

Privacy, Misinformation, and Interaction: University Students' Attitudes toward AI

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Abstract: Artificial Intelligence (AI) has rapidly become embedded in everyday life and various sectors, including education. Its presence in teaching and learning environments and workflows raises essential questions about how actors in the teaching and learning process perceive and interact with AI. Risks can be categorized into six areas when assessing concerns about using AI in education. [7] Improper trust could produce misuse or disuse that harms safety and performance. [1] Concerns about algorithmic transparency and accountability shape risk perceptions and drive verification behaviours. [2] AI in education raises ethical issues around who controls and protects learners' data, how algorithmic bias and unfairness affect different actors, and privacy and integrity are concerns. [4][5][6] This exploratory research assesses university students' behaviours toward AI across three dimensions: privacy hazards, misinformation, and interaction risks. 83 Hungarian students reported prior use of AI for university assignments. At the same time, respondents report strong verification behaviour and tend to check the reliability of AI-generated information rather than accepting outputs without any criticism. Several respondents consider an AI-supported essay or homework morally acceptable. However, figures show that concerns about the use of personal data and third-party transfers often underestimated by these respondents. Overall, the survey confirms that among respondents, the use of artificial intelligence in education presents a mixed picture: it effectively supports the learning process, yet it can distort student assessment. At the same time, students are aware of the dangers of misinformation and actively employ protective and verification mechanisms against it. Based on the responses, however, strong concerns emerge regarding data privacy.

Keywords: Artificial Intelligence in Education; Privacy Hazards; Human–Computer Interaction; Misinformation Risks; Verification Behaviour; Academic Integrity

1. Introduction

Over 20 years ago, Lee and See assessed how human trust influences the use of automated systems, such as algorithm-driven decision-support tools. The study highlighted that both overtrust and distrust can compromise safety in automated systems. [1]

Mittelstadt and colleagues examined the ethical and social risks of algorithm-based systems and highlighted concerns such as privacy violations, re-identification, continuous surveillance, and misleading or unjustified algorithmic outputs. These risks are equally relevant to the education sector, since, for example, the aggregation of student data may lead to new sensitive forms of profiling, anonymized academic results can become re-identifiable, the monitoring of student activity through learning analytics raises ethical dilemmas, and algorithm-based assessments may result in bias if they are not transparent. [2]

The use of AI in education, like many other new computerized tools, offers numerous advantages. Ghulam, for example, mentions personalized learning, an immersive learning experience, improved student engagement and motivation, and an intelligent tutoring system. On the other hand, the study identifies several risk factors, including ethical and data protection concerns, bias, discrimination, data breaches, the risk of cheating, and teacher job displacement. [3] The discourse on artificial intelligence should include both its potential risks and benefits. Current academic research remains constrained in its examination of the possible risks posed by AI applications in education. Zawacki-Richter et al. reviewed literature from 2007 to 2018 and synthesised 146 peer-reviewed articles on AI applications in higher education. The authors report that very few included studies discussed ethical implications or risks. [4]

They concluded that while AI significantly enhances personalized learning, large, sensitive datasets are particularly important, as medical education frequently relies on patient information and clinical records, which pose significant challenges for data protection and security. In addition, the study identifies further areas of risk, including ethical and accountability issues and concerns related to bias. [5]

Holmes et al. reported the results of a survey of 17 researchers and synthesize discussions on the ethics of AI in education. They raise questions of "Who owns and who can access these data, what are the privacy concerns, and who should be considered responsible if something goes wrong?" [6]

Overall, the results show common concerns about AI in education, such as limited attention to ethical, security, and privacy risks, data integrity and security, and the effects of trust or mistrust in these automated systems. A scoping review by Li et al. focused on the ethical challenges of using AI, namely ChatGPT, in higher education. In their research, they identified six risk areas:

- discrimination, exclusion, and toxicity,
- information hazards,
- misinformation harms,
- malicious uses,
- human-computer interaction harms,

- automation, access, and environmental harms [7].

The following table (Table 1) presents the identified risk areas and their characteristics.

Table 1: Ethical and social risk areas

Adopted from Li, M., Ariunaa Enkhur, Cheng, F., & Yamamoto, B. A. (2024). Ethical Implications of ChatGPT in Higher Education: A Scoping Review. *Journal of Interdisciplinary Studies in Education*, 13(1), 55–68. <https://doi.org/10.32674/jise.v13i1.6072>

	Areas	Description
1	Discrimination, Exclusion and Toxicity	AI models can harm by reinforcing discrimination, stereotypes, and biases, marginalizing individuals, promoting toxic language, and worsening disparities for disadvantaged groups.
2	Information hazards	Leak of private data or sensitive information leaks.
3	Misinformation harms	Providing false or misleading information, leading to less informed users and eroding trust in shared information.
4	Malicious Uses	Disinformation campaigns, personalized scams, fraud at scale, and the development of malicious computer code or weapon systems.
5	Human-Computer Interaction Harms	Users' overestimation of "human-like" AI capabilities may lead to unsafe usage, exploitation for manipulation, and perpetuation of stereotypes.
6	Automation, Access, and Environmental Harms	Unequal benefits and limited access to LMs can impact job quality, creative economy, and create global disparities in risks and rewards.

The above table organizes six areas of risk. As the descriptions indicate, the use of AI involves not only technological but also social risks. Categorization, however, provides a valuable means of structuring the discourse, as it clearly distinguishes the domains in which intervention may be required.

2. Research

2.1. Research background

The survey was conducted during the spring semester of 2025 at a university in Budapest, targeting university students from multiple disciplines. Responses were collected electronically via Google Forms. Data analysis was carried out using Microsoft Excel and SPSS (version 25). The questionnaire originally comprised 25 items: 23 attitudinal statements related to the use of AI-based tools in education and 2 demographic items. For the purposes of this study, a subset of 7 statements was selected for detailed analysis. Responses were measured using a four-point Likert scale with the following categories: Yes, I fully agree; I somewhat agree; I somewhat disagree; No, I fully disagree.

The following table (Table 2) presents the questionnaire items, categorized according to Li et al.'s table of ethical and social risks. In this study, instead of the broader concept of information hazards, the narrower notion of privacy hazards will be applied, since the survey items primarily address risks related to personal data and the protection of individual privacy.

Table 2: Questionnaire items categorized according to Li et al.'s risk areas

	Question	Risk category
1	I am aware of the data that AI-based tools collect about me.	Information (privacy) hazards
2	I am concerned that AI tools may use my personal information or transfer it to third parties	Information (privacy) hazards
3	I have already been using AI-based tools for university assignments	Human-computer interaction harms
4	Using AI-based tools makes it more difficult to distinguish actual student performance from artificially generated content.	Misinformation harms + Human-computer interaction harms
5	AI-based tools to write essays and homework are ethical.	Human-computer interaction harms
6	I usually check the reliability of the information provided by AI-based tools	Misinformation harms
7	AI-based tools may be able to manipulate users with false information	Misinformation harms + Human-computer interaction harms

Based on Li et al.'s framework, three main risk dimensions from the original six could be identified in relation to the questionnaire items: (i) information (privacy) hazards, (ii) human–computer interaction harms, and (iii) misinformation harms. It is also concluded that some statements fall into multiple categories, such as items 4 and 7, indicating that the risks are often complex and overlapping.

2.2 Research results

2.2.1 Awareness of data collection by AI-tools

For the item “*I am aware of the data that AI-based tools collect about me,*” a modest majority of respondents (60.3%) agreed that they are aware of the data collected by AI-based tools, with 42.2% somewhat agreeing and 18.1% fully agreeing. In contrast, 39.8% expressed disagreement, including 33.7% who somewhat disagreed and 6.0% who fully disagreed. The mean score for this item was 2.72 (SD = 0.83) based on 83 valid responses, indicating moderate agreement overall and a relatively balanced distribution of views.

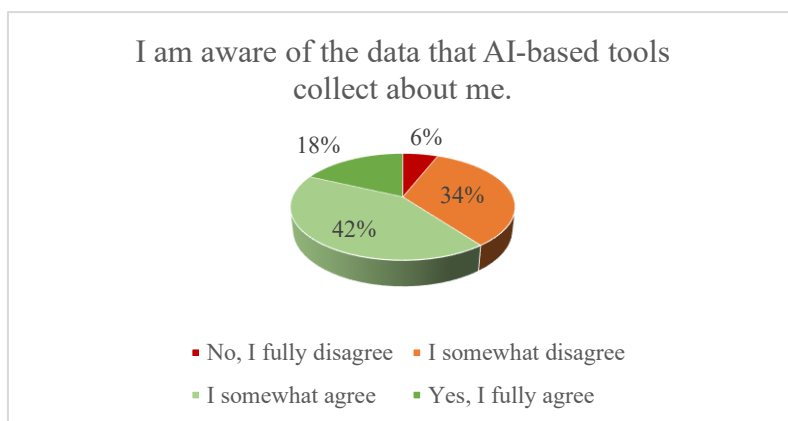


Figure 1

Awareness of Data Collection by AI Tools

The results show that the majority of surveyed students are aware that artificial intelligence collects data about them, yet a significant proportion remain uncertain or do not feel sufficiently informed. This suggests that some respondents assume privacy risks when using AI, as they possess incomplete knowledge of data management practices.

2.2.2 Personal Data Use and Transfer

For the item “*I am concerned that AI tools may use my personal information or transfer it to third parties,*” responses were relatively balanced, with a slight majority expressing disagreement. Specifically, 53.0% disagreed (44.6% somewhat, 8.4% fully), while 46.9% agreed (37.3% somewhat, 9.6% fully). The mean score was 2.48 (SD = 0.79) across 83 respondents, representing the lowest mean among the seven items. This indicates that concern about personal data use and third-party transfer was comparatively less pronounced in this sample.

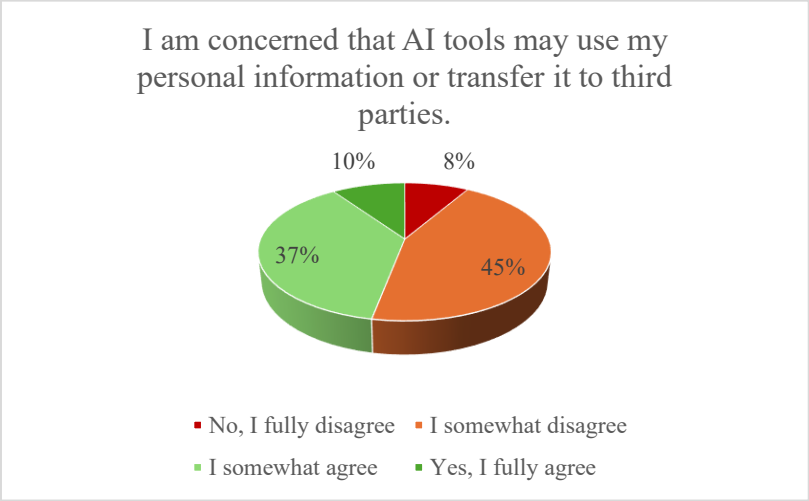


Figure 2

Awareness of AI Data Use and Transfer

The findings indicate that students in this survey were comparatively less concerned about data privacy risks than about other AI-related issues. The relatively low mean score, together with the majority disagreement, suggests that privacy considerations are not particularly salient for this group. This may reflect limited awareness of how AI systems manage personal information, or a perception that such risks are minimal within the educational context.

2.2.3 Use of AI-ools for university assignments

For the item “I have already been using AI-based tools for university assignments,” a clear majority of respondents reported prior use. Specifically, 71.1% agreed (41.0% somewhat, 30.1% fully), while 28.9% disagreed (21.7% somewhat, 7.2% fully). The mean score was 2.94 (SD = 0.90) across 83 responses, indicating relatively high agreement compared to other items. This result shows that AI-based tools are already widely integrated into students’ academic practices.

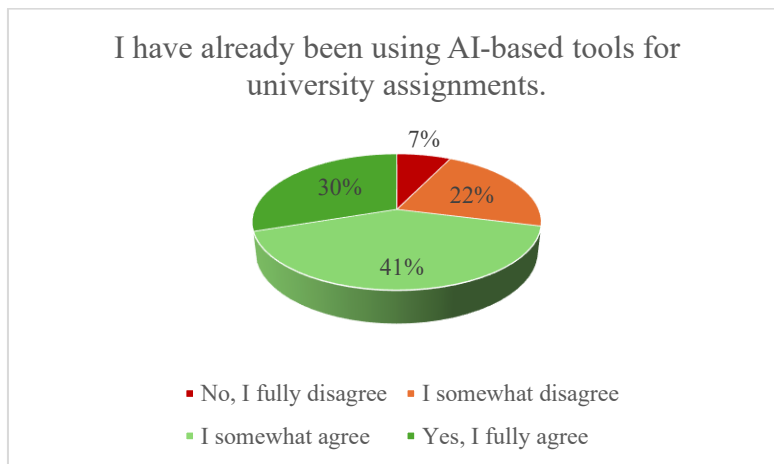


Figure 3

Use of AI Tools for University Assignments

The findings underscore the rapid integration of AI tools into higher education, indicating that their use has already become routine among university students. The high level of agreement suggests that AI is regarded not as a peripheral or experimental technology, but as a practical tool for accomplishing academic tasks.

2.2.4 Distinguishing student performance from AI-generated content

For the item “Using AI-based tools makes it more difficult to distinguish actual student performance from artificially generated content,” a majority of respondents expressed agreement. Specifically, 59.1% agreed (45.8% somewhat, 13.3% fully), while 40.9% disagreed (32.5% somewhat, 8.4% fully). The mean score was 2.64 (SD = 0.82) across 83 responses, reflecting moderate agreement overall. The results indicate that concerns about distinguishing genuine student work from AI-generated content are fairly common among respondents.

These findings suggest that students recognize a significant challenge in maintaining the integrity of academic assessment when AI tools are used. The majority agreement highlights a perceived risk that AI-generated content may undermine the ability of educators to evaluate genuine student performance.

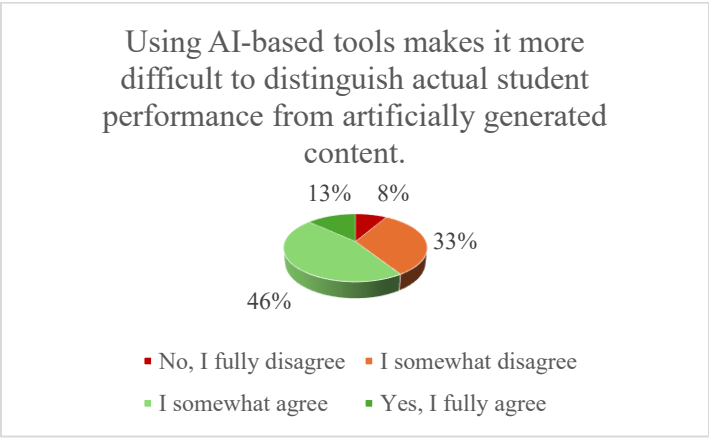


Figure 4

Distinguishing Student Performance from AI-Generated Content

2.2.5 Ethics of AI-written assignments

For the item “AI-based tools to write essays and homework are ethical,” a majority of respondents expressed agreement. Specifically, 60.2% agreed (37.3% somewhat, 22.9% fully), while 39.8% disagreed (30.1% somewhat, 9.6% fully). The mean score was 2.73 (SD = 0.93) across 83 responses, reflecting moderate agreement overall. The distribution shows that most students regard AI-assisted writing as ethically acceptable, while a notable minority remain sceptical.

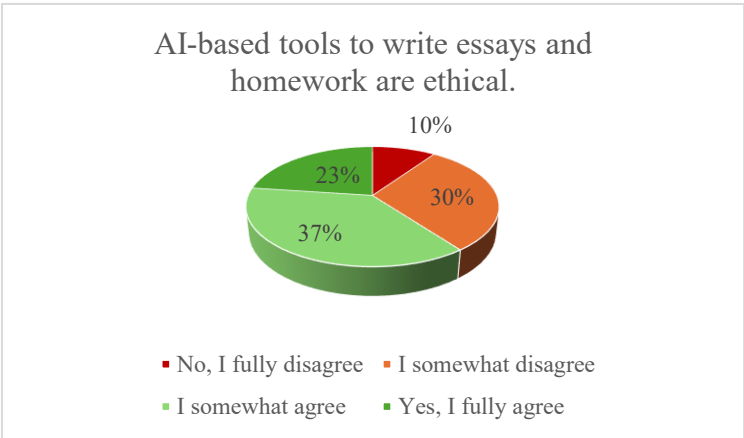


Figure 5

Ethics of AI-Written Assignments

The findings reveal a mixture of views: most students pragmatically accept AI-assisted writing, while a notable minority remain concerned about its ethical implications.

2.2.6 AI manipulation with false information

For the item “AI-based tools may be able to manipulate users with false information,” a strong majority of respondents expressed agreement. Specifically, 73.5% agreed (33.7% somewhat, 39.8% fully), while 26.5% disagreed (21.7% somewhat, 4.8% fully). The mean score was 3.08 (SD = 0.90) across 83 responses, representing one of the highest levels of agreement among the items. This distribution indicates that students perceive manipulation through misinformation as a significant risk associated with AI tools.

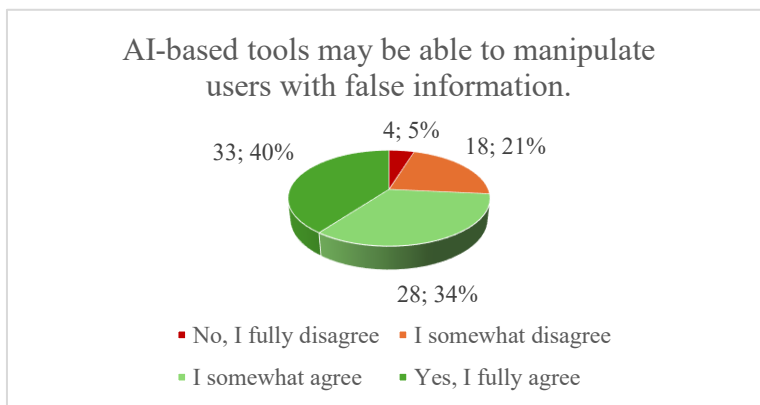


Figure 6

AI Manipulation with False Information

These findings highlight significant concern among students regarding the potential of AI systems to mislead or manipulate users. The high mean score and strong majority agreement suggest that misinformation harms are salient and widely recognized in the educational context.

2.2.7 AI Manipulation with False Information

For the item “I usually check the reliability of the information provided by AI-based tools,” the strongest agreement among all items was observed. A total of 78.3% of respondents agreed (44.6% somewhat, 33.7% fully), while only 21.7% disagreed (19.3% somewhat, 2.4% fully). The mean score was 3.10 (SD = 0.79) across 83 responses, representing the highest mean in the dataset. The distribution suggests that students tend to critically assess AI outputs rather than accept them uncritically.

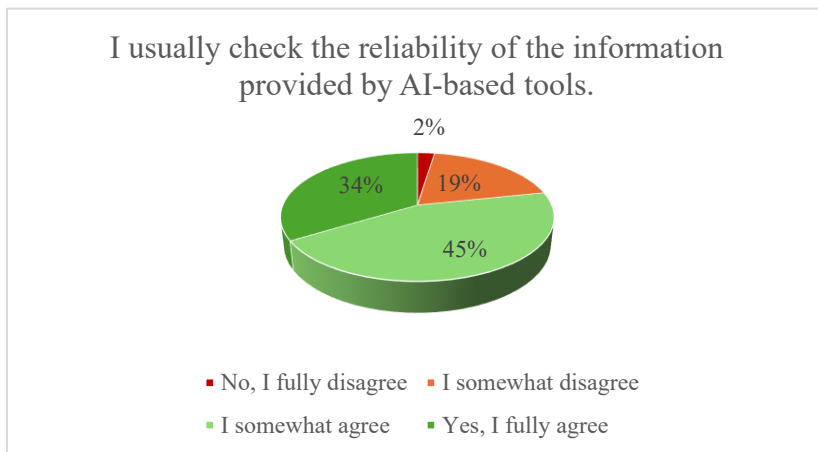


Figure 7

AI Manipulation with False Information

These findings suggest that students demonstrate a high level of critical engagement with AI-generated information. The strong majority agreement highlights that verification behavior is a salient and widespread practice, reflecting awareness of misinformation risks and the limitations of AI-systems.

3. Discussion

From a privacy risk perspective, the knowledge of the surveyed university students reveals shortcomings regarding the use of their data. This may render them vulnerable to privacy risks and the misuse of personal information. If students underestimate these risks, the consequences may include unwanted profiling, misuse of data, or data breaches and leaks. The survey results reinforce this concern: although a modest majority reported awareness of data collection, nearly 40% did not, and overall concern about personal data use or transfer was the lowest among all items at 47%. The combined results indicate that privacy risks are not salient for many respondents. The findings are consistent with international results. According to Wang et al., students' privacy concerns represent one of the most critical issues in the educational application of AI. [8] Some compensating controls would be to strengthen institutional policies, communication, and awareness of data protection in AI-supported education.

From a harm perspective in human–computer interaction, the results indicate that the widespread use of AI tools in academic work is undeniable. A clear majority of students (72%) reported prior use of AI-assisted assignments and essays. Yet respondents also acknowledged difficulties distinguishing authentic student

performance from AI-generated content, with 59.1% agreeing. The findings are consistent with Atchley et al.'s study, which concludes that the use of AI poses challenges for evaluating authentic student performance while also highlighting its dual nature: AI can enhance efficiency and support learning, yet it can also distort assessment practices. [9] Institutions, therefore, need to clearly define ethical standards and boundaries and provide pedagogical guidance to support the secure and ethical use of AI in teaching and learning. In addition, it is worth developing appropriate regulations and guidelines for the ethical use of mobile communication devices and social behaviors. [13] [14]

From the perspective of misinformation harms, students expressed strong concern that AI tools may manipulate users with false or biased information. Yet, they also reported high levels of critical engagement by checking the reliability of AI outputs. The results reveal a duality among the respondents. While nearly 70% agree that manipulation through misinformation poses a significant risk, more than three-quarters report regularly verifying the authenticity of information provided by AI systems. This is consistent with the study by Fulsher and colleagues, which highlights the dual nature of AI: although it carries substantial risks of misinformation and manipulation, it simultaneously supports the development of critical thinking and information literacy skills that help students guard against such risks.

Conclusions

The research findings in the area of privacy revealed that the surveyed university students possess only limited knowledge of data use practices in the context of AI; a significant proportion are unaware of data collection, and fewer than half expressed concern about the use or transmission of their personal data. This may make them vulnerable to unwanted profiling, data leaks, or misuse of information. From the perspective of human–computer interaction, a clear majority of respondents reported having used AI-assisted assignments. Now, a substantial share acknowledged difficulties in distinguishing authentic content from AI-generated material. Regarding misinformation, most respondents agreed that manipulation through misinformation represents a serious risk, while more than three-quarters indicated that they regularly verify the outputs provided by AI systems.

In the context of international research, the study's results suggest that the use of AI in educational settings is a dual phenomenon: on the one hand, it is an efficient and supportive tool for learning, while on the other hand, it raises concerns about privacy, authenticity, and misinformation. The exploratory design underscores the need for proactive strategies. However, the study also has important limitations: it was conducted within a single institution, and therefore the findings cannot be generalized to all educational contexts. Despite this limitation, the results provide

valuable insights that can inform institutional policies and practices and highlight areas where further, broader research would be beneficial.

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