 Research Article

AI literacy in media education: A comparative study of mass communication students in the UAE and Pakistan

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ABSTRACT

This study analyzed artificial intelligence (AI) literacy among mass communication students in the United Arab Emirates (UAE) and Pakistan, to identified usage of AI applications in the media and communication fields, with highlighting regional differences and institutional challenges. And the research measured AI literacy levels and investigated how AI intersects with digital, information, and media literacy. The study discussed the applications of AI in different sectors, AI in education: challenges and ethical considerations, the need for AI literacy, bridging gaps and promoting inclusivity with AI literacy, and AI literacy in Asian and Arab countries. This is done by using the AI literacy scale. The study considered a quantitative research study based on a cross-sectional survey method that evaluates AI literacy levels among 536 students studying mass communication in UAE and Pakistan and examined some hypotheses. Findings highlighted regional differences, with UAE students demonstrating higher AI adoption due to better digital infrastructure and educational policies, while Pakistani students face barriers such as limited access to AI tools, inadequate training, and slower internet connectivity. Also, results indicated that both groups recognized AI's potential benefits, they differ in usage intensity, skill perception, and satisfaction. The study emphasized the need for AI literacy integration in media curricula, faculty training, and policy development to bridge these gaps. This research served as a basis for future studies exploring the impact of AI on the quality of media education, such as analyzing content produced by students using these tools.

Keywords: AI literacy scale, mass communication students, Asian and Arab countries, AI applications, quantitative research, media skills of students

INTRODUCTION

Artificial intelligence (AI) is rapidly transforming various sectors worldwide, including media, communication, and digital industries. However, many Asian and Arab countries continue to face literacy

challenges not only in digital, information, and media literacy but also in AI literacy. As AI becomes an integral part of the education system, students across different mass communication specializations must develop AI competencies to navigate its applications in content creation, media analytics, advertising, public relations, and journalism. Despite the growing awareness of AI's potential benefits, many students and practitioners in mass communication fields still struggle with AI knowledge and skills, making it a critical area of study.

Although AI is increasingly used in media, advertising, and communication technologies, structured AI literacy programs remain underdeveloped in many institutions across Asia and the Arab world (Ng et al., 2021; Su et al., 2023). Mass communication students require AI literacy to effectively evaluate AI-generated content, apply automation tools, and address ethical concerns such as algorithmic bias, misinformation, and copyright issues (Ballardini et al., 2019; Huang et al., 2023). However, barriers such as limited institutional resources, inadequate faculty training, and a lack of AI-integrated curricula hinder AI education in the region (Hazaimeh & Al-Ansi, 2024; Mutia et al., 2024).

This study aims to measure and assess the levels of AI literacy among mass communication across different media disciplines among students in the United Arab Emirates (UAE) and Pakistan, identifying usage habits and perceptions of the most widely used AI applications in the media and communication fields. Additionally, the study examines how AI literacy intersects with digital, information, and media literacy to provide a broader understanding of students' educational readiness. By highlighting regional differences and institutional challenges, this research seeks to contribute to curriculum development, faculty training, and policy recommendations that can enhance AI literacy education for mass communication students.

REVIEW OF LITERATURE

John McCarthy introduced the term AI in 1956, and he defined it as "the science and engineering of making intelligent machines." In the mid-20th century, many researchers looked for the possibility of creating an artificial brain that could independently solve problems. This is when the concept of AI first emerged (Rana et al., 2024). Generally, it is a subfield of computer science intended for the creation of an agent or machine capable of acting rationally in an environment through appropriate action. Singh and Mishra (2013) state that AI finds applications in many and a variety of fields like mechanical design, software development diagnostics, chemical component characterization, and medical diagnosis. A vast number of features and components make AI capable of operating in the most considerable environments.

These activities include data collection and analysis, learning of prediction rules, making decisions, and interacting with other environments or systems. Machine learning, deep learning, and the Internet of things are the major AI approaches (Shorman, 2019). AI is not restricted to just one algorithm; in reality, it uses a spectrum of algorithms, including neural networks and genetic algorithms, which find major usage in fields like healthcare, education, and industry. Additionally, AI includes hardware and software components that contain expert systems, which simulate human expertise in different domains (Castillo et al., 2012; Jarrah et al., 2019).

Applications for AI in Different Sectors

When the field of AI first emerged in the 20th century, it was limited to science fiction. However, in the 21st century, it has become commonplace and is being used in a variety of areas (Chong et al., 2022; Cubric, 2020). AI is increasingly being at the center stage in many fields, ranging from military, health, and education to enterprises. It plays a fundamental role in improving life, taking on tough and risky professions, and discharging formal and professional responsibilities (Jarrah et al., 2020). AI is also frequently used for research and in academic situations whereby it increases productivity and provides useful data in different subjects. Not only this, but AI is estimated to have a strong potential for economic growth. It is estimated to increase the world economy by $13 trillion in 2030, suggesting that its output to the global economy could be greater than the current output of India and China together (Cubric, 2020).

The University of Southern California, for instance, has begun to undertake the application of AI technology to enhance instruction. In this project, designing a personal assistant for life-long learning, AI is involved in the measurement and alteration of teaching tactics that take place in classroom contexts (Swartout, 2016). AI will play a crucial role in developing smart campuses where enabling technologies such as energy

management systems and smart grids assure the reliability and efficacy of power and communication networks (Gungor et al., 2011).

AI in Education: Challenges and Ethical Considerations

AI offers significant potential for education. However, there are great challenges to fully harnessing its power (Irfan & Murray, 202; Trust et al., 2023; UNESCO, 2018). For example, when AI develops new content based on copyrighted material, copyright concerns may occur (Ballardini et al., 2019). In addition, some students also exploit ChatGPT and other AI technologies when they submit AI-generated assignments and papers on their own, which harms the educational process (Akgun & Greenhow, 2022; Chan & Hu, 2023).

AI algorithms that have been trained on biased data may disseminate false information or reinforce prejudices (Fang et al., 2024). As a result, students' critical thinking and problem-solving abilities, which are vital for academic advancement, may be damaged by an over-reliance on AI tools (Trust et al., 2023). Moreover, the gap between learners who have access to these technologies and those who do not have access, can expand as a result of unequal access to AI tools (Jang, 2024). While there is a greater ratio of students in higher education in developing countries (Kshetri, 2020), AI is used more in the education sector of developed countries (Khosravi et al., 2022).

The Need for AI Literacy

AI literacy is crucial for students who use ChatGPT or other AI-driven learning technologies (Huang et al., 2023). AI literacy also includes understanding, utilizing, analyzing, and engaging with AI technologies in an ethical manner (Southworth et al., 2023). When students are aware of how AI tools work, it helps them discriminate between misleading information and true information and they can critically examine AI outputs. By raising awareness of ethical issues, including academic dishonesty, copyright infringement, and data privacy, AI literacy can aid in the responsible use of AI (Ng et al., 2021; Schiavo et al., 2024). Not only does this inspire students to follow norms that protect academic integrity, but it also reduces the improper use of content produced by AI and promotes real learning. Additionally, AI literacy can make students more confident in utilizing AI tools, which will ensure that these tools enhance cognitive skills rather than replace critical thinking (Jang, 2024).

Bridging Gaps and Promoting Inclusivity With AI Literacy

AI literacy can play a vital role in bridging gaps and promoting inclusivity. This can happen by encouraging a more open-minded attitude to AI technology and driving academic research and experimentation with AI tools like ChatGPT, Higher AI literacy levels in students lead to more responsible use of these tools, which promotes learning without affecting the development of critical skills (Schiavo et al., 2024; Wang et al., 2023). AI literacy can help in reducing educational inequalities if all students are given the tools and capability to effectively use AI technologies. By minimizing the discrepancy between individuals who have easy access to AI technologies and those who do not, AI tools can establish a more inviting and equal learning environment.

AI Literacy in Asian Countries

In Asia, AI literacy has gained some attention, especially considering the swift progress being made in technology throughout the region. Some studies looked at the integration of AI education in Asian nations, and they have shown both the difficulties and the success that has been made. For instance, Su et al. (2022) conducted a meta-review of AI education initiatives utilized in the Asia-Pacific area and they revealed three essential competencies that are critical to AI literacy. These three competencies are: AI knowledge, skills, and values. In order to prepare kids for the technological landscapes of the future, this evaluation underlined the need of integrating AI education at an early age. The study showed that many Asian countries are making substantial progress in implementing AI into school curricula, but there are hurdles such as resource allocation and teacher training. They also showed that these exist across more and less developed nations (Su et al., 2022).

In Malaysia and Indonesia, too, AI literacy has been given some importance. According to Mutia et al. (2024), who researched the opinions of librarians in these two nations, AI is vital to improving the experiences of users in academic libraries. The study also discovered that, despite the fact that both nations are making

investments in digital literacy, more organized AI training programs are required to reduce the knowledge gap among academic professionals (Mutia et al., 2024).

A global workshop involving students from Europe and Asia found that cross-cultural educational platforms are beneficial for AI literacy. Korte et al. (2024) reported that AI workshops, which were conducted across 13 countries and included Asian participants, helped students develop AI literacy, particularly in recognizing AI's role in media and everyday life. This study suggests that AI literacy can benefit from diverse cultural perspectives and shared educational resources (Korte et al., 2024).

Rana et al. (2020) conducted a study in Bangladesh to analyze AI adoption in academia. They find that due to the lower cost of higher education in the country, the ratio of students in tertiary education is higher than in developed countries. They also point out that AI is being used in the country for academic purposes, such as writing and making slides. However, the universities have not yet integrated AI systems into their curricula. They suggest that the reasons behind this could be insufficient infrastructure for the adoption of AI technologies, lack of government support, shortage of finances, as well as lack of experts in the field.

However, there are still issues that need to be addressed. AI literacy in impoverished nations, notably those in ASEAN, is still limited by knowledge gaps and restricted access to AI technologies. This is why more financing for AI education and policy support are required to overcome those hurdles and develop AI competency in the region (Paladhi & Maruthaveeran, 2024).

AI Literacy in Arab Countries

There are large inequalities in access to technology and education in Arab countries. AI literacy is also in its infancy in Arab nations. Studies on AI education in the Arab world suggest that certain countries–like the UAE–are making significant progress in AI adoption, but others are facing resource and infrastructure problems. Allam et al. (2024) conducted a study that looked at Arab medical students' attitudes, knowledge, and impressions of AI in medicine. The study showed that students were aware of AI's potential in the medical sector, but they usually lacked the required competencies to put AI to good use. This underscores how crucial it is to enhance the degree of AI literacy in medical school throughout the Arab world, and it can be done by revising curricula and offering concentrated training

The use of AI in higher education among faculty members and students in numerous Arab nations. According to their research, even though AI is being incorporated more into educational settings, there are currently insufficient comprehensive AI literacy programs, particularly those that promote critical thinking and deal with ethical issues surrounding AI technologies (Hazaimeh & Al-Ansi, 2024).

Alkhaldi and Altaei (2021) looked at the UAE's adoption of AI as a leader. They point out that other Gulf countries can learn from the national AI strategy of UAE. The report underlined how crucial it is to develop AI literacy, especially among millennials, in order to keep the UAE at the forefront of technology. On the other hand, other Gulf countries are significantly behind in implementing AI technologies into their curricula, which could impair their long-term growth.

Mekawy et al. (2020) evaluated the use of AI to nursing education and healthcare, with a specific emphasis on Arab nursing students' digital health literacy. Their research indicated that although interest in AI in healthcare is expanding, many students–particularly those in underdeveloped Arab nations–have problems with basic digital literacy. This disparity underscores how urgently medical and nursing institutions around the region need to integrate essential AI literacy courses.

The first smart university in the area, Hamdan Bin Mohammed Smart University (HBMSU) in Dubai, is constructing a sustainable, technologically advanced campus by utilizing cutting-edge AI technologies. It is also collaborating with major companies on a sustainable, technology-driven campus (AlAjmi, 2021). Since it was founded in 2008, HBMSU has provided a learning environment aided by technology to its students. These technologies include AI-powered campus navigation and intelligent lighting and climate control technologies. For both local and remote students, the college offers adaptive, easily accessible programs that are strengthened by a cloud campus incorporating virtual classes and a variety of online resources. Through its specialized schools and diversified staff, it encourages leadership and innovation in line with his highness Sheikh Hamdan Bin Mohammed's vision (AlAjmi, 2021).

There is hope for the future of AI literacy in Arab nations despite these limitations. According to Rabie (2023), AI has the potential to change education in the Arab world, especially when it comes to curriculum integration. To ensure that Arab nations maintain their competitiveness in the global AI arena, however, attaining this will entail a major investment in teacher preparation, digital infrastructure, and student involvement.

THEORETICAL FRAMEWORK

Depending on the main idea of the study, which is defined as AI literacy issues next to digital, information, and media literacy: the study has relied on the AI literacy scale as a framework. The following studies illustrate using the AI literacy scale in the research.

AI literacy has emerged as a crucial area of research and education to equip students with the knowledge and abilities necessary to understand, evaluate, and use AI technology responsibly (Cuomo et al., 2022; Ng et al., 2023; Stolpe & Hallström, 2024). The field has grown significantly, with the United States (USA), China, Spain, and Germany leading the way in research contributions (Tenório et al., 2023). Technical proficiency, socio-ethical understanding, and scientific knowledge are highly valued in frameworks for AI literacy (Stolpe & Hallström, 2024). With curricula that focus on more difficult subjects for older students and basic AI principles for younger students, collaborative project-based learning is the most often used educational approach in secondary school (Ng et al., 2023). The integration of AI literacy into technology literacy is proposed as a multiliteracy framework.

Several studies indicated significant disparities based on nationality, scientific expertise, and academic degrees, while age and gender did not significantly alter AI literacy levels. Malaysians scored far higher on the AI literacy measure than individuals from other countries. The results demonstrated that several demographic and academic traits impacted respondents' perceptions about AI and inclination to use it. Age and gender had less impact than nationality and academic degree, which were shown to be the most significant determinants. Scientific specialization came in second (Mansour et al., 2024).

However, Zhang et al. (2024) documented the creation and validation results of the AI literacy concept inventory assessment (AI-CI), a series of multiple-choice questions intended to gauge middle school pupils' comprehension of AI literacy concepts. The 20 multiple-choice questions in the AI-CI test assess students' knowledge of four subjects: supervised learning, general concepts in machine learning, logic systems, and AI. The results demonstrate that the AI-CI is a valid and trustworthy instrument for evaluating middle school students' AI literacy.

However, the study of Du et al. (2024) is one of the first attempts to empirically examine the power of AI literacy and explore the determinants of behavioral intentions to learn AI among K-12 teachers, they referred to AI literacy's impact on perceptions of the use of AI for social good, self-efficacy in learning AI, and awareness of AI ethics, and has an indirect impact on behavioral intentions to learn AI. Results can theoretically and practically advance the emerging subject of AI learning for K-12 instructors. In addition, Knoth et al. (2024) stressed the necessity of conceptualizing and evaluating AI literacy using methodologies that sufficiently capture domain-specificity and ethical dimensions of AI and showed that to enable a hybrid intelligent paradigm that aligns human-AI interactions, it is essential to establish AI literacy in various fields. Some researchers noted that by suggesting and implementing educational programs for AI literacy for and in college and university liberal arts classes for non-majors, the impact of the program on the learners' perception of AI ethics has been analyzed (Lee, 2021).

According to Hornberger et al. (2023), there is a notable difference in students' AI literacy, with the majority demonstrating a basic comprehension of the technology. Students who have a technical studies background or prior expertise with AI are more likely to be AI literate. The findings suggest that more students who use AI in their daily lives and will utilize AI tools in their future employment require access to good AI courses. They showed that creating AI courses, educators should also consider the diversity of students' past knowledge. The results of this systematic review are pertinent to formal education and workforce preparation and advancement, enabling people to leverage AI and drive innovation. Also, Almatrafi et al. (2023) used this framework to classify a variety of empirical studies, determine the prevalence of each construct across the studies, and review and discuss assessment instruments created for AI literacy.

Table 1. A framework of four levels of technological literacy for technical communicators (Rush Hovde & Renguette, 2017)

Level	Description	Strength	Limitations
Functional	Using technology efficiently and effectively to complete technical communication work	• Helps with understanding the other three levels • Leads to effective workplace practice	• May give the impression that tools are neutral • Functions change with new versions of software and between applications with similar functions. • Not every function is necessary for every project, so it can be challenging to determine which functions or features to teach.
Conceptual	Understanding concepts that underlie the technology	• Leads to faster learning of similar applications • Gives users power • Transfers from one application to another similar one • Adds to understanding how technology shapes technical communication products	• May be complex and difficult to learn • May take a long time to learn thoroughly • Possible to understand the concepts without knowing how to use the functions of the software and vice versa
Evaluative	Choosing tools to fit the requirements of situations or contexts	• Crucial for workplace practice • Students and practitioners can explain reasons for choices	• Is not addressed a great deal in existing literature • Requires some knowledge of many software applications and concepts
Critical	Understanding how technology shapes communication practices as well as how communication practices affect technology.	• Focuses on using technology ethically and responsibly	• May not integrate well with the other three levels

According to Tzirides et al. (2024), it is imperative to improve AI literacy at all educational levels. Cross-cultural online workshops have greatly increased students' comprehension and knowledge of AI (Korte et al., 2024). By combining human expertise with AI tools such as picture generators and GenAI reviewers, higher education has effectively increased students' AI literacy and critical evaluation skills It has been demonstrated that teaching AI literacy with AI tools enhances non-major university students' views of AI ethics (Nong et al., 2024; Wen et al., 2024), these studies suggested that at all educational levels, students' understanding of AI technologies and their ethical implications can only be fostered through thoughtfully planned, hands-on AI experiences. They also draw attention to how important AI literacy is becoming in the classroom. In addition, the results showed that the training promotes both understanding of AI and AI literacy. It also increases the intention to use intelligent voice assistants (IVAs), promotes a positive attitude, and enhances the willingness for self-determined interaction. Finally, Markus et al. (2024) pointed to the IVAs such as Alexa or Siri which are voice-based AI systems that help users with various everyday tasks using simple voice commands. They indicated a more realistic assessment of the IVAs' capabilities and reduced anthropomorphic perceptions. Also, the study emphasized the relevance of specific AI skills and showed how targeted training can contribute to improving the skills for using AI application easily.

A number of academics explain technology literacy that there are many levels (Breuch, 2002; Cook, 2002; Northcut & Brumberger, 2010; Selber, 2004; Turnley, 2007). Rush Hovde and Renguette (2017) provide a summary of such levels in **Table 1**. This framework can help determine what should be taught in the classroom so that kids can grow in all four areas of ability.

Research Hypotheses

H1: There are significant differences in the intensity of AI application use among media students in the UAE and Pakistan.

H2: There are significant differences in the levels of AI literacy between media students in the UAE and Pakistan.

H3: There are significant differences in the most popular AI tools between media students in Pakistan and the UAE.

H4: There are significant differences in the perceived skills towards using AI applications in media activities between Emirati and Pakistani media students.

H5: Media students in the UAE and Pakistan have significantly different usage rates of AI applications in the media activities required by their studies.

H6: There are significant differences in the attitudes toward AI between media students in the UEA and Pakistan.

H7: There are significant differences in satisfaction with AI between media students in the UAE and Pakistan.

H8: There are significant differences in intention to use AI applications between media students in the UAE and Pakistan who do not use these applications in their academic studies.

RESEARCH METHODOLOGY

The current study is considered a quantitative research study based on a cross-sectional survey method that evaluates AI literacy levels among students studying mass communication in UAE and Pakistan. The research investigates student utilization of AI technologies for academic work while evaluating their expertise across AI literacy domains and investigating student beliefs regarding AI in media education instruction. The researchers utilized a cross-sectional method because this allowed them to obtain uniform information from numerous diverse students at one specific time. Since AI literacy development remains fast-paced the analysis of information collected from the two countries provides more comprehensive knowledge about regional variations and institutional roadblocks and current AI integration in media education.

The selection of these two countries for the current study relies on their specific methods of integrating AI within media studies. The UAE leads its region in AI-driven educational efforts because governmental support backs AI instructional implementation in university teaching programs. Academic and professional advancement becomes possible because of AI yet doubts about artificial content authenticity and the automation of fundamental media skills remain (Hassouni & Mellor, 2025). On the other hand, the implementation of AI in higher education remains in its early development phase within Pakistan since the institutions lack proper resources and their teachers require enhanced training and there are few AI-oriented teaching courses available. Therefore, AI education in Pakistan shows increasing potential according to scholars Khurshid et al. (2024) so the country becomes vital to research.

Each participant received complete disclosure about their rights as survey volunteers regarding their freedom to participate voluntarily along with guarantees of data confidentiality and anonymity. Moreover, undergraduate students gave their informed consent before the survey by showing their agreement with the study objectives and their commitment to take part. The study protected privacy and ethical standards by excluding all personal details from data collection. The research examined students from journalism, public relations, and mass communication undergraduate programs throughout some universities based in the UAE and Pakistan. A total of 536 students participated in the study through a distribution design that showed 297 students in UAE and 239 in Pakistan.

The study focused on undergraduate students enrolled in journalism, public relations, new media, and mass communication programs at universities in the UAE and Pakistan (**Table 2**).

An available sample was used from various academic years (first to fourth year) and different types of institutions (government, semi-government, and private universities). This approach provided a balanced view of AI literacy levels across different educational settings.

A structured questionnaire was designed to assess students' AI literacy levels, usage habits, perceptions of AI tools, and satisfaction with AI applications. The survey was built upon a well-established AI literacy framework, covering its four key dimensions: functional, conceptual, evaluative, and critical literacy.

The questionnaire pursued an investigation into AI usage frequency and tool preferences with an examination of self-perceived AI skills and media-related attitudes and an assessment of future intentions concerning AI applications. The research included a combination of Likert-scale questions, multiple-choice

Table 2. Study sample characteristics

Variable		Frequency (N)	Percentage (%)	Total
Country	UAE	297	55.4	536
	Pakistan	239	44.6	
University	Government	221	41.23	536
	Semi-government	146	27.24	
	Private	169	31.53	
Age	Up to 20 years	199	37.1	536
	21 to 25 years	229	42.7	
	26 to 30 years	62	11.6	
	31 to 35 years	20	3.7	
	Above 35 years	26	4.9	
Gender	Male	269	50.2	536
	Female	267	49.8	
Academic department	Journalism	108	20.1	536
	Public relations	239	44.6	
	New media	25	4.7	
	Radio and television	21	3.9	
	Integrated marketing communication	19	3.5	
	General (mass communication)	124	23.1	
Academic year	First year	129	24.1	536
	Second year	153	28.5	
	Third year	134	25.0	
	Fourth year	120	22.4	
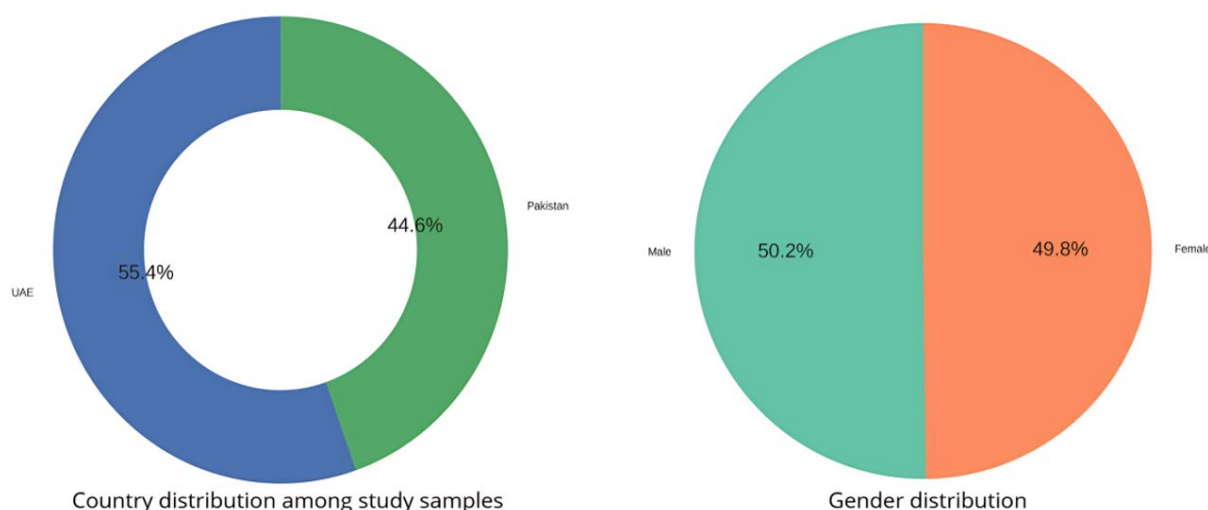
Figure 1. Country and gender distribution among study samples (Source: Current study)

options together with open-ended items which enabled both quantitative assessment and qualitative understanding. The online survey distribution through Google Forms aimed to enhance accessibility when collecting participant responses. The research data collection process took place from September 10 until October 30 of 2024. Various steps were implemented to strengthen survey reliability and validity by distributing the questionnaire to university mailing lists and student organizations as well as social media groups. The data integrity measures included both duplicate response removal and detection of incomplete submission cases. Response timestamps provided a method for the researchers to identify and eliminate surveys finished in a hurry or at random. Students who did not finish the survey received reminder communications prompting them to complete their responses to enhance the data collection efficiency. **Figure 1** shows the country and the gender distribution among study samples.

Figure 2 shows the university type and academic department distribution. **Figure 3** depicts the age and academic year distribution among study samples.
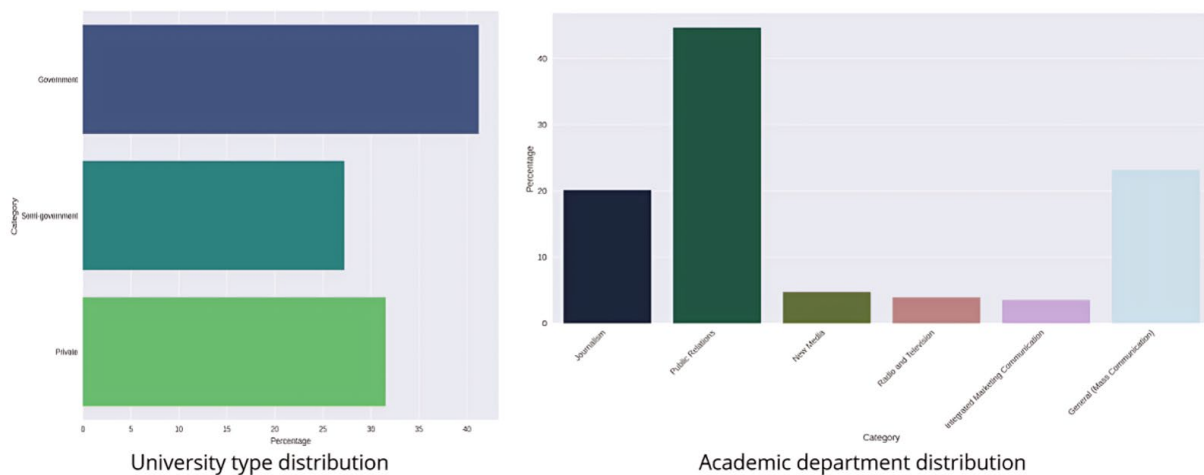
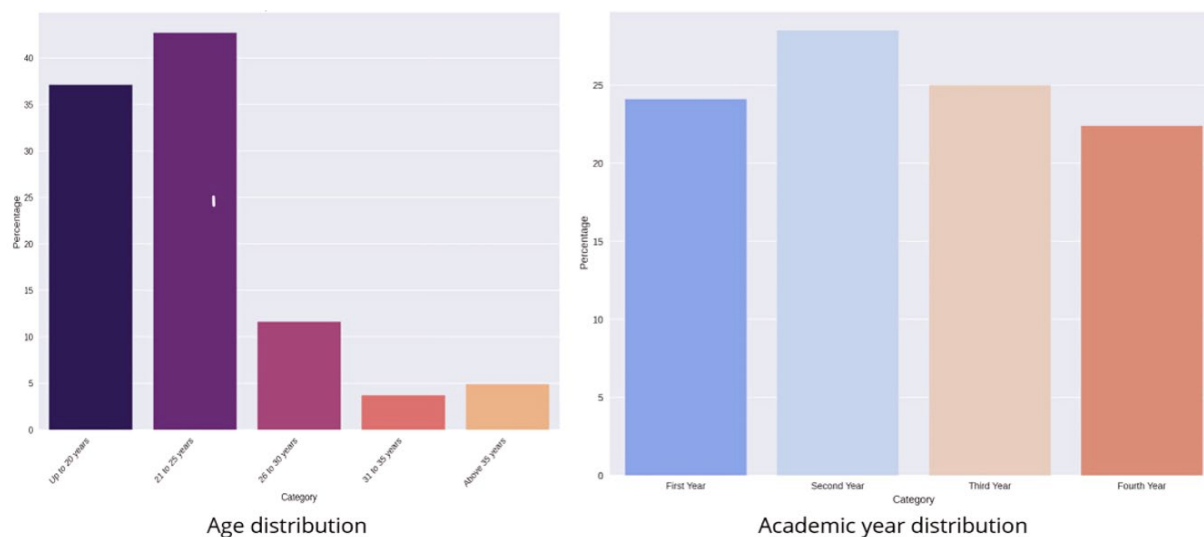**Figure 2.** University type and academic department distribution among study samples (Source: Current study)

Figure 3. Age and academic year distribution among study samples (Source: Current study)

Statistical Measures

The researchers used SPSS (version 23) for statistical analysis after data collection which incorporated descriptive along with inferential statistical procedures. The survey instrument showed strong reliability according to Cronbach's alpha results which ranged from 0.804 to 0.952. The survey scales' stability was measured through the Spearman-Brown coefficient and the Guttman split-half coefficient as supplementary reliability tests for the final instrument. The research used independent t-tests for hypothesis testing to analyze AI literacy levels together with student-perceived skills and satisfaction rates between the UAE and Pakistan. The analysis included Chi-square tests to identify any differences between students' choices of AI tools and their AI usage frequency. The research employed descriptive statistics to analyze AI literacy metrics using means scores and standard deviations along with percentage distribution statistics.

To assess the reliability and validity of the current study measures, the researchers relied on three statistical coefficients: Cronbach's alpha, Spearman-Brown coefficient, and Guttman split-half coefficient. The following coefficients were used to assess the internal consistency and stability of the scales provided in the current study.

Table 3 indicates that the scales demonstrate high reliability. Cronbach's alpha values ranged from 0.804 to 0.952, with the overall reliability for all scales combined reaching 0.973. Similarly, the Spearman-Brown coefficient values ranged from 0.799 to 0.928 with an overall value of 0.821 for the total scales. On the other

Table 3. Validity of research variables

Scale	Number of items	Cronbach's alpha	Spearman-Brown	Guttman split-half
Functional dimension	4	0.804	0.799	0.790
Conceptual dimension	4	0.863	0.846	0.846
Evaluation dimension	4	0.885	0.870	0.868
Critical thinking dimension	4	0.854	0.829	0.828
AI tools usage skills	11	0.951	0.928	0.922
AI application intensity in media activities	12	0.952	0.915	0.913
Attitude towards AI	6	0.913	0.895	0.895
Overall study scales	45	0.973	0.821	0.797

Table 4. Motivations for not using AI applications among media students in the UAE and Pakistan

The reasons	Number of media students in UAE	%	Number of media students in Pakistan	%
I find it difficult to use these applications.	3	15.8	6	14.3
I have not received sufficient training to know how to use them	3	15.8	13	31.0
I do not trust the information I will get from AI.	5	26.3	8	19.0
I feel that the information I will get will be biased	4	21.1	4	9.5
The high cost of subscribing to the AI applications I need	3	15.8	5	11.9
I have concerns about the security of personal information	2	10.5	6	14.3
Total	20		42	

hand, the Gutmann split-half coefficient values ranged from 0.790 to 0.922 with an overall value of 0.797 for the total scales.

The presented high value across all the three coefficients demonstrates that the scales utilized in the current study are considered consistent, stable, and reliable, confirming the internal consistency and validity of the measures in the current study.

STUDY RESULTS

Of 536 respondents, 61 said they do not use AI applications, accounting for about 11.4% of the sample size. 42 students, or 68.9% of the total, were from Pakistan, while 19 students, or 31.1%, were from the UAE (**Table 4**). The most common reason given by students in Pakistan was a lack of training on how to use these applications (31%), followed by a lack of confidence in the information they would receive. In contrast, media students in UAE felt a lack of confidence in the information they would receive followed by the belief that the information they would receive through these applications would be biased. The belief that it would be difficult to use was also an important reason for not using these applications for both media students in UAE and Pakistan.

The explanations for students' non-use of AI applications are attributed to structural, perceptual, and practical explanations (**Figure 4**). One explanation was a lack of experience in using the AI applications. Overall lack of experience is a proxy for a lack of systematic instruction, meaning that students were not confident in how to use AI for their work or in their lives. The research suggests that non-use may have been due to lack of confidence and lack of pedagogical practice. Another of the more significant explanations for non-use was distrust in the reliability of information produced from the application. This is valid when students must think about how reliable or accurate that information is. Also, there was a concern that the information produced could also be biased, leading to a credibility issue with the output. Other practical barriers to use exist as well. Some students commented on the user experience of the application and felt it was not intuitive and difficult to use, and other students simply could not afford the price of the contract, especially when the subscription price meant they would not benefit from using the advanced features of the application. Lastly, some students remarked that their security concerns about their private information were also a reason not to adopt the application, extending to broader overarching concerns regarding data privacy and transparency. These few points indicate that students' experiences of AI are not necessarily some outright objections but rather a multitude of uncertainties, lack of training, questions about reliability of the application, or uncertainties regarding access, price and safety.
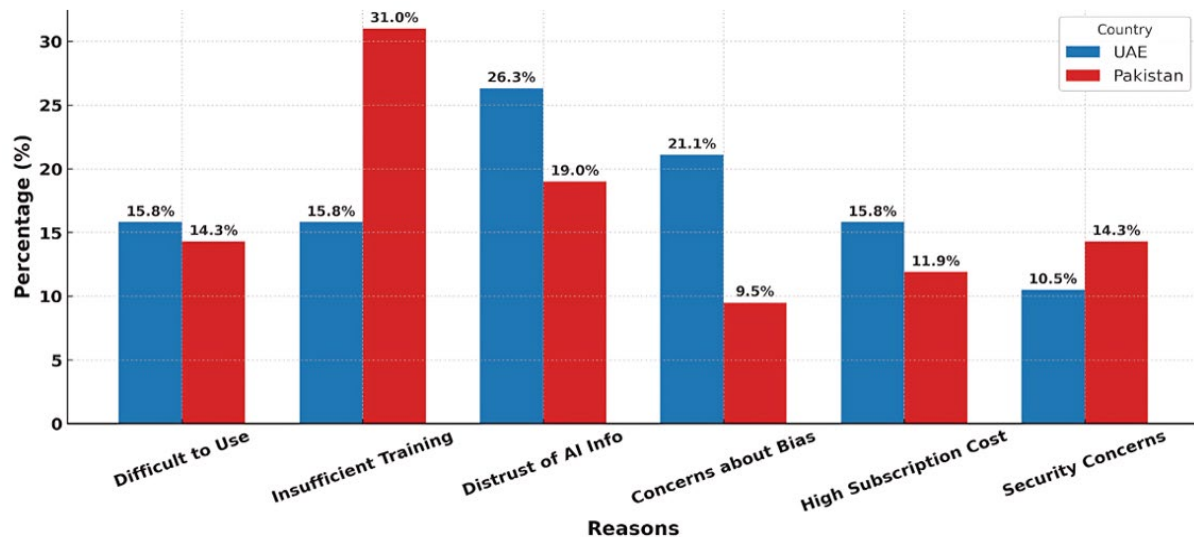
Figure 4. Comparison of reasons for not using AI applications (Source: Current study)

Table 5. The differences in the intensity of use of AI applications among media students in the UAE and Pakistan

The variable	Country	N	Mean	Standard deviation	t-value	df	Significance	Remark
Intensity of use	UAE	297	3.024	1.0040	3.313	534	.001	Approved
	Pakistan	239	2.757	0.5340				

Table 6. The differences in levels of AI literacy between media students in the UAE and Pakistan

AI levels	Country	N	Mean	Standard deviation	t-value	df	Significance	Remark
Functional	UAE	278	2.766	.4407	.237	473	.813	Rejected
	Pakistan	197	2.756	.4535				
Conceptual	UAE	278	2.838	.3881	.961	473	.337	Rejected
	Pakistan	197	2.802	.4243				
Evaluative	UAE	278	2.820	.4119	.975	473	.330	Rejected
	Pakistan	197	2.782	.4381				
Critical	UAE	278	2.838	.3881	1.334	473	.183	Rejected
	Pakistan	197	2.787	.4463				

H1. There are significant differences in the intensity of AI application use among media students in the UAE and Pakistan.

According to the results in **Table 5**, there is a significant difference (p = 0.001) in the rate to which media students in the UAE and Pakistan use AI applications. The fact that media students' mean score in the UAE was higher (3.024) than Pakistani media students' (2.757) indicates that media students in the UAE use AI applications more frequently in their academic media work. This discrepancy might result from the UAE having one of the highest rates of internet adoption and faster, more dependable digital services, which increase the accessibility of AI tools. Furthermore, while AI awareness is rising in Pakistan, there may be fewer possibilities for practical training. In contrast, media students in the UAE would receive more structured instruction on AI tools, which would boost their confidence and frequency of use.

H2. There are significant differences in the levels of AI literacy between media students in the UAE and Pakistan.

Although media students in the UAE have slightly higher mean values across all levels (functional, conceptual, evaluative, and critical), the t-values indicate that there were no significant differences between media students in the UAE and Pakistan in their using AI efficiently and effectively to complete technical communication work (**Table 6**). Both countries knew about the potential of AI, how it works, and how it is used in the media. They were similarly able to evaluate their media requirements and select AI applications appropriately. They also had similar insights into how AI tools change media communication practices and how media professionals' needs, habits, and feedback shape AI development.

Table 7. The differences in the most popular AI tools between media students in Pakistan and the UAE

AI tools		Country		Total	Chi-square coefficient	df	Significance
		UAE	Pakistan				
Chat GPT	Frequency (N)	259	192	451	4.436	1	.035
	Percentage (%)	93.2	97.5	94.9			
Google Gemini	Frequency (N)	76	85	161	12.861	1	.001
	Percentage (%)	27.3	43.1	33.9			
Copilot	Frequency (N)	31	29	60	1.331	1	.249
	Percentage (%)	11.2	14.7	12.6			
Canva	Frequency (N)	33	17	50	1.286	1	.257
	Percentage (%)	11.9	8.6	10.5			
Designer	Frequency (N)	11	2	13	3.748	1	.050
	Percentage (%)	4.0	1.0	2.7			
Mootion	Frequency (N)	32	26	58	.306	1	.580
	Percentage (%)	11.5	13.2	12.2			
Gamma	Frequency (N)	23	51	74	27.201	1	.001
	Percentage (%)	8.3	25.9	15.6			
QuillBot	Frequency (N)	142	95	237	.376	1	.540
	Percentage (%)	51.1	48.2	49.9			

Even though the average scores suggested that media students in the UAE scored somewhat higher across functional, conceptual, evaluative, and critical levels of AI literacy, the statistical tests do not suggest any significant difference compared to students in Pakistan. This lack of difference may be explained by the increasingly global experience of learning about AI, such as commonly used applications like ChatGPT, Canva AI, and Midjourney; free online tutorials; and social media, which have facilitated access to learning that has removed geographical and economic boundaries. Prior research around digital literacy has identified comparable convergence as people reported relying on informal learning from their online networks and social media to some degree while also engaging in formal institutional education (Livingstone, 2014; van Dijk, 2020). Additionally, media education practices are often based on curricula which are aligned internationally, thus limiting any difference between contexts, especially in relation to conceptual understanding and evaluative learning. At the same time, AI use within higher education is still a relatively future-facing practice; therefore, students in both developed and developing contexts are likely to continue to be exposed to new practices with largely similar familiarity. Collectively, the picture is a little clearer, with students either situated in the same or similar competencies; therefore, AI literacy is not necessarily a country-specific literacy but is an increasingly global competency activated through individual action, informal learning networks, and associations with common educational design.

H3. There are significant differences in the most popular AI tools between media students in Pakistan and the UAE.

According to **Table 7**, Chat GPT is the most often used tool among media students in Pakistan and the UAE. However, when examining the percentage of students, we see that most Chat GPT use was among media students in Pakistan. In terms of the programs that students use the most, QuillBot ranked second. Students in the UAE use QuillBot to rephrase, summarize, and identify academic plagiarism. Third in terms of usage is Google Gemini, which assists students with writing articles, multimedia texts, and translations. Students in Pakistan use this software more frequently than students in the UAE. The Gamma program, which is more frequently used by media students in Pakistan to prepare presentations, came in fourth. The least used tools were Motion and Canva, in that order, and media students in Pakistan and the UAE did not use them differently. The Designer program was ranked last since just 2.7% of the sample used it, and media students in the UAE use it more frequently than students in Pakistan.

In general, it can be said that there is a diversity in the AI programs used by both media students in the UAE and in Pakistan, which reflects their awareness of the various programs and their uses in their media studies (**Figure 5**).
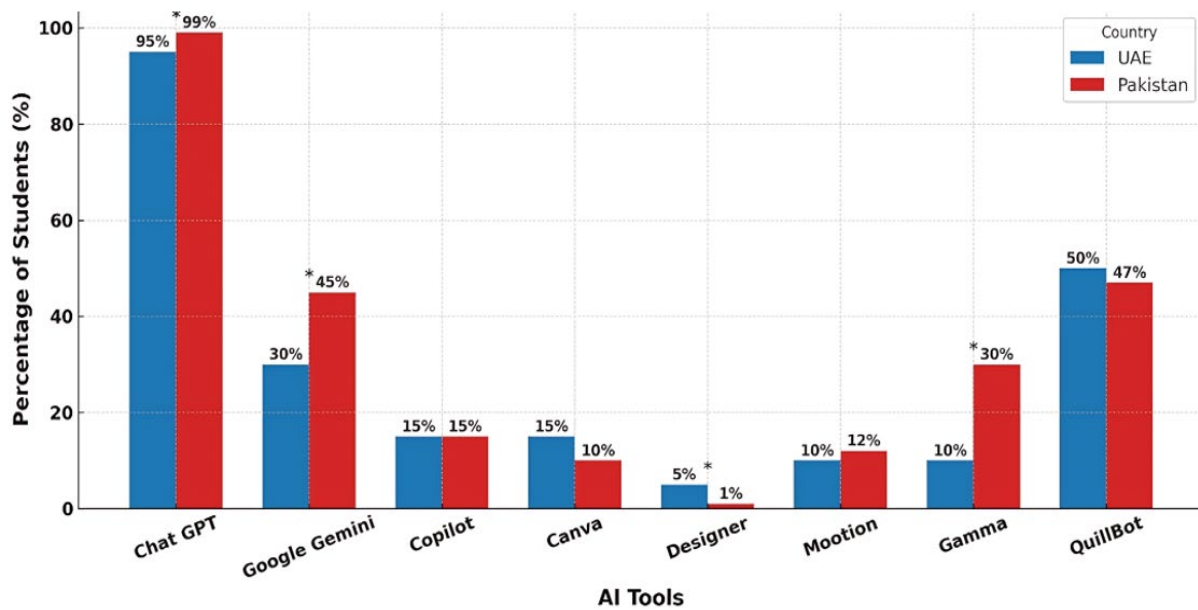
Figure 5. Popularity of AI tools among media students in UAE and Pakistan (Source: Current study)

Table 8. The differences in the perceived skills towards AI applications between media students in the UAE and Pakistan

The variable	Country	N	Mean	Standard deviation	t-value	df	Significance	Remark
Perceived skills towards AI applications	UAE	278	2.680	.5588	3.106	473	.002	Approved
	Pakistan	197	2.508	.6438				

H4. There are significant differences in the perceived skills towards using AI applications in media activities between Emirati and Pakistani media students.

According to the results in **Table 8**, there is a significant difference (p = 0.001) in the perceived skills towards using AI applications in media activities between media in the UAE and Pakistan. The fact that media students' mean score in the UEA was higher (2.680) than Pakistani media students' (2.508) indicates that media students in the UAE were more aware that they have great skill in using AI applications in media activities.
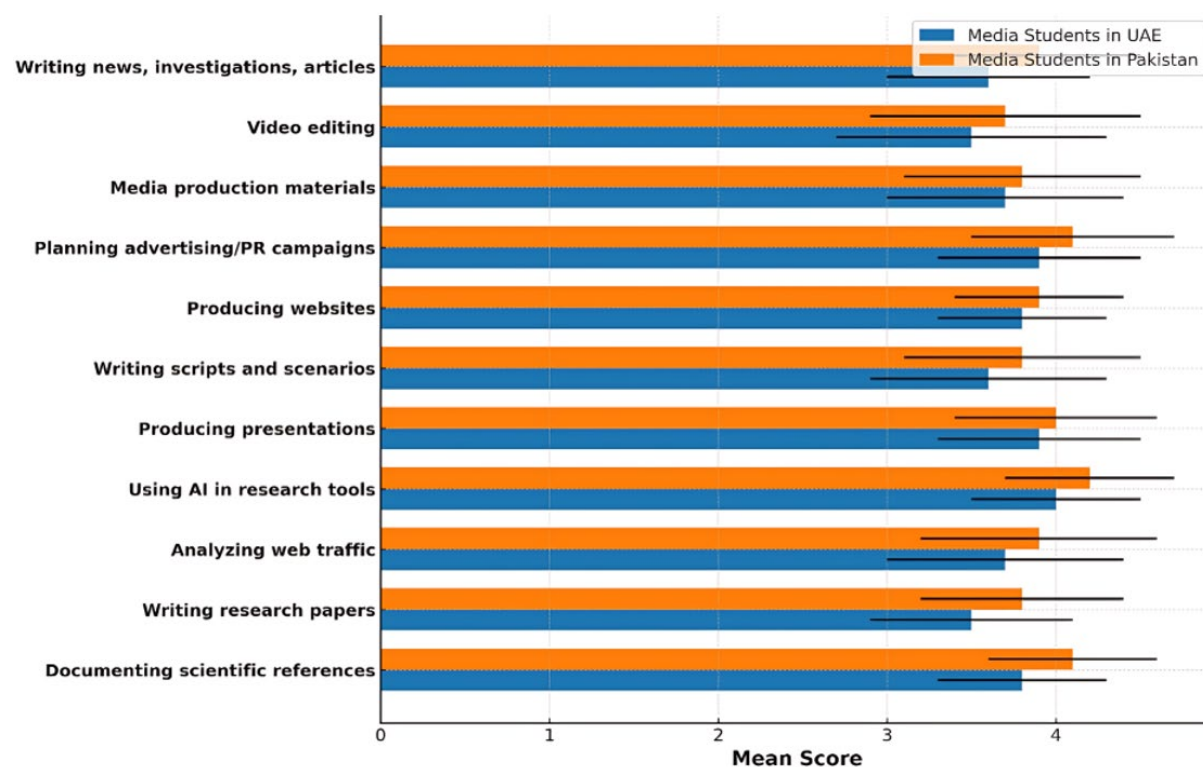
Table 9 shows the differences between media students in the UAE and Pakistan in their perceptions of their media skills in each media activity.

Table 9. The differences in perceptions of media skills in media activities between media students in the UAE and Pakistan

The variable	Country	N	Mean	SD	t-value	df	Sig.	Remark
I can use AI websites, tools, and apps for writing news, investigations, articles, and press releases.	UAE	278	4.115	.8755	3.792	473	.001	Approved
	Pakistan	197	3.777	1.0647				
I can use AI websites, tools, and Apps for video editing.	UAE	278	3.899	1.0801	2.743	473	.006	Approved
	Pakistan	197	3.609	1.2099				
I can use AI websites, tools, and apps for media production such as brochures, invitations, flyers, booklets, posters, and other printed materials.	UAE	278	4.086	.9835	2.748	473	.006	Approved
	Pakistan	197	3.827	1.0501				
I can use AI, websites, tools, and apps in planning advertising or PR campaign.	UAE	278	4.094	.9605	3.872	473	.001	Approved
	Pakistan	197	3.721	1.1286				
I can use AI tools and apps in producing websites.	UAE	278	3.820	1.1759	2.342	473	.020	Approved
	Pakistan	197	3.558	1.2342				
I can use AI websites, tools, and apps to write scripts and scenarios.	UAE	278	3.989	1.0214	.743	473	.458	Rejected
	Pakistan	197	3.919	1.0119				
I can use AI websites, tools, and apps to produce presentations.	UAE	278	4.061	1.0089	1.730	473	.084	Rejected
	Pakistan	197	3.898	1.0101				
I can use AI in research tools (e.g., plagiarism checkers & data analysis tools).	UAE	278	3.975	1.0456	1.776	473	.076	Rejected
	Pakistan	197	3.797	1.1155				

Table 9 (Continued).

The variable	Country	N	Mean	SD	t-value	df	Sig.	Remark
I can use AI tools in analyzing web traffic.	UAE	278	3.853	1.1478	2.754	473	.006	Approved
	Pakistan	197	3.548	1.2388				
I can use AI tools in writing research papers.	UAE	278	4.151	.9719	4.742	473	.001	Approved
	Pakistan	197	3.685	1.1616				
I can use AI websites, tools, and applications to collect previous studies and document scientific references.	UAE	278	4.104	.9872	2.403	473	.017	Approved
	Pakistan	197	3.878	1.0427				

Figure 6. AI tool usage by media students in the UAE and Pakistan (Source: Current study)

Table 10. The differences in the usage rate of AI applications in media activities between media students in the UAE and Pakistan

The variable	Country	N	Mean	Standard deviation	t-value	df	Significance	Remark
The usage rate of AI applications in the media activities	UAE	278	2.608	.6194	2.782	473	.006	Approved
	Pakistan	197	2.442	.6723				

From **Table 9**, media students in the UAE realized that they are more proficient in using AI tools than their Pakistani counterparts at using AI tools when it comes to writing news and other journalistic forms, editing films, producing media materials, planning advertising or public relations campaigns, creating websites, analyzing web traffic, and gathering literature review. This finding might necessitate additional training sessions for Pakistani students to improve their proficiency in using different AI technologies for media-related tasks. **Figure 6** shows the AI tool usage by media students in the UAE and Pakistan.

H5. Media students in the UAE and Pakistan have significantly different usage rates of AI applications in the media activities required by their studies.

According to the results in **Table 10**, there is a significant difference (p = 0.001) in the usage rate of AI applications in the media activities required by their studies between media students in the UAE and Pakistan. The fact that media students' mean score in the UAE was higher (2.608) than Pakistani media students' (2.442) indicates that media students in the UAE use AI applications at higher rates than Pakistani media students.

According to **Table 11**, students in the UAE are more likely than media students in Pakistan to use AI tools for writing different types of journalistic forms, creating films and other media, organizing public relations and advertising campaigns, creating websites, creating questionnaires, and rewriting. This finding might

Table 11. The differences in the usage rate of AI applications in each media activity between media students in the UAE and Pakistan

The variable	Country	N	Mean	SD	t-value	df	Sig.	Remark
Using AI in writing news, investigations, articles, and press releases.	UAE	278	3.921	1.0377	3.117	473	0.002	Approved
	Pakistan	197	3.604	1.1630				
Using AI in video production or editing.	UAE	278	3.845	1.1594	3.734	473	0.001	Approved
	Pakistan	197	3.426	1.2661				
Using AI in media production such as brochures, invitations, flyers, booklets, posters, and other printed materials.	UAE	278	4.004	1.0493	3.738	473	0.001	Approved
	Pakistan	197	3.624	1.1433				
Using AI in planning advertising or PR campaign.	UAE	278	3.888	1.0973	2.940	473	0.003	Approved
	Pakistan	197	3.569	1.2623				
Using AI in producing websites.	UAE	278	3.691	1.2878	2.599	473	0.010	Approved
	Pakistan	197	3.381	1.2706				
Using AI in writing scripts and scenarios.	UAE	278	3.942	1.0251	1.389	473	0.165	Rejected
	Pakistan	197	3.807	1.0754				
Using AI in producing presentations.	UAE	278	4.047	1.0025	1.655	473	.0990	Rejected
	Pakistan	197	3.888	1.0632				
Using AI in designing questionnaires.	UAE	278	4.000	1.0442	2.947	473	.0030	Approved
	Pakistan	197	3.701	1.1547				
Using AI in paraphrasing.	UAE	278	4.101	.9784	2.491	473	.0130	Approved
	Pakistan	197	3.868	1.0365				
Using AI in managing online content and analyzing web traffic.	UAE	278	3.809	1.1910	2.453	473	.0150	Approved
	Pakistan	197	3.533	1.2352				
Using AI in research tools (e.g., plagiarism checkers, data analysis tools)	UAE	278	3.817	1.1614	1.689	473	.0920	Rejected
	Pakistan	197	3.629	1.2288				
Using AI in managing spelling and grammar errors (for example, Grammarly).	UAE	278	3.968	1.0454	.020	473	.9840	Rejected
	Pakistan	197	3.970	.9995				

necessitate further investigation into the phenomenon of whether it is appropriate to depend on AI tools and employ them extensively or permanently to carry out these previous media tasks. Or should the student write the news, make the movie, and do other things by himself? Will human creativity be diminished by the regular usage of AI tools? This finding necessitates more research. Perhaps it is preferable to have human intervention and contribute his own ideas, emotions, and imagination when writing an article or making a movie rather than relying solely on AI tools to complete media duties. **Figure 7** shows the usage rate of AI applications in each media activity among media students in the UAE and Pakistan.

H6. There are significant differences in the attitudes toward AI between media students in the UEA and Pakistan.

The t-value, which is not significant at a significance level of less than 0.05, and **Table 12** shows that there are no significant differences between media students in the UAE and Pakistan in their attitudes toward AI applications. The percentages of media students in the UAE in the sample who had positive attitudes toward AI applications and thought they helped complete their academic assignments, improve their writing, design, and editing skills, improve the quality of media production, and accurately and efficiently meet their expectations in meeting their study needs were, in fact, comparable to the percentages of Pakistani students (78.8% and 74.1%, respectively). This finding indicates that the use of AI has become a crucial aspect of media professionals' jobs and that students need to be trained in its many uses to enhance the performance of media material.

H7. There are significant differences in satisfaction with AI between media students in the UAE and Pakistan.

According to the results in **Table 13**, there is a significant difference (p = 0.001) in the rate of satisfaction between media students in the UAE and Pakistan in using AI applications. The fact that media students' mean score in the UAE was higher (4.428) than Pakistani media students' (4.122) indicates that media students in the UAE were more satisfied with AI applications in helping them in their academic media work. This result may be because media students in the UAE were more skilled in using AI applications in various fields related to their academic media studies, as we explained previously, and they also use these applications more intensively than Pakistani media students in performing their media activities.
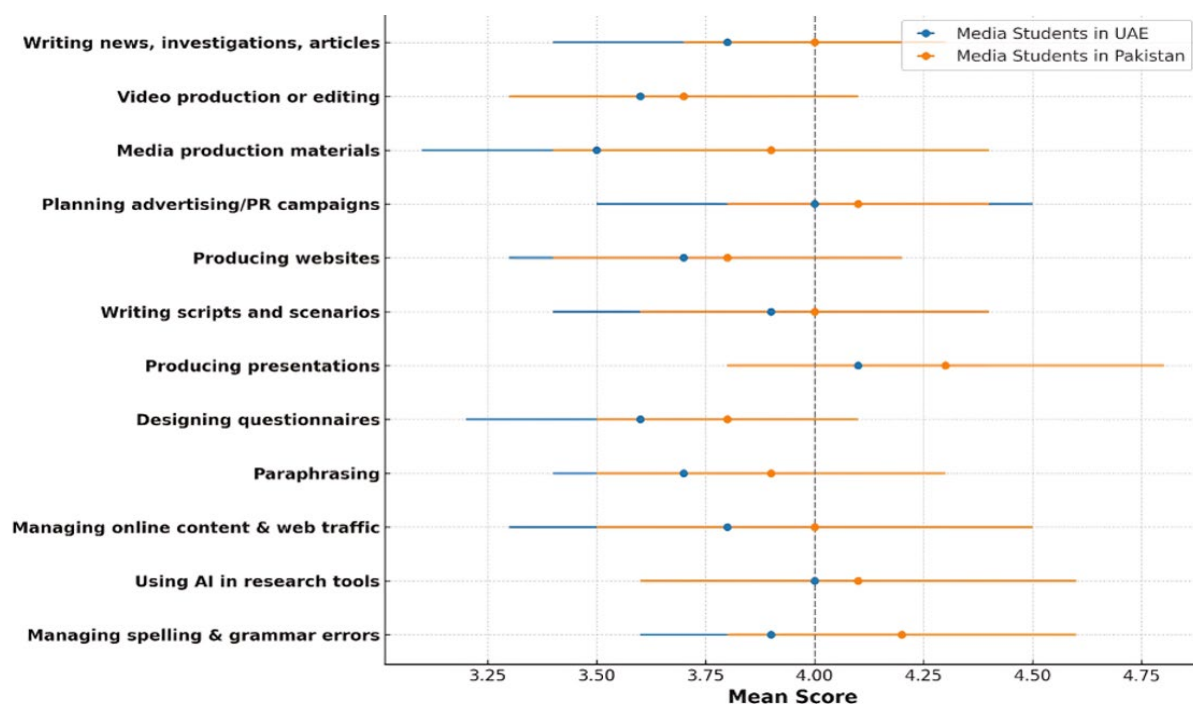
Figure 7. The usage rate of AI applications in each media activity among media students in the UAE and Pakistan (Source: Current study)

Table 12. The differences in attitudes towards AI applications between media students in the UAE and Pakistan

The variable	Country	N	Mean	Standard deviation	t-value	df	Significance	Remark
Attitudes toward AI applications	UAE	278	.770	.4626	1.306	473	.192	Rejected
	Pakistan	197	.711	.5176				

Table 13. The differences in satisfaction with AI applications between media students in the UAE and Pakistan

The variable	Country	N	Mean	Standard deviation	t-value	df	Significance	Remark
Satisfaction with AI applications	UAE	278	4.428	.6529	4.766	473	.001	Approved
	Pakistan	197	4.122	.7391				

Table 14. The differences in intention to use AI applications between media students in the UAE and Pakistan

The variable	Country	N	Mean	Standard deviation	t-value	df	Significance	Remark
Intention to use AI applications	UAE	19	2.053	.7799	.930	59	.356	Rejected
	Pakistan	42	2.262	.8281				

H8. There are significant differences in intention to use AI applications between media students in the UAE and Pakistan who do not use these applications in their academic studies.

Table 14 makes it evident that there are no significant differences between media students' intentions to use AI applications in their media studies in the UAE and Pakistan. However, the significance of employing AI apps in media practice is generally recognized by students in both nations, as seen by the fact that 50% of Pakistanis who do not currently use AI applications plan to do so soon, compared to 42.1% of media students in the UAE.

DISCUSSION

UAE students have awareness of AI but have limited knowledge regarding the algorithm of usage of AI and GenAI in education practices which are supported by the results of Ahmed (2020b). This shows that students are becoming more conscious of the moral dilemmas raised by AI, such algorithmic bias and the requirement for AI systems to be fair. The results also aligned with findings of Hazaimeh and Al-Ansi (2024) AI is being merged into educational settings but there are presently inadequate inclusive AI literacy programs.

While the findings revealed lack of training by Pakistan's students about AI literacy that make them unconfident to use it frequently. The findings supporting the results of the study of Su et al. (2022) that Asian countries are making extensive development in executing AI into school syllabuses, but there are barriers such as resource allocation and teacher training. They also showed that these exist across more and less developed nations. Additionally, the result is aligned with the new study of Ipsos (2024) that due to insufficient infrastructure and training AI literacy and awareness is low in Pakistan, where 35% (85 million) have access to internet, 4% (10 million) have AI awareness, 3% (7 million) GenAI awareness and 3.4% (6 million) usage of GenAI. The findings show that AI literacy courses shall be included in the curricula to build students competency and confidence.

Both, countries on opposite extreme on the basis of internet dissemination and digital infrastructure that 99% of the students have internet with 324.92 Mbps speed access to the students in UAE and fast access to AI tools in the country (DataReportal, 2024b), while, on the other side, 45.7% with 16.67 Mbps speed access to Pakistan's students which unable to properly use AI tools and application for academic purposes (DataReportal, 2024a). These results highlight how critical it is to overcome educational and infrastructure inequalities in order to provide fair access to AI technologies and promote innovation in media education in various geographical areas.

Both countries students are using ChatGPT, Quillbot, Gemini, Gama, Motion, Canva, and designer always for their academic writing and production practices but students have regional preferences on each other due to literacy (Ahmed, 2020a; Anthology, 2023). These results underscore the need to address educational and infrastructure inequalities to ensure fair access to AI technologies and advance media education globally (Education Middle East, 2023; IFJ, 2023). Students in the UAE concentrate on tools that improve academic writing and integrity, whereas students in Pakistan seem to rely more on AI tools for a wider range of activities. A number of variables, including institutional support, cultural perspectives on technology adoption, and educational curriculum, may have an impact on these discrepancies. Furthermore, there is a high proportion of learners in higher education in developing countries using AI (Khosravi et al., 2022; Kshetri, 2020).

Students in the UAE consistently believe they are more proficient than their Pakistani counterparts in areas like news and journalistic writing, film editing, media production, advertising or public relations campaign planning, website development, traffic analysis, and literature reviews. Moreover, the UAE at the forefront of technology, on the other hand, other Gulf countries are significantly behind in implementing AI technologies into their curricula, which could impair their long-term growth (Alkhaldi & Altaei, 2021.

Likewise, these findings are consistent with the UAE's strategy focus on promoting digital literacy and incorporating AI into education through national initiatives and organized training programs (The National, 2024; WAM, 2019). Particularly in areas where AI use in media education may be trailing, the notable disparity in perceived AI skills between media students in the UAE and Pakistan highlights the necessity of focused interventions to close skill gaps. Enhancing training and resources can enable students to fully use AI in media activities, promoting creativity and competitiveness in the rapidly changing media landscape.

The students of UAE have higher AI adoption in education than the other countries such as the recent study explored that 32% among the students have AI literacy than USA, because the country integrated AI curricula in education systems (Abu Dhabi Chamber of Commerce, 2024; Education Middle East, 2023). While developing countries like Pakistan media students are facing hurdles in adoption and utilization of AI. Just 3% are using AI tools like ChatGPT or QuillBot. Limited digital infrastructure, lack of formal training programs, and low awareness levels contribute to these challenges (Ipsos, 2024). The findings show that UAE media students are more likely than Pakistani students to employ AI tools in their coursework; this trend encourages greater in-depth consideration of AI's use in media education. Making ensuring AI integration enhances human creativity and critical thinking rather than replacing it is vital.

Students from Pakistan and the UAE exhibit similar views about the use of AI in both academic and professional settings. According to earlier research, positive sentiments on the deployment of AI technologies are positively correlated with knowledge with them (Seo et al., 2024). By increasing efficiency and optimizing workflows, AI may revolutionize media education, as both student groups seem to understand. But the UAE's well-developed digital infrastructure and aggressive incorporation of AI into educational systems could be responsible for the little greater percentage of favorable sentiments there. Also, the findings aligned with

Rabie (2023), that AI has the potential to change education in the Arab world, especially when it comes to curriculum integration. To ensure that Arab nations maintain their competitiveness in the global AI arena, however, attaining this will entail a major investment in teacher preparation, digital infrastructure, and student involvement.

AI has transcended national and cultural borders to become a vital instrument in media education and professional practice. As previous studies have shown, consistency in sentiments highlights the widespread acceptance of AI's transformational potential in the media sector (Dwivedi et al., 2021; Zhang & Lu, 2022).

CONCLUSION

The results explore the problems, challenges, and barriers of AI adaptation and literacy between UAE and Pakistan. It is concluded that due to infrastructure and resources UAE journalism students are taking benefits from the emerging tools and apps of AI because of AI integration into curriculum, speedy internet, and training program. However, Pakistan's media and journalism students are confronting momentous obstacles in AI adaptation and literacy such as limited digital infrastructure, slow internet, less AI awareness and inadequate proper training due to not integration into the curricula. These differences stress the integration of AI courses into the curriculum to overcome the gap for the AI literacy and adaptation in journalism and media students.

It is also concluded that in both countries' students have positive image regarding AI integration in journalism education to improve theoretical and practical workflow in media departments. These opinions emphasize the importance of national policies towards AI literacy and digital transformation of journalism and media students.

It is essential to address the issues, problems and challenges of digital infrastructure and AI literacy programs into the curriculum to improve and increase the level of AI and digital technologies tools and apps among the media students.

Study Implications and Limitations

The research findings demonstrate the basis for recommended strategies to enhance AI literacy education among media students in both the UAE and Pakistan. The media studies curricula at Pakistani universities need to build full AI literacy programs that teach students strong theoretical understanding in combination with practical usage skills for producing media content and performing journalism tasks and content generation. Pakistani institutions need to provide hands-on training sessions focusing on essential AI tools like ChatGPT, QuillBot, and Canva for media purposes since students lack sufficient training according to study results. The success of students' AI tool interaction depends on developing better digital infrastructure throughout Pakistan because it addresses their connectivity issues. The government needs to make funding decisions for upgrading internet services and digital resources within educational institutions. AI training programs specifically developed for faculty members should be introduced at both UAE and Pakistani institutions to enable teaching experts to adequately support students in using AI tools in their media projects while also improving their teaching competencies.

Universities should use mentorship programs that pair advanced AI students with their peers to improve confidence levels while helping students use AI practically. Universities in Pakistan should develop AI-focused innovation labs which offer supervised facilities to let students test AI tools for media production and journalism alongside content creation tasks. The financial challenges Pakistani students face requires universities to team up with AI software companies which offer essential tool accessibility at reduced costs to enable equal capabilities for skill growth. Awareness initiatives must begin to educate people regarding suspicious AI output while simultaneously teaching dependable AI application practices in educational and professional workspace interactions. Education institutions in the UAE with already high AI literacy need to develop new advanced teaching modules which focus on creative media applications alongside data analysis and content automation to fully improve student expertise in AI. The combined implementation of deliberate recommendations will boost AI literacy training for media students in both nations, making them proficient in working with AI-based media tools.

The results from the current research create possibilities for future research investigations encompassing the motivation factors between media students who exhibit different levels of AI technology usage.

Comparative student research involving different geographic locations would reveal the elements behind their use and dependence on AI technologies. The study results establish strong groundwork to study how training in AI technology affects media education quality specifically during the process of creating media content with AI tools. The study supports current academic theories through theoretical contributions while specifically utilizing key principles from the diffusion of innovation theory and uses and gratifications Theory and technology acceptance model. This study presents foundational knowledge about the elements affecting student AI acceptance for future researchers working in this area.

The research outcomes enable universities along with colleges to improve their media curriculum as well as create specialized training programs that enhance student competency in AI tools. Study findings enable both educational leaders and policy makers to devise methods which will integrate AI into their academic operations through media data analysis and automated editorial work. The research data should motivate educational institutions to develop focused training that improves student performance with AI tools to increase their chances of securing media employment. This study brings value to media organizations by motivating them to provide new journalists and media professionals with the necessary AI competencies. The AI literacy scale used in the current research provides a framework for future studies focused on media department faculty members or serves as a model for student and educator research across different nations investigating AI implementation challenges in the media sector.

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