The Use of Artificial Intelligence Applications Among Medical Students at Bezmialem Vakıf University

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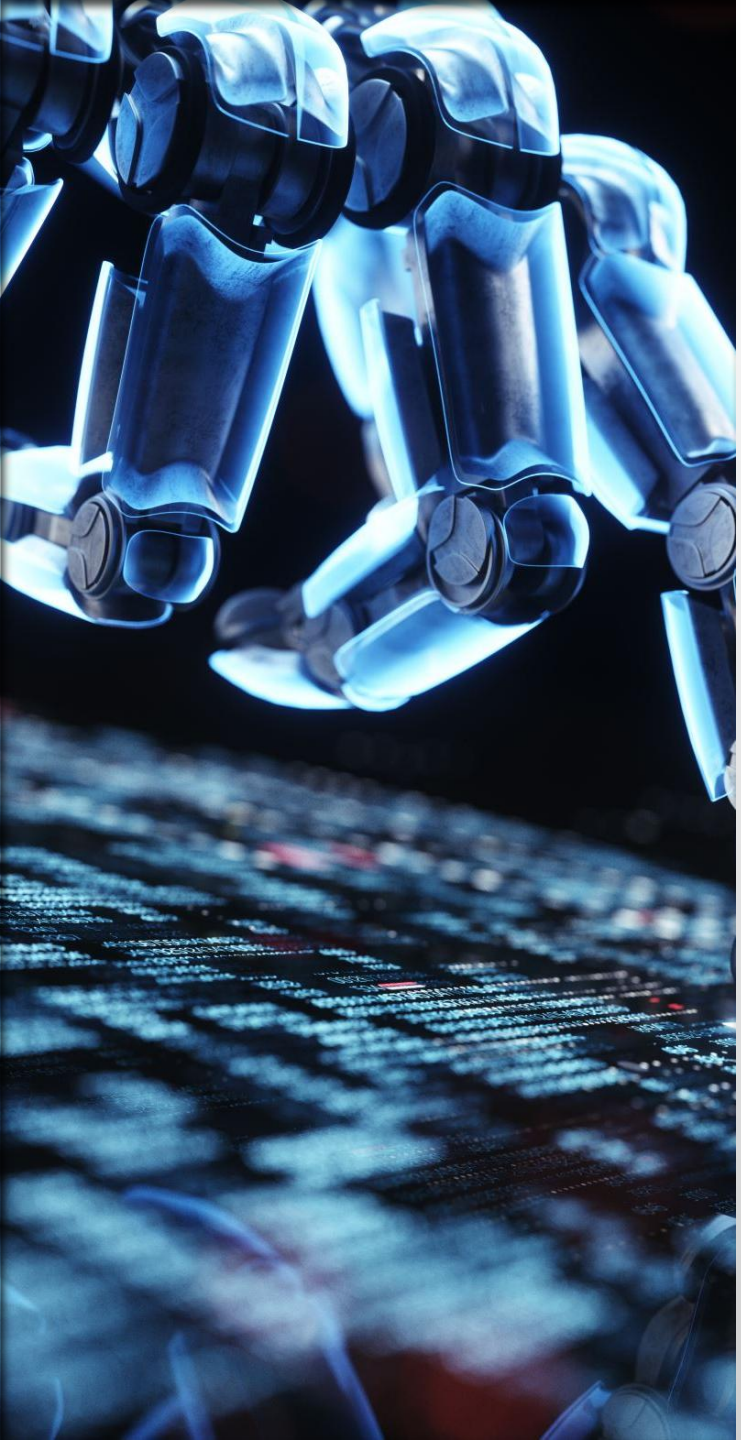


What is Artificial Intelligence (AI)?

- Artificial Intelligence (AI) refers to computer systems or machines that can simulate human intelligence processes. These systems can perform tasks that typically require human cognitive functions, such as learning, reasoning, problem-solving, perception, and language understanding. AI is developed through algorithms and data-driven models that allow machines to adapt and improve their performance over time.

Characteristics of Artificial Intelligence

Learning and Adaptation: AI systems can analyze data, recognize patterns, and improve their performance over time through machine learning and deep learning techniques.

Reasoning and Problem-Solving: AI can evaluate information, make logical inferences, and suggest solutions based on available data.

Natural Language Processing (NLP): AI-powered systems can understand, interpret, and generate human language, enabling applications like virtual assistants and automated translations.

Computer Vision: AI can process and analyze visual data, recognizing objects, faces, and even medical images for diagnostic purposes.

Automation and Decision-Making: AI can automate repetitive tasks, improve efficiency, and assist in decision-making processes across various fields.

Artificial Intelligence in Medicine

- Artificial Intelligence (AI) in medicine refers to the use of advanced algorithms and machine learning techniques to analyze medical data, assist in diagnosis, predict patient outcomes, and enhance treatment strategies. AI can process vast amounts of information quickly, helping healthcare professionals make more accurate and efficient decisions.

- Applications of AI in medicine include medical imaging analysis, personalized treatment plans, drug discovery, and robotic-assisted surgeries. While AI improves diagnostic accuracy and patient care, ethical considerations, data privacy, and the role of human oversight remain crucial in its development and implementation.

What is the purpose of this research?

- The purpose of this study is to look into how AI applications affect medical students. It investigates how AI is used by students, how it enhances their learning, and how it affects clinical abilities.

Material & Methods

30 Questions

Based on;
Approaches to AI applications

80 Participants

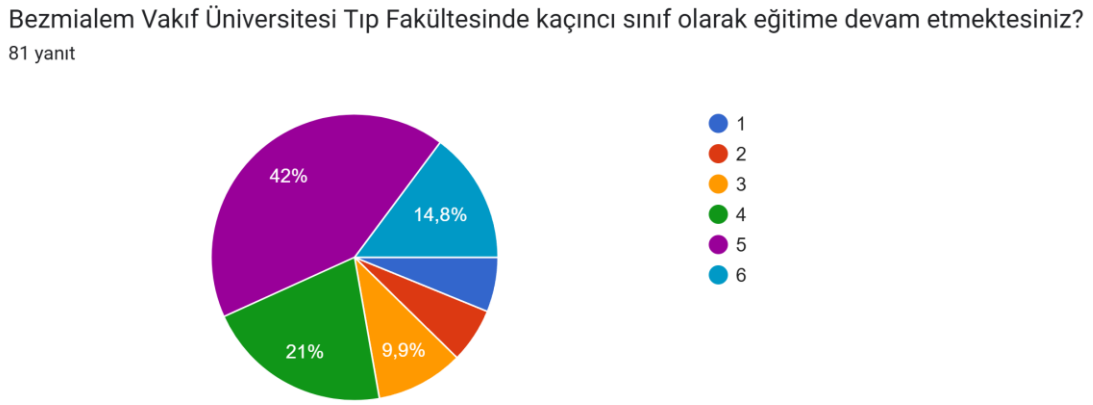
Students from all grades, from first grade to sixth grade

June - September 2024

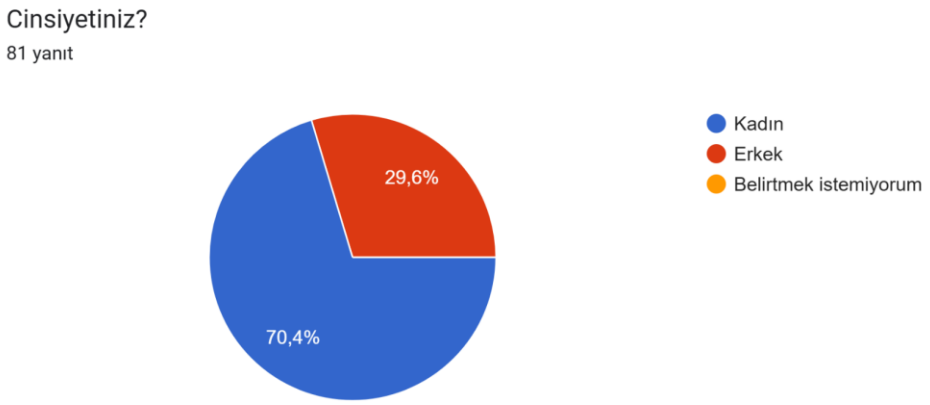
Our questionnare were filled between these dates via online platforms

Results

In which grade are you continuing your education at Bezmialem Vakıf University of Medicine ?



Please mark your gender.



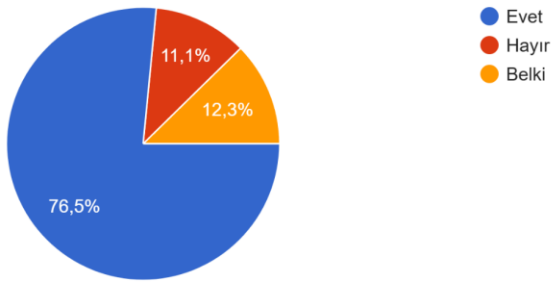
	Test Statisticsa				
	TOPLAM1	TOPLAM2	TOPLAM3	TOPLAM4	geneltoplam
p	0,054	0,105	0,346	0,27	0,076

- The distribution of students across different grades ensures a diverse perspective on AI use in medical education, and gender does not significantly impact AI-related scores.

Would you like to learn more about the use of artificial intelligence applications in the field of medicine?

Yapay zeka uygulamalarının tıp alanında kullanımıyla ilgili daha fazla bilgi edinmek istiyor musunuz?

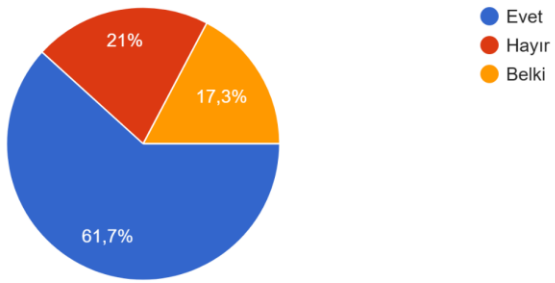
81 yanıt



Do you think artificial intelligence applications will enhance medical students' research skills?

Yapay zeka uygulamalarının tıp öğrencilerinin araştırma yeteneklerini geliştireceğini düşünüyor musunuz?

81 yanıt



- More students agree that AI applications will enhance their research skills compared to those who express a desire to learn more about AI in medicine, suggesting that while AI is seen as beneficial for academic growth, there is a relatively lower curiosity for further AI education.

Soru24 * Soru25 Crosstabulation

			Soru25			
			1	2	3	Total
Soru24	1	Count	16	12	7	35
		% within Soru25	55,2%	41,4%	30,4%	43,2%
	2	Count	12	11	15	38
		% within Soru25	41,4%	37,9%	65,2%	46,9%
	3	Count	1	6	1	8
		% within Soru25	3,4%	20,7%	4,3%	9,9%
Total		Count	29	29	23	81
		% within Soru25	100,0%	100,0%	100,0%	100,0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	9,541[a]	4	0,049
Likelihood Ratio	9,197	4	0,056
Linear-by-Linear Association	2,236	1	0,135
N of Valid Cases	81		

Do you have any concerns about the use of artificial intelligence applications in the field of medicine?

How important do you think artificial intelligence applications are in terms of ethics and privacy?

- While a significant number of students express concerns about the use of AI in medicine, an even greater proportion acknowledges the critical importance of ethical and privacy considerations, highlighting a stronger emphasis on responsible AI implementation rather than outright skepticism.

Soru19 * Soru20 Crosstabulation

			Soru20			
			1	2	3	Total
Soru19	1	Count	20	6	0	26
		% within Soru20	36,4%	25,0%	0,0%	32,1%
	2	Count	18	13	0	31
		% within Soru20	32,7%	54,2%	0,0%	38,3%
	3	Count	17	5	2	24
		% within Soru20	30,9%	20,8%	100,0%	29,6%
Total		Count	55	24	2	81
		% within Soru20	100,0%	100,0%	100,0%	100,0%

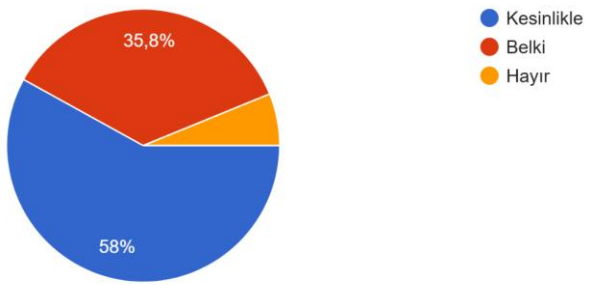
Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	8,122[a]	4	0,087
Likelihood Ratio	8,169	4	0,086
Linear-by-Linear Association	0,978	1	0,323
N of Valid Cases	81		

Do you think artificial intelligence applications will improve the quality of patient care?

Yapay zeka uygulamalarının hasta bakımında kaliteyi artıracağını düşünüyor musunuz?

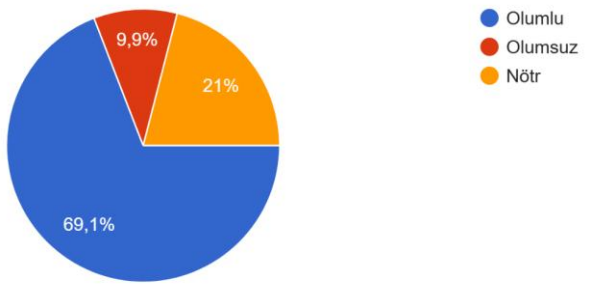
81 yanıt



How would you assess the impact of artificial intelligence applications on medical practice?

Yapay zeka uygulamalarının tıp pratiğindeki etkisini nasıl değerlendirirsiniz?

81 yanıt



- While most students positively evaluate AI's impact on medical practice, an even higher percentage believes that AI will enhance patient care quality, indicating strong confidence in its role in improving healthcare outcomes.

Soru11 * Soru12 Crosstabulation

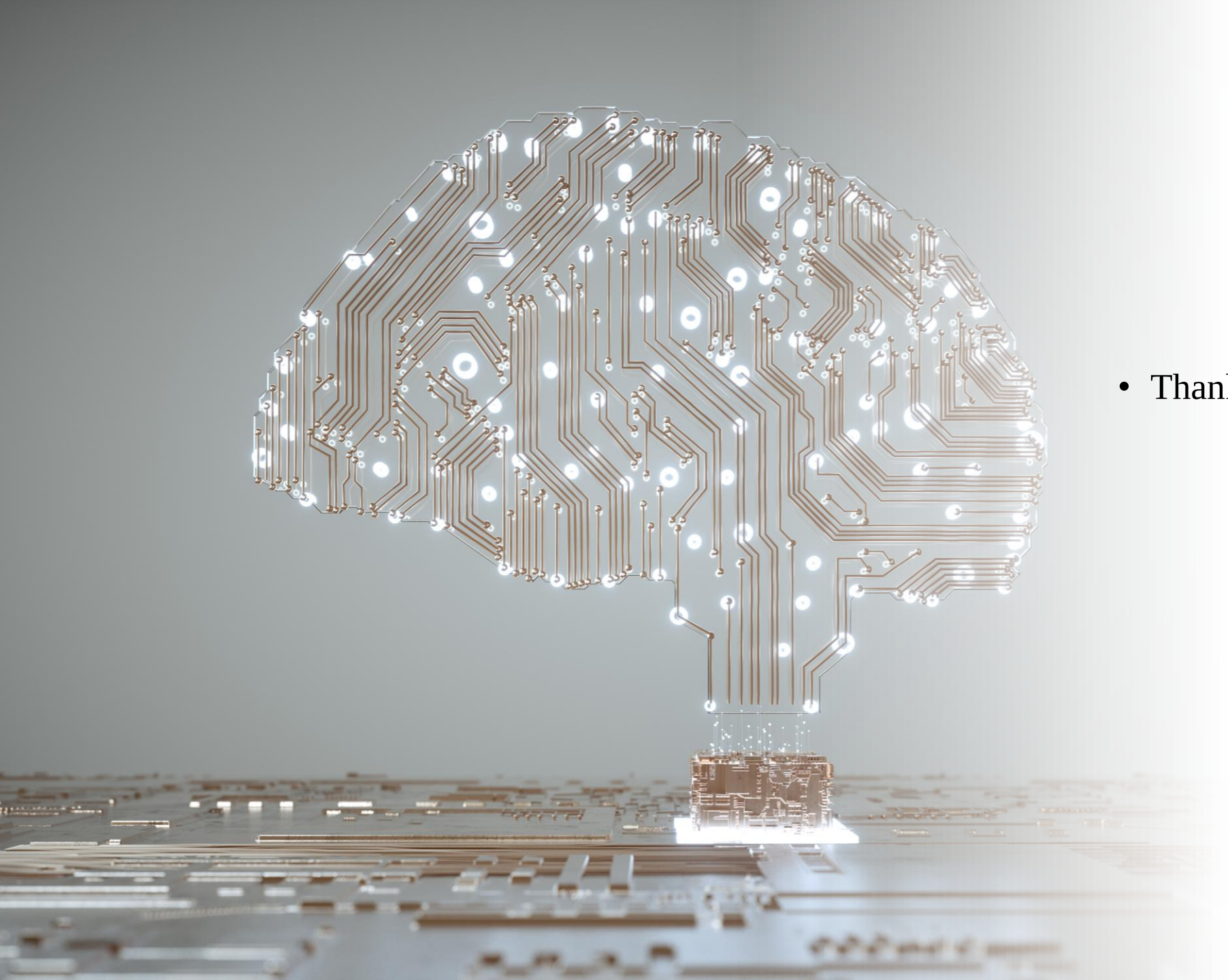
			Soru12			
			1	2	3	Total
Soru11	1	Count	40	13	3	56
		% within Soru12	83,3%	46,4%	60,0%	69,1%
	2	Count	1	6	2	9
		% within Soru12	2,1%	21,4%	40,0%	11,1%
	3	Count	7	9	0	16
		% within Soru12	14,6%	32,1%	0,0%	19,8%
Total		Count	48	28	5	81
		% within Soru12	100,0%	100,0%	100,0%	100,0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	17,320[a]	4	0,002
Likelihood Ratio	17,913	4	0,001
Linear-by-Linear Association	3,899	1	0,048
N of Valid Cases	81		

Conclusion

- The study found that medical students who utilized AI applications reported a more effective learning experience compared to those using traditional methods. Students highlighted improvements in clinical skills, diagnostic abilities, and overall confidence in their learning process. The use of AI in education was associated with better skill acquisition and emotional outcomes, particularly in terms of reduced stress and enhanced learning efficiency. However, ethical concerns and challenges related to AI integration in the learning process were also noted by the participants.



- Thank you for listening

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