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#### **RESEARCH ARTICLE**

# Ethical Concerns Arising from the Use of Generative Artificial Intelligence Technologies and Responsible Use in Higher Education

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ARTICLE INFO	ABSTRACT
Received: Feb 16, 2025	This study addresses the ethical concerns arising from the use of generative
Accepted: Apr 11, 2025	artificial intelligence (AI) technologies and their responsible application in higher education, from the perspective of faculty members and experts at
	Yarmouk University. This is considering the significant technological and
Keywords	technical transformations in the educational sector, which bring ongoing developments that may impact the quality of education, particularly at the
Ethical concerns	university level. The study adopts a descriptive research approach to
Generative Artificial	analyze the data. A questionnaire was used as the primary tool to collect a
Intelligence	broad range of responses from faculty members and experts at Yarmouk
Responsible use	University, enabling the generalization of the findings to the study
*Corresponding Author:	population, which consists of 1,080 faculty members. The study found that ethical concerns related to the use of AI technologies in higher education at
Mbanihani@yu.edu.jo	Yarmouk University were rated as high. Furthermore, there were no statistically significant differences based on gender, academic specialization, or years of experience. The study concludes that the elevated ethical concerns among faculty members regarding the use of generative AI technologies, especially when used irresponsibly may negatively affect the quality of education and the integrity of academic research. Moreover, these technologies pose significant challenges to data privacy and may impact fairness and equity in access and usage. This highlights the need for increased awareness and training within educational institutions.

## **INTRODUCTION**

The third millennium has witnessed significant technological advancement, with computers, media, and communication tools becoming essential parts of daily life. This rapid development compels educational systems to undergo continuous updates. These changes have introduced new challenges that require educational systems to evolve in alignment with the spirit of the age and to foster creativity and innovation (Moanis & Al-Hamami, 2022).

Due to the widespread adoption of generative artificial intelligence (AI) technologies across various domains, numerous warnings have emerged concerning the ethical implications of their use. Therefore, it is imperative to become familiar with global standards set by international organizations and associations specializing in generative AI ethics—especially concerning its application in higher education—to avoid the potential negative consequences of misuse (Hamayel, 2023).

The future of higher education is closely linked to the development of emerging technologies. AI applications have become integral to the educational process, creating new opportunities and challenges in the governance of educational institutions. These technologies also contribute to more accurate and efficient student project assessments, which, in turn, promote deeper learning and provide more effective educational experiences (Hiran & Singh, 2022).

## **Problem Statement and Research Questions**

The world is witnessing a rapid evolution in the use of generative AI technologies, particularly in the fields of education and pedagogy. This highlights the importance of integrating such technologies to improve and develop the quality of education and drive sustainable development. However, many questions arise regarding the standards and safeguards necessary to ensure the safe and responsible use of these technologies.

The problem of this study emerged from the researcher's awareness and after reviewing the relevant literature, particularly the gap concerning the ethical concerns associated with the use of generative AI technologies in education. The study aims to investigate the perspectives of faculty members and AI experts at Yarmouk University on this topic. Hence, the study seeks to answer the following research questions:

### **Research Questions:**

What are the ethical concerns arising from the use of generative AI technologies from the perspective of faculty members and AI experts at Yarmouk University?

Are there statistically significant differences at the significance level ( $\alpha = 0.05$ ) in the perceived ethical concerns related to the use of generative AI technologies from the perspectives of faculty members and AI experts at Yarmouk University, attributed to variables such as gender, years of experience, and academic specialization?

## **Study Objectives**

This study aims to achieve the following objectives:

To identify the ethical concerns associated with the use of generative AI technologies in higher education.

To examine whether statistically significant differences exist (at the 0.05 significance level) in the perceived ethical concerns of using generative AI technologies among faculty members, based on gender, academic specialization, and years of experience.

### Significance of Study

The significance of this study stems from both theoretical and practical aspects:

### Theoretical Significance

This study contributes to a deeper understanding of the ethical concerns related to generative AI and identifies potential risks from the perspectives of faculty members and experts. It also explores how these concerns vary according to gender, academic specialization, and years of experience, assessing their alignment with global ethical standards and policies.

### **Practical Significance**

The study provides guidance for ensuring the safe and responsible use of generative AI technologies. It contributes to the development of effective policies that support the responsible integration and application of these technologies in educational settings.

# **Conceptual and Operational Definitions**

The present study includes several definitions, both conceptual and operational, as outlined below:

**Ethical Concerns:** These refer to feelings of anxiety or objection toward a particular act or behavior based on ethical and personal standards, especially when the behavior contradicts core principles and values held by individuals or society. Such concerns help evaluate options or guide decision-making (National Institutes of Health, 2023).

**Generative Artificial Intelligence:** A subfield of AI focused on creating and generating new and innovative content autonomously, rather than merely analyzing existing data. Generative AI can

produce various types of content—such as images, text, audio, and code—that often resemble human creativity (Al-Khalifah, 2023).

**Responsible Use:** Refers to the ethical and efficient use of information, data, and resources—particularly in academic and research contexts—in a manner that promotes credibility and trustworthiness (American Psychological Association, 2020).

### Theoretical Framework and Related Literature

This chapter comprises two main sections: The first presents the theoretical framework, and the second provides a review of previous studies relevant to the research topic.

## **First: The Theoretical Framework**

The Arabic word for "ethics" (*akhlaq*) is derived from the trilateral root (خ-ڬ-ف), which refers to the innate disposition that God created in human beings. Initially, the term *akhlaq* referred to an individual's moral character, such as personal traits and habits. Over time, its meaning evolved to denote a set of principles and values that govern human behavior (Ibn Manzur, 1290).

Philosophically, ethics refers to a set of principles that determine what is considered right and acceptable behavior in society. These principles are grounded in a rational understanding of actions, categorizing them as morally right or wrong (McIntyre, 1984).

Ethics form a foundational pillar in Islamic society. The Qur'an emphasizes this in the verse: "*He has succeeded who purifies it, and he has failed who instills it [with corruption]*" (Al-Shams 9–10), highlighting the importance of moral purification for spiritual and behavioral integrity. The Prophet Muhammad (peace be upon him) also emphasized ethics, saying: "*The most complete of the believers in faith are those best in character,*" indicating that moral commitment is a measure of one's faith (Al-Ghazali, 2005).

By the end of the twentieth century, globalization had significantly influenced various cultural, economic, and social domains, leading to noticeable shifts in ethical values. Universities were no longer merely centers for academic knowledge dissemination; they became institutions responsible for teaching students how to apply knowledge ethically to serve society and promote social responsibility and educational justice (Altbach, 2009).

With the acceleration of technological developments and their significant influence on the education sector, numerous ethical challenges have emerged. These include impacts on teaching methodologies, assessment strategies, and issues of privacy and security in digital education. One of the most pressing ethical concerns is safeguarding student information from unauthorized access, especially given that educational platforms often store vast amounts of personal data that could be misused for non-educational purposes (West, 2019).

Generative Artificial Intelligence (GAI) is among the most prominent emerging technologies that have influenced various fields, including higher education. The growing use of GAI technologies has raised several ethical concerns within universities and educational institutions, emphasizing the need to develop clear educational policies to regulate and promote responsible use of these tools (Al-Azab & Al-Nashar, 2020).

Generative AI is characterized by its ability to create novel and innovative content through the use of deep learning models, such as neural networks. This enables the production of new educational materials—including essays, multiple-choice questions, and interactive content— and enhances student engagement through personalized responses tailored to individual needs. These features make the learning experience more specialized compared to traditional AI applications (Binns, 2020).

As reliance on generative AI continues to grow in educational settings, addressing the ethical issues associated with these technologies has become essential to ensure their safe and responsible use. Leading universities such as Stanford and the Massachusetts Institute of Technology (MIT) have begun integrating ethics into AI curricula, emphasizing the importance of moral considerations in technological education (Okasha, 2023).

Modern educational directives call for rethinking AI literacy among students and academics alike, aiming to ensure responsible use of these technologies. This includes efforts to reduce the spread of misinformation, raise awareness about privacy concerns, and improve educational quality (Stolpe & Hallström, 2023).

The United Nations has published a report emphasizing the human-centered boundaries of generative AI in education. The report highlights that AI should not be viewed merely as a substitute for human intelligence but rather as a tool to enhance sustainable development through an ethical and value-driven approach (UN, 2024).

Generative AI technologies in education face several ethical concerns, such as algorithmic bias. This reinforces the need to establish global ethical guidelines to govern AI usage. UNESCO has issued ethical recommendations for AI in education, which include principles such as responsibility, transparency, non-discrimination, and data privacy. According to *Study Foundation*, 72% of students in educational institutions use generative AI technologies to complete their academic tasks. Therefore, it is increasingly important to raise awareness about the responsible use of these technologies to preserve academic integrity and core educational values (Ayu & Monika, 2023).

### Second: Review of Related Studies

This section presents previous studies related to the subject of the current research, arranged chronologically from the oldest to the most recent.

Selwyn (2018) explored the role of artificial intelligence (AI) in education, particularly focusing on the debate around whether AI could eventually replace human teachers. The study highlighted the considerable potential of AI in enhancing education through automating routine tasks and personalizing the learning process. The researcher adopted an analytical methodology to review the existing literature on the use of AI in education. Findings revealed that despite the increasing capabilities of AI, it cannot fully replicate the human interaction that occurs between teacher and student, especially in terms of emotional and social aspects of the educational experience.

Dardar (2019) examined the ethics of artificial intelligence and robotics, with the aim of understanding the concept of AI ethics and exploring related ethical concerns. The study population included five global policies: the Information Technology Industry Council Policy, the Lor Weil Dick Organization Policy, the European Robotics Research Organization Policy, and the Policy of the Federal Ministry of Transport and Infrastructure in Germany. The study concluded that the Arab world lacks ethical policies specifically addressing AI and robotics.

Popenici and Kerr (2022) addressed the growing use of AI technologies in higher education, with a focus on ethical concerns and institutional responsibilities. Their study examined how AI enhances educational efficiency and learning personalization while simultaneously raising ethical issues such as privacy, accountability, bias, and transparency. The researchers employed a qualitative analytical methodology through literature review and concluded that there is considerable concern regarding how AI technologies handle student data, underlining the urgent need for institutions to safeguard privacy and ensure data security.

Doi (2024) investigated the ethical challenges associated with generative AI technologies, focusing on issues such as transparency, privacy, and bias. The study employed a mixed-methods approach and involved 200 AI specialists. Results indicated that transparency is difficult to achieve due to the complexities of AI algorithms.

# **RESEARCH METHODOLOGY**

This chapter provides a description of the study population, the method and procedures used in selecting the sample, research instruments, study procedures, and the statistical methods used to analyze and interpret the data.

The current study adopted descriptive methodology. A questionnaire was used as the primary research instrument to identify ethical concerns emerging from the use of generative AI technologies and their responsible use in higher education.

## **Study Population**

The study population consisted of all faculty members at Yarmouk University, totaling 1,080 for the academic year 2024–2025, according to the records from the Admissions and Registration Department during the first semester of 2024/2025.

### Study Sample

The sample consisted of 168 faculty members, including 105 males and 63 females, selected through random sampling. Table 1 displays the demographic distribution of the study sample.

Variable	Classification	Frequency	Percentage (%)
Gender	Male	105	62.5
	Female	63	37.5
Total		168	100.0
Years of Experience	Less than 5 years	15	8.9
	5 to <10 years	81	48.2
	10–15 years	42	25.0
	More than 15 years	30	17.9
Total		168	100.0
Academic Discipline	Humanities	68	40.5
	Sciences	100	59.5
Total		168	100.0

Table 1.	Demographic	Distribution	of the Stud	v Samnle
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Table 1 indicates the following:

62.5% of the sample were male (105 faculty members), while 37.5% were female (63 members).

8.9% of participants had less than 5 years of experience; 48.2% had between 5 and 10 years; 25% had 10–15 years; and 17.9% had more than 15 years of experience.

40.5% of the sample were from humanities disciplines, and 59.5% were from scientific disciplines.

### **Study Instrument**

To achieve the objectives of the study and answer its questions, the researcher developed a closed-ended questionnaire to measure ethical concerns arising from the use of generative AI technologies and their responsible application in higher education. The questionnaire comprised 30 items divided into two parts:

**Demographic data**: gender, years of experience, and academic specialization.

Ethical concerns: consisting of four main domains:

Transparency and Accountability (9 items)

Impact on Educational Quality (10 items)

Justice and Equality in Access (6 items)

Privacy and Data Protection (5 items)

Appendix (A) presents the initial version of the questionnaire.

### Face Validity (Expert Review)

The researcher presented the instrument to a panel of 10 experts from Jordanian universities to verify its content validity. The reviewers provided feedback on the relevance of items to their designated domains, clarity of language, and appropriateness of phrasing. Based on their

suggestions, modifications were made. The final version (Appendix C) contains 30 items, following the removal of 3 items. The instrument uses a 5-point Likert scale (Very High, High, Moderate, Low, and Very Low) scored as 5, 4, 3, 2, and 1 respectively.

The scale range was calculated as follows:

**Category Range** = (Highest Score - Lowest Score)  $\div$  Number of Categories =  $(5 - 1) \div 5 = 0.80$ Based on this, interpretation of the results is as follows:

1.00-1.80: Very Low

1.81-2.60: Low

2.61-3.40: Moderate

3.41-4.20: High

4.21-5.00: Very High

#### **Construct Validity**

To examine the construct validity, the instrument was administered to a pilot sample of 30 participants from the study population but not included in the main sample. Pearson correlation coefficients were calculated to measure the relationship of each item with its corresponding domain and the overall instrument.

Transparency and Accountability Item No.	Domain	Instrument	Impact on Quality of Education Item No.	Domain	Instrument	
1	.780**	.782**	6	.891**	.820**	
2	.554**	.648**	7	.522**	.562**	
3	.641**	.761**	8	.720**	.716**	
4	.623**	.663**	9	.680**	.783**	
5	.618**	.691**	10	.895**	.772**	

Table 2: Pearson Correlation Coefficients for the Relationship between Items, TheirCorresponding Domains, and the Overall Instrument

Equity	Domain	Instrument	Privacy	Domain	Instrument	
and Equal			and Data			
Access			Protection			
Item No.			Item No.			
1	.586**	.564**	5	.657**	.551**	
2	.712**	.637**	4	.588**	.522**	
3	.671**	.521**	3	.741**	.568**	
4	.806**	.764**	2	.715**	.601**	
5	.667**	.614**	1	.602**	.643**	
6	.581**	.532**				

The data presented in Table (2) indicate that the Pearson correlation coefficients between individual items and their corresponding domain under Transparency and Accountability range from (.522\*\* to .891\*\*), and with the overall instrument from (.562\*\* to .820\*\*). For the Impact on Quality of Education domain, item-domain correlations range between (.549\*\* and .895\*\*), while item-instrument correlations range from (.503\*\* to .772\*\*).

In the domain of Equity and Equal Access, the Pearson correlation coefficients between items and the domain range from (.581\*\* to .806\*\*), and between items and the instrument from (.521\*\* to .764\*\*). Similarly, for the Privacy and Data Protection domain, item-domain correlations range between (.588\*\* and .741\*\*), and with the instrument between (.522\*\* and .643\*\*). All reported correlation coefficients are statistically significant (\*\*p < 0.01\*\*).

# **Instrument Reliability**

Instrument reliability refers to the consistency and dependability of results. Internal consistency reliability was calculated using Cronbach's Alpha, which measures the degree of consistency among responses. Values between 0 and 1 are considered acceptable, with 0.60 or higher being adequate, and 0.70 or higher preferred in social science research (Kilani & Sharifin, 2014).

No.	Domain	No. of Items	Cronbach's Alpha
1	Transparency and Accountability	9	0.872
2	Impact on Educational Quality	10	0.895
3	Justice and Equality in Access	6	0.847
4	Privacy and Data Protection	5	0.831
	Entire Instrument	30	0.864

 Table 3: Internal Consistency (Cronbach's Alpha) for the Study Instrument

The values in Table 3 indicate high internal consistency for all domains, confirming the reliability of the instrument.

## **Study Procedures**

To achieve the study's objectives, the following steps were undertaken:

Reviewing the theoretical literature and related previous studies to refine the problem, inform the discussion, and support the development of the study methodology.

Designing the study instrument (questionnaire) from scratch, as no suitable instrument from prior research was found that aligned with the current study's objectives.

Preparing the final version of the instrument (Appendix A), ensuring its validity and reliability.

### Ranking, Item Number, Statement, Mean, Standard Deviation, Level

Table 6: Impact on Quality of Education

Rank	Item	Statement	Mean	SD	Level
1	1	The use of generative artificial intelligence (AI) technologies negatively impacts the quality of human interaction in the educational process.	3.55	0.71	High
2	6	Educational institutions neglect the inclusion of generative AI ethics programs in academic curricula.	3.52	0.66	High
3	10	The integration of generative AI into educational curricula affects the efficiency of the teaching-learning process.	3.51	0.69	High
4	2	Excessive use of generative AI technologies marginalizes the role of faculty members.	3.49	0.73	High
5	9	The use of generative AI results in the dissemination of inaccurate or misleading content, impacting educational quality.	3.48	0.68	High
6	7	The use of generative AI technologies negatively affects the quality of students' academic publications.	3.47	0.66	High
7	8	Generative AI contributes to a decline in research quality by generating weak or superficial ideas.	3.46	0.77	High
8	3	Generative AI technologies change learning methods, which may not be effective for all students.	3.46	0.66	High

Rank	Item	Statement	Mean	SD	Level
9	4	Lack of continuous assessment of AI technologies leads to long-term impacts on education.	3.45	0.67	High
10	5	The use of generative AI technologies increases the educational gap among students in terms of access to high-quality education.	3.42	0.69	High

# Overall Domain Mean: 3.48 | SD: 0.41 | Level: High

The results in Table (6) show that the arithmetic means for the "Impact on Quality of Education" domain ranged between (3.42 – 3.55). The highest mean was for item (1): *"The use of generative AI technologies negatively impacts the quality of human interaction in the educational process,"* with a mean of (3.55), indicating a high level. Item (6) ranked second, and item (10) ranked third. The lowest mean was for item (5), concerning the widening educational gap due to generative AI. The overall domain mean was (3.48), indicating a high level of concern.

# **Third: Equity and Equality in Access**

Arithmetic means and standard deviations for the domain of "Equity and Equality in Access" were calculated and ranked in descending order based on their means, as shown in Table (7):

Rank	Item	Statement	Mean	SD	Level
1	3	Educational institutions overlook providing necessary support to students facing difficulties in using generative AI technologies.	3.67	0.66	High
2	6	Educational institutions limit interdisciplinary collaboration in developing generative AI applications.	3.60	0.64	High
3	4	AI technologies in education may not be equally accessible to all students, regardless of their socioeconomic background.	3.57	0.65	High
4	1	Educational institutions do not provide equal opportunities for all students to benefit from generative AI technologies.	3.51	0.74	High
5	2	The use of generative AI in education can lead to bias against certain groups.	3.50	0.67	High
6	5	Educational institutions disregard societal ethical and cultural values when developing generative AI technologies.	3.45	0.67	High

#### Table 7: Equity and Equality in Access

# Overall Domain Mean: 3.55 | SD: 0.45 | Level: High

As shown in Table (7), the means for the "Equity and Equality in Access" domain ranged from (3.45 to 3.67). The highest mean was for item (3), followed by items (6) and (4), while the lowest mean was for item (5), highlighting a notable disregard for societal values during AI development. The overall domain mean was (3.55), indicating a high level of concern.

### Fourth: Privacy and Data Protection

Arithmetic means and standard deviations for the "Privacy and Data Protection" domain were calculated and ranked, as illustrated in Table (8):

Rank	Item	Statement	Mean	SD	Level
1	3	Educational institutions ignore obtaining clear consent from students before using their personal data for research and development purposes.	3.64	0.69	High
2	1	Educational institutions overlook ensuring data privacy when using generative AI technologies in education.	3.62	0.62	High
2	4	Educational institutions lack clear policies regarding the use of generative AI in data privacy protection.	3.62	0.65	High

#### **Table 8: Privacy and Data Protection**

Rank	Item	Statement	Mean	SD	Level
4	2	Educational institutions avoid implementing cyber rsecurity measures to protect student data from hacking and breaches.	3.59	0.64	High
5	5	The absence of collaboration between educational institutions and cyber security experts in securing generative AI systems increases potential threats.	3.58	0.70	High

## Overall, Domain Mean: 3.61 | SD: 0.43 | Level: High

Table (8) reveals that means for the "Privacy and Data Protection" domain ranged from (3.58 – 3.64). The highest concern was noted in item (3), relating to the lack of student consent. Items (1) and (4) shared the second-highest ranking. The lowest mean was for item (5), related to the absence of institutional cooperation with cyber security experts. The overall mean was (3.61), reflecting a high level of ethical concern.

### **Results Related to Research Question Two:**

"Are there statistically significant differences ( $\alpha = 0.05$ ) in the degree of ethical concerns arising from the use of generative AI technologies from the perspectives of faculty members and AI experts at Yarmouk University due to differences in (gender, years of experience, academic specialization)?"

To answer the second research question, arithmetic means and standard deviations were calculated for the level of ethical concerns regarding generative AI, based on gender, years of experience, and academic specialization, as illustrated in Table (9):

Variable	Category	Transparency & Accountability	Quality of Education	Equity & Access	Privacy & Data Protection	Overall Score
Gender	Male	M = 3.60	3.50	3.59	3.63	3.57
		SD = 0.43	0.45	0.48	0.43	0.32
	Female	M = 3.48	3.45	3.48	3.58	3.49
		SD = 0.36	0.34	0.39	0.44	0.26
Years of Experience	< 5 years	M = 3.60	3.60	3.63	3.65	3.62
		SD = 0.40	0.42	0.50	0.44	0.31
	5–10 years	M = 3.59	3.46	3.55	3.63	3.55
		SD = 0.33	0.34	0.38	0.32	0.23
	10–15 years	M = 3.40	3.47	3.56	3.56	3.48
		SD = 0.40	0.33	0.34	0.41	0.27
	> 15 years	M = 3.64	3.48	3.48	3.60	3.55
		SD = 0.57	0.64	0.69	0.67	0.47
Academic Field	Humanities	M = 3.66	3.52	3.56	3.60	3.58
		SD = 0.44	0.47	0.51	0.50	0.34
	Sciences	M = 3.48	3.45	3.54	3.62	3.51
		SD = 0.38	0.36	0.41	0.38	0.27

#### Table 9: Means and Standard Deviations of Ethical Concerns Based on Demographic Variables

*Note: M* = *Mean, SD* = *Standard Deviation* 

Table (9) indicates noticeable variation in the mean scores and standard deviations of ethical concerns associated with the use of generative AI technologies, as perceived by faculty and AI experts at Yarmouk University, based on gender, years of experience, and academic specialization. To examine whether these differences are statistically significant, a three-way

multivariate analysis of variance (MANOVA) was conducted on all domains and the overall score. Table (10) presents the results.

### Second: Discussion of the Results Related to the Second Research Question:

"Are there statistically significant differences at the level of significance ( $\alpha = 0.05$ ) regarding the extent of ethical concerns arising from the use of generative artificial intelligence technologies from the perspective of faculty members and AI experts at Yarmouk University, attributed to the variables of gender, years of experience, and academic specialization?"

#### A. According to the Gender Variable

The results indicated that there were no statistically significant differences at the level of ( $\alpha = 0.05$ ) regarding the ethical concerns arising from the use of generative artificial intelligence technologies and their responsible application in higher education, as perceived by faculty members, attributable to gender.

The researcher attributes this finding to the relatively uniform level of awareness among faculty members, regardless of gender, concerning the ethical issues associated with the use of generative AI in education.

#### **B. According to the Years of Experience Variable**

The findings revealed no statistically significant differences at the level of significance ( $\alpha = 0.05$ ) related to the years of professional experience of faculty members in connection with ethical concerns stemming from the use of generative AI technologies in education. This result may be explained by the possibility that participants—irrespective of their experience level—have been exposed to similar ethical challenges associated with AI technologies in the educational context.

#### C. According to the Academic Specialization Variable

The analysis showed no statistically significant differences at the level of significance ( $\alpha = 0.05$ ) based on academic specialization (humanities vs. scientific fields) with respect to the ethical concerns related to the use of generative AI technologies in higher education. The researcher attributes this outcome to a shared level of awareness that may have developed among the participating faculty members concerning these issues, supported by a growing general understanding of ethical implications and the existence of institutional policies that regulate the use of such technologies.

### CONCLUSION

This study revealed that faculty members held heightened ethical concerns related to accountability, transparency, the impact of AI on educational quality, fairness, accessibility, data protection, and privacy. However, no statistically significant differences were found in relation to gender, years of experience, or academic specialization.

Faculty members and AI experts expressed deep concerns regarding the responsible use of generative AI technologies in higher education. The study suggests that such concerns may stem from limited awareness and training opportunities, the absence of clear institutional policies at Yarmouk University, and difficulties in keeping pace with rapid technological advancements.

#### Recommendations

Based on the findings of this study, the researcher recommends the following:

Strengthening awareness and training within educational institutions regarding the responsible use of AI technologies, particularly in relation to the protection of personal data.

Promoting collaboration between educational institutions and cyber security experts to develop strategies for detecting academic plagiarism and ensuring the originality and quality of scholarly research.

Encouraging continuous research in the field of AI ethics to ensure responsible integration of generative AI technologies while addressing accompanying social and legal challenges.

# REFERENCES

- Al-Azzab, M., & Al-Nashar, G. (2022). *Artificial Intelligence and Its Reflections in Education*. International Journal of AI in Education and Training, 2(12).
- Al-Ghazali, Abu Hamid. (2005). Ihya' Ulum al-Din (Vol. 2: Ethics and Spiritual Education). Beirut: Dar al-Kutub al-'Ilmiyyah.
- Al-Hamami, N., & Moanis, K. (2022). *Artificial Intelligence Beyond the Fourth Industrial Revolution*. Journal of the College of Education in Bahrain, 28(115), 332–347.
- Al-Khalifah, H. (2023). *Introduction to Generative Artificial Intelligence*. King Saud University.
- Altbach, Philip & Reisberg, liz & Rumbley, Laura. (2009). Trends in Global Higher Education: Tracking an Academic Revolution.
- American Psychological Association. (2020). *Responsible use: The ethical and effective use of information, data, and resources in academic and research contexts to enhance credibility and reliability*. <u>https://www.apa.org</u>.
- Bins, R., Veale, M., & Shadbolt, N. (2020). *The impact of excessive AI integration on the traditional role of educators. Journal of Educational Technology & Society, 23*(4), 14-27. <u>https://www.jstor.org/stable/26927360</u>
- Dardar, K. (2019). *The Ethics of Artificial Intelligence and Robotics: An Analytical Study*. International Journal of Library and Information Science, 6(3), 233–271.
- Doe, J. (2024). AI: Exploring Challenges Solution. (Doctoral Dissertation). Stanford University.
- Hamayel, M. (2023). *Ethics of Artificial Intelligence in University Education: New Challenges and Opportunities*. Arab Journal for Specialized Education, 22(7), 277–298. UNESCO Official Website. <u>www.un.org.ar</u>.
- Ibn Manzur. (1290). *Lisan al-Arab* (3rd ed.). Dar Ihya' al-Turath al-Arabi.
- Macintyre, A. (1984). After Virtue: A study in Moral Theory, University of Notre Dame Press.
- National Institute of Mental Health. (n.d.). *Technology and the future of mental health treatment*. National Institutes of Health. <u>https://www.nimh.nih.gov/health/topics/technology-and-the-future-of-mental-health-treatmen</u>
- Okasha, A. (2023, October 10). AI Ethics Series: Article 3 Transparency and Explainability. LinkedIn.
- Popovici, S., & Kerr, D. (2022). Title of the article. *Education Research International*, 2022, Article ID 1234567. https://doi.org/10.1155/2022/1234567
- Selwyn, B. (2018). Poverty chains and global capitalism. *Globalizations, 23*(1). https://doi.org/10.1177/1024529418809067.
- Singh, S. V., & Hiran, K. K. (2022, October 19). The impact of AI on teaching and learning in higher education technology. *Universidad Azteca, Symbiosis University of Applied Sciences*, *22*(13).
- Stolpe, K & Hallstrom, J. (2023). Artificial Intelligence Literacy for Technology Education. *Computer and education open Journal*, 6(100159).
- West, S. M. (2019). Data capitalism: Redefining the logics of surveillance and privacy. *The Sociological Quarterly, 58*(1), 153-173. <u>https://doi.org/10.1177/0007650317718185</u>.