goals are well-defined.

Prompt for creating educational materials for reading comprehension:

CONTEXT: You will function as an educational expert creating exam materials for a written French proficiency test at the B2 level of the Common European Framework of Reference for Languages. Your task is to create comprehensive reading comprehension questions based on a given text, strictly adhering to the official methodology for this type of task at FEI (France Éducation International).

TEXT FOR ANALYSIS: [Paste your text here]

INSTRUCTIONS FOR QUESTION ELABORATION:

1 The prompt has been presented by Ngyuen Van Toan at an online seminar on using Gen-AI in French language teaching on September the 29th, 2025, organized by the *Organisation internationale de la francophonie*.

1. BASIC METHODOLOGY

- The questions should evaluate how well the text was understood, not information retention levels: the questions should aim at content comprehension, the skill to understand, analyze, interpret, not to reproduce verbatim the content.
- Alignment with B2 proficiency level: detailed comprehension, understanding of opinions, arguments, and nuances in meaning or attitude
- Objectivity: Only one answer can be correct, and it must be found in the text.

2. TASK STRUCTURE

Create 10-13 questions split in the following categories:

A. General comprehension questions (2-3 questions) about:

- document type and communicative situation
- main subject of the text
- communicative intention of the author

B. Questions of detailed comprehension (5-7 questions):

- finding specific information in the text
- understanding arguments and their logical connection
- identifying perspectives and nuances
- understanding causes, consequences, opposing ideas, digressions, and other logical relationships between ideas in the text

C. In-depth comprehension (3-4 questions):

- interpretation of idiomatic or metaphorical expressions
- deductive reasoning—interpretation of ideas implicitly contained in the text
- recognition of the tone of the text (ironic, critical, neutral, enthusiastic, supportive, expository ...)
- recognition of cultural realities contained in the text

3. TYPES OF QUESTIONS

Diversify the question types according to the following criteria:

Multiple-choice questions

- 3-4 plausible-sounding choices of answer
- Distracting elements should be plausible but clearly false
- Avoid complex phrasing containing negation
- There should be only one correct answer that can be verified in the text

Questions of the type True/False/Not specified

- Require justification by citing a passage from the text or by paraphrasing it
- The "Not specified" option must be a valid option

Open-ended questions requiring short answers

- The expected response is 1 to 3 lines at most
- Clear criteria for acceptability
- Option to rephrase (it is not necessary to quote the text)

Associating questions

- Associate arguments and examples, causes and effects, ideas and peopl
- Provide at least 5-6 elements to associate

4. CRITERIA FOR QUESTIONS QUALITY

Each question must:

Be independent of the others: the answer should not depend on the answers to other questions.

Concern a specific passage in the text: avoid overly general questions.

Be formulated in language accessible to a B2 level: the difficulty lies in understanding the text, not in understanding the questions.

Avoid linguistic pitfalls: no ambiguities in the wording of the questions.

Follow the text sequence: chronologically and logically (from beginning to end, from the general to the specific).

Cover the entire text: the questions should cover the introduction, the body, and the conclusion.

5. PREFERRED FORMULATIONS FOR B2 LEVEL

- "According to the author, what is the main advantage of ...?"
- "Why does the author mention the ...?"
- "What is the consequence of ... ?"
- "The author is against /in favor of ... Justify."

6. AVOID THE FOLLOWING FORMULATION:

Questions that are too literal: "What word is used in line 5?"

Trick questions: "The author DOES NOT say that ..."

General knowledge questions whose answers are not found in the text: "In what year was ... created?"

Questions should not be phrased in a more complex manner than the text

Questions whose answers are contained in the text

7. ASSESSMENT CRITERIA AND ANSWER KEY

- For every question, include:
- Question number and title
- Expected answer (complete and accurate)
- Supporting evidence from the text (quotes or explanations)
- Number of points for a correct answer (out of a total of 25 points)
- Grading criteria for open-ended questions

8. EXPECTED OUTPUT

- The questions for the student in a separate file, ready to print.
- A detailed answer key and justifications.
- Assessment criteria scale (how the 25 points are allocated).
- A description of the competencies outlined in the Common European Framework of Reference for Languages that are assessed with each question.

ETHICS: Ensure that the questions do not contain cultural, gender-based, or discriminatory biases. Ensure that the answers do not depend on additional knowledge not contained in the text.

Now proceed to create the questions.

Comments:

In foreign language instruction, where there are four main types of competencies to be mastered for a given language, this type of prompt can be expanded, supplemented, and adapted with the help of AI. The guiding principle in preparing the prompt is that the prompt should be as comprehensive as possible. This does not relieve the instructor of the obligation to carefully review the text generated by AI: since AI lacks semantic understanding and has no real-world experience, the generated text is the result of linguistic manipulation and may contain fabricated or hallucinated content. It is recommended to combine more than one type of generative AI when developing prompts for educational materials.

A common application of AI in foreign language learning is the creation of specialized illustrative texts for vocabulary and grammar: generative AI can generate text based on specific grammatical elements and/or a set of words. Certain logical inferences are also not embedded in AI algorithms, so careful checking of the generated text for errors is necessary. It should be emphasized that texts produced in this way cannot

be considered original texts in the foreign language but are classified as adapted/artificially created/synthetic materials that should not serve as language models. Some instructors do not see this as a particular problem. Our opinion is that such texts should be used sparingly, and priority should be given to original texts created by humans.

6. Using AI in education.

The following example concerns the integration of AI into the French Studies course, History module (10 hours of classroom instruction, 15 hours of out-of-class work). This model has been partially tested with students—for a detailed description of the results, Chankova, in preparation.

Table 4. *Possible integration of learning from sources and AI.*

Level of engagement with the content (according to Fostaty-Young et al., 2000)	Learning objectives	Ai-aided activities
Ideas Critical Discussion: The concept of source reliability, impartiality in historical evaluation, historiographical methods of information gathering, perspective, and ideological frameworks. Critique of "secondhand" information.	Gathering a factual database on the history of France: – events, figures – history of ideas – political history – history of political struggle – historical and political interactions with the major powers of the European continent (England/Great Britain, Germany, Russia, the Ottoman Empire) – French imperialism (colonialism)	– Work with primary texts and sources is enhanced by AI (searching for archival documents, letters, agreements, contracts, etc.) – Reading with the help of AI: annotation, synthesis, and critical evaluation of the proposed syntheses;

Level of engagement with the content (according to Fostaty-Young et al., 2000)	Learning objectives	Ai-aided activities
Connections Critical discussion: Students limit themselves to using AI as a language assistance tool, not for generating analysis or conclusions.	Establishing connections with other areas of knowledge, exploring alternative approaches to studying the material: the printing press and the traditions of the free press in the era preceding the French Revolution of 1789, official dispatches and speeches by politicians (a diachronic examination of the rhetorical devices and linguistic tools used for propaganda purposes), maps, news reports, photographs, and video materials. History of political ideas and their connections to the contemporary political scene in France (the Declaration of the Rights of Man and of the Citizen, Rousseau's social contract, the concept of sovereignty, and Gaullism during and after World War II)	Searching for materials using AI, annotating, comparing, and verifying ideas. Using AI to transcribe audio from historical materials or to rephrase written materials (due to difficulties understanding the language of the relevant era)

Level of engagement with the content (according to Fostaty-Young et al., 2000)	Learning objectives	Ai-aided activities
Extensions Critical discussion: The focus is on assessing students' ability to apply their knowledge in a comprehensive manner, rather than their proficiency in using digital tools. Students should critically evaluate their work and justify the benefits (if any) of using AI.	Creative and critical application/transfer of skills to a specific context or task. Application of acquired knowledge and skills for the critical analysis of issues in a contemporary print media article; examination of significant public events or debates (such as the Louvre heist or the proposal for so-called inclusive writing) in light of acquired knowledge and skills; examining thematic exhibitions with critical commentary on the included elements; ability to comment on ideological content in the print media, etc. Oral presentation of the work completed and the conclusions drawn. Ability to critically evaluate the work of others.	Ability to innovatively integrate AI to assist with preparation: For example, preparing for a debate on the topic of U.S. influence on the internal affairs of European countries (positive and negative aspects) or creating visual elements for a poster illustrating propaganda methods of communication during World War I.

Two notes about the suggested model of integration:

One of the fundamental ideas guiding the author's preparation of the course content is the prioritization of primary sources: thus, a textbook or an "Introduction to..."–type guide can serve as a starting point for building knowledge on a given topic. For in-depth knowledge (which is the goal of higher education), primary sources are sought out, read critically, and used to form one's own perspective on the issues they address. This, by definition, excludes the use of AI for searching for information

in the form of synthesized text passages without citing sources, which may contain a significantly distorted representation of the content. Some specialized tools for searching scientific literature would be more useful. The use of AI as a reading aid for annotation, summaries, synthesis, and extracting key ideas from primary sources is left to the students' discretion, but the emphasis is always on critically evaluating the AI's suggestions to avoid overreliance on AI.

In this sense, the prompt for the generative AI would be as follows: "Suggest three or four scholarly works in French, published between 1980 and 2025, that offer a commentary on the history of France, presented in chronological order, from Gallo-Roman times to the present day, written by historians."

Instructors cannot control how students use AI during their out-of-class work. At the beginning of the course, it is advisable to establish clear requirements regarding AI, such as requiring students to include their "conversations" with the bot in the assignments they submit for grading. Without letting AI become the main topic of discussion during class, be sure to ask students for their critical assessment of their experience with these systems. After all, the purpose of the classes is not AI.

7. Using AI in academic publishing

The following passage is an example of how AI was disclosed in the writing of a scientific article:

This study used Generative AI tools to produce draft text, and revise wording throughout the production of the manuscript. Multiple modes of ChatGPT over different time periods were used, with all modes using the underlying GPT-4 Large Language Model. The authors reviewed, edited, and take responsibility for all outputs of the tools used in this study. (Perkins, M., Furze, L., Roe, J., MacVaugh, J. (2024). The Artificial Intelligence Assessment Scale (AIAS): A Framework for Ethical

Integration of Generative AI in Educational Assessment. Journal of University Teaching and Learning Practice, 21(6).)

Another example of how AI-generated free-form responses might be incorporated into the author's text is by citing them in the same way one would cite another author's text, according to McAdoo, 2023:

When prompted with "Is the left brain right brain divide real or a metaphor?" the ChatGPT-generated text indicated that although the two brain hemispheres are somewhat specialized, "the notation that people can be characterized as 'left-brained' or 'right-brained' is considered to be an oversimplification and a popular myth" (OpenAI, 2023).

In-text citation: (OpenAI, 2023);

Reference: OpenAI. (2023). ChatGPT (Mar 14 version) [Large language model]. https://chat.openai.com/chat

This approach takes into account the risk of AI's output inadvertently repeating text that has already been published.

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