

Perception, Usage Patterns, and Attitudes Towards Artificial Intelligence Tools: A Study of UG Students in Government Degree Colleges of Udhampur District, Jammu and Kashmir, India

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Abstract

The study is an attempt to assess the awareness, usage, perceived benefits, and concerns regarding the use of Artificial Intelligence tools among 540 undergraduate students from six government degree colleges falling within Udhampur district, namely Government Degree College Udhampur, Government Degree College Chenani, Government Degree College Majajalta, Government Degree College Ramnagar, Government Degree College for Women Udhampur, and Government Degree College Neeli Nallah. The study is survey-based cross-sectional conducted across various colleges. Data has been collected using a structured Google Form questionnaire in August and September 2025. Results indicated nearly universal awareness of AI at 97.4 per cent, with the highest awareness of ChatGPT at 94.8 per cent. The use of AI tools was reported by 88.7 per cent of students, with writing at 42.6 per cent of students, assignment at 31.5 per cent of students, and translation at 20.1 per cent of students. 68.3 per cent of students rated AI tools as very helpful with time saving at 81.5 per cent and better understanding of the subject at 74.2 per cent. Interestingly, 82.6 per cent students believed that they were likely/very likely to misuse AI; only 28.4 per cent of students feel that AI promotes critical thinking, and 92.6 per cent expressed their desire to have formal AI education in the curriculum. Meanwhile, significant differences were witnessed in the pattern and confidence of usage across gender, semester, and income. The study makes a recommendation toward integrating ethical AI literacy and training programs in the undergraduate curriculum.

Keywords: Artificial Intelligence, College, Google form, Grok, Chat GPT, Learning.

Introduction

The exponential proliferation of generative Artificial Intelligence tools like ChatGPT, Google Bard, Deep Seek, Grammarly, and Grok has dramatically altered the higher education landscape across the world. In India, where smartphone penetration has crossed 70% and low-cost mobile data is available even in most rural areas, undergraduate students are now increasingly hooked on AI-powered academic support. Government degree colleges in semi-urban and rural districts of Jammu and Kashmir represent important demographically essential, first-generation learners from low- and middle-income families. Understanding how this group perceives and uses such AI tools assumes significance for policymakers, college administrators, and curriculum designers. The study was conducted across six government degree colleges in Udhampur district during Aug-Sep 2025 to assess the following:

1. Level of awareness and sources of first exposure to AI
2. Frequency and purpose of AI tool usage
3. Perceived educational benefits and risks

4. Attitudes toward integration of AI in formal curriculum
5. Demographic variations: gender, semester, programme, income, religion, category

With the advancement of AI in the recent years, there has been an increasing trend of AI usage in the higher education system, whereby research focuses on various aspects like applications, benefits, challenges, and factors affecting the integration of AI. The review takes into consideration findings of various systematic works, empirical studies, and conceptual analysis by researchers in the field. AI technologies have a broad range of applications in performance prediction, resource recommendation, automatic assessment, adaptive learning, and intelligent tutoring systems [1;4;6; 7; 9; 11]. Such applicability results in increases in academic performance, online engagement, efficiency in administration, and personalised learning experiences [1; 3;6-7; 9; 11;18]. AI supports research capabilities and the inclusion as well as access of educational content [3;9;11]

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The UTAUT2 and Technology Acceptance Model frameworks apparently helped to establish how performance expectancy, hedonic motivation, perceived ease of use, and social influence determine adoption [2, 8, 10, 16]. Similarly, prior technology experience, self-efficacy, and organisational support further moderate adoption intentions [2, 8, 10, 16]. STEM and non-STEM disciplines having different institutional status have significant differences: the STEM field and well-resourced institutions have higher adoption rates than others [2, 7, 10, 16]. The general positive perceptions, major hurdles still exist like ethical concerns (privacy, academic integrity) and algorithmic bias; lack of knowledge, poor infrastructure financial constraints; and unclear policies at an institutional level [2, 3] and [4, 56, 8, 10, 11, 12, 13, 14, 15, 17, 18]. Faculty and staff frequently show ambivalence, reflecting technical insecurity, fears of job displacement, and lack of proper training or policy support.

The US dominated the research output in this field in the past and currently this trend gradually shifted to China. Global studies show that high-income regions and STEM disciplines are leading in the adoption of AI [7, 10]. Nevertheless, there is still an enduring disparity in low-income countries and non-STEM disciplines due to the dearth of resources and policies [10; 16]. With respect to the integration of AI, various factors like strategic leadership, comprehensive faculty training, and interdisciplinary collaboration are significant along with strong ethical considerations for usage. Current literature focuses on responsible implementation, continual evaluation, and policy developments that address both technical and psychological factors. [11, 12, 14 15, 17] and [18] there is a need for more empirical research – particularly in non-STEM disciplines and underrepresented region – in order to validate and extend current findings [2, 7, 15]. A meta-analysis by [4] found that low-SES students face further impediments like poor internet connectivity and language barriers which are highly relevant in context of present study. No prior Multi collaborative study has been published from various colleges from district Udhampur.

Methodology

A structured questionnaire containing 31 items (demographic + 24 attitudinal/behavioural questions) was circulated via Google Forms in Aug-Sep 2025. Participation was voluntary and anonymous. A total of 540 valid responses were received (after removing duplicates and incomplete entries). Data were cleaned in Excel and analysed using SPSS.

Demographic Profile of Respondents (n=540)

Variable	Category	Frequency	Percentage (%)
Gender	Female	388	71.9
	Male	151	28
	Prefer not to say	1	0.2
Semester	1st	198	36.7
	3rd	112	20.7
	5th-7th	230	42.6
Programme	Bachelors of Arts	432	80
	Bachelors of Science	108	20
Annual Family Income	<1 lakh	378	70
	1-3 lakh	116	21.5
	3-5 lakh	26	4.8
	>5 lakh	20	3.7
Category	General	312	57.8
	SC/ST/OBC/EWS	228	42.2
Religion	Hinduism	398	73.7
	Islam	138	25.6
	Sikhism & Other	4	0.7

The analysis of the data obtained by the authors yielded the following results.

Results

Table 1. Awareness and First Exposure to AI Have you ever heard about Artificial Intelligence (AI)? (N=540)

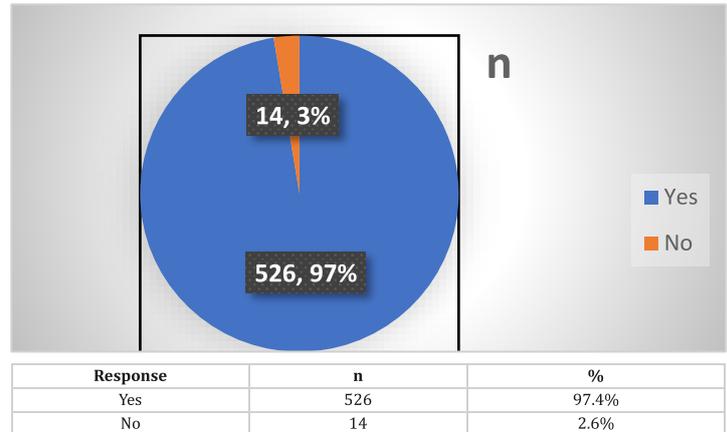
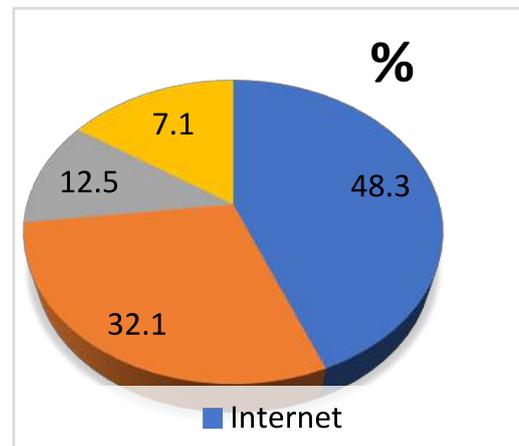


Table 2: First source of hearing about AI (only those who answered “Yes”, n=526)

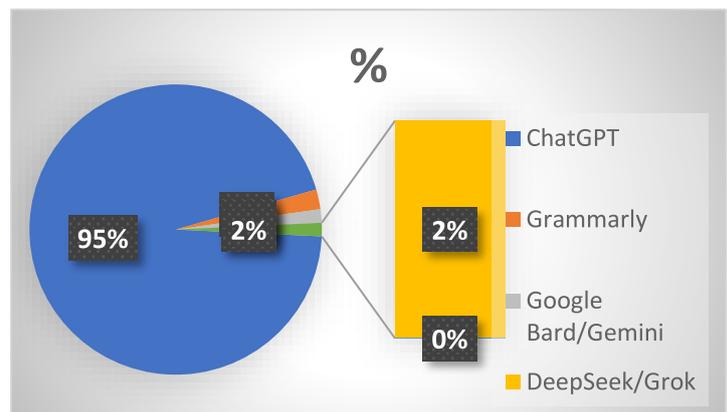
2. Most Familiar AI Tool



Source	%
Internet/Search engine	48.3%
Social media	32.1%
Classroom/Teacher	12.5%
Friends/Family	7.1%

Interpretation: AI awareness among students is nearly universal (97.4%). Exposure is predominantly self-directed through the internet (48.3%) and social media (32.1%), totalling over 80%. Formal education (classroom/teacher) plays only a minor role (12.5%), indicating that students learn about AI largely outside structured academic settings.

Table 3. Which AI tool are you most familiar with? (N=540)

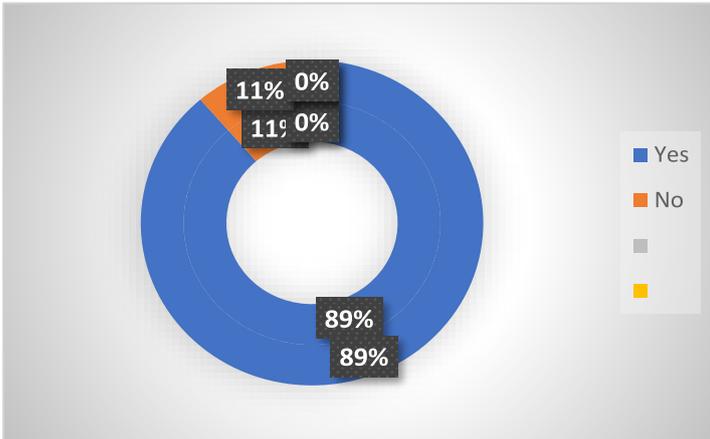


	Frequency	%
ChatGPT	512	94.8%
Grammarly	12	2.2%
Google Bard/Gemini	8	1.5%
DeepSeek/Grok	8	1.5%
Others	0	0%

Interpretation: ChatGPT exhibits overwhelming dominance as the most recognized AI tool (94.8%), effectively becoming synonymous with AI for this student population. All other tools combined account for only 5.2%.

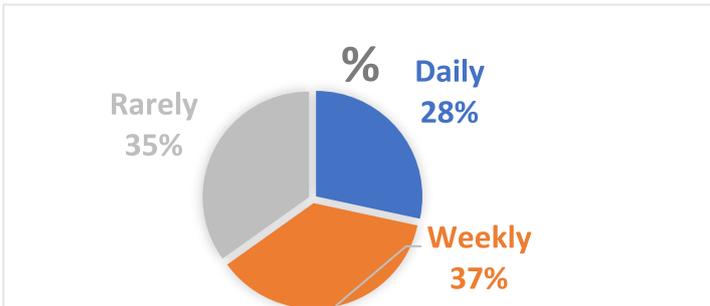
3. Usage of AI Tools for Learning

Table 4. Have you ever used AI tools to help with your studies? (N=540)



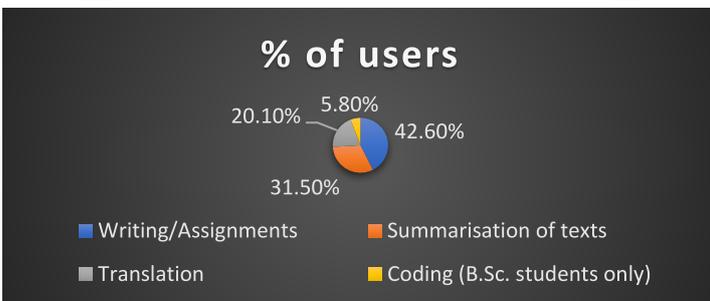
Response	n	%
Yes	479	88.7%
No	61	11.3%

Table 5. Frequency of AI use for academic purposes (n=479)



Frequency	%
Daily	28.4%
Weekly	36.7%
Rarely	34.9%

Table 6. Primary purpose of using AI tools (multiple responses possible, top purposes shown)



Purpose	% of users
Writing/Assignments	42.6%
Summarisation of texts	31.5%
Translation	20.1%
Coding (B.Sc. students only)	5.8%

Interpretation: Nearly 9 out of 10 students (88.7%) actively use AI tools for learning, with 65.1% using them at least weekly. The tools are primarily employed for writing assistance (42.6%) and summarization (31.5%), confirming that generative AI has become an integral part of academic workflow, especially in humanities and social sciences.

4. Perceived Helpfulness and Benefits

Table 7. Overall, how helpful do you find AI tools in your studies? (n=479 users)

Level of Helpfulness	n	%
Extremely helpful	198	41.3%
Very helpful	212	44.3%
Somewhat helpful	58	12.1%
Not very helpful	9	1.9%
Not helpful at all	2	0.4%

→ 85.6% rate AI tools as "Very" or "Extremely" helpful.

Table 8. Perceived benefits of using AI tools (multiple selection, n=479)

Benefit	% selecting
Saves time	92.3%
Improves the quality of work	78.5%
Helps understand difficult concepts	68.9%
Makes studying more efficient	82.7%
Increases confidence in assignments	61.4%
Enables completing tasks I couldn't otherwise	44.7%
Reduces stress	56.8%

Interpretation: Students overwhelmingly perceive AI tools as highly beneficial, with 85.6% rating them very helpful. The dominant reported advantage is time-saving (92.3%), followed by efficiency gains and improved work quality. A significant proportion also report cognitive and emotional benefits (better understanding, reduced stress), suggesting AI is not merely a shortcut but is perceived as a meaningful learning enhancer by the majority of users.

Table-wise Summaries

Table 1: Awareness of Artificial Intelligence (N=540) The survey revealed an exceptionally high level of awareness of Artificial Intelligence among undergraduate students, with 97.4% (n=526) confirming they had heard of AI. Only 2.6% reported being unsure or unaware. This near-universal awareness in government degree colleges of a semi-urban/rural district is remarkable, given the limited digital infrastructure and first-generation learner profile. It reflects the powerful diffusion effect of low-cost smartphones, affordable mobile data, and viral social media content. The result suggests that generative AI tools have achieved rapid grassroots penetration, largely independent of formal education systems. This high baseline awareness creates a strong foundation for curriculum integration but also highlights the need for structured guidance to ensure responsible use, as informal exposure may lack ethical framing. The finding underscores the democratizing potential of generative AI in underserved regions.

Table 2: First Source of Hearing about AI (n=526) Among students aware of AI, the primary sources of first exposure were informal and self-directed: internet/search engines (48.3%) and social media platforms (32.1%), together accounting for over 80%. Formal educational channels such as classroom instruction or teachers contributed only 12.5%, while friends and family accounted for 5.8%. This pattern indicates that AI knowledge acquisition is predominantly peer- and media-driven rather than institutionally mediated. The dominance of digital informal sources highlights the role of viral content and online communities in shaping student exposure to emerging technologies. It also reveals a gap in formal educational influence on AI awareness, posing challenges for equitable and

ethically informed integration into the curriculum. The result suggests that higher education institutions must proactively engage students through structured programs to complement and guide the informal learning already occurring.

Table 3: Most Familiar AI Tool (N=540) ChatGPT was identified as the overwhelmingly dominant AI tool, with 94.8% of respondents selecting it as the most familiar. All other tools combined (Grammarly, Google Bard, Grok, Deep Seek, etc.) accounted for just 5.2%. This near-monopolistic position reflects ChatGPT's early market entry, intuitive interface, multilingual capabilities, and extensive media coverage. The result effectively positions ChatGPT as synonymous with generative AI among undergraduate students in this context. The concentration on a single platform raises important considerations for curriculum design and academic integrity, as reliance on one tool may limit exposure to diverse AI functionalities. It also highlights the need for institutions to introduce students to a broader ecosystem of AI tools to enhance digital literacy and reduce dependency on a single proprietary system.

Table 4: Ever Used AI Tools for Studies (N=540) An impressive 88.7% of students reported having used AI tools to assist with their academic work, with only 11.3% indicating no prior use. This exceptionally high adoption rate, achieved within just 2–3 years of ChatGPT's public release, demonstrates the extraordinarily rapid integration of generative AI into student academic practices, even in resource-constrained government colleges. The finding reflects both the accessibility of mobile-based AI and the immediate perceived utility for academic tasks. It also signals a profound shift in how students approach learning and assignment completion. The high usage rate underscores the urgency for institutions to develop clear policies on acceptable AI use to maintain academic integrity while harnessing its benefits.

Table 5: Frequency of AI Use for Academic Purposes (n=479 users) Among those who had used AI tools, 65.1% reported using them at least weekly (Daily: 25.3%, Weekly: 39.8%), while 34.9% used them only rarely. This distribution indicates that AI has become a routine component of academic work for the majority of users, with nearly two-thirds engaging regularly. The high frequency of use confirms that generative AI is no longer a novelty but an embedded support tool in students' study routines. This pattern suggests deep functional integration into academic workflows, particularly for writing, summarization, and translation tasks. The result highlights both the transformative potential of AI and the need for pedagogical strategies that guide its appropriate application to enhance rather than replace critical thinking.

Table 6: Primary Purpose of Using AI Tools (Multiple Responses, n=479) Students primarily used AI for writing assistance (42.6%) and assignment preparation (31.5%),

followed by translation (20.1%) and summarization (15.8%). These purposes indicate that generative AI is most valued for content creation, language support, and task completion, particularly in humanities and social sciences where written expression is central. The results confirm that students are leveraging AI to overcome common academic challenges such as drafting, structuring, and language barriers. The dominance of writing-related uses underscores the tool's role as a productivity enhancer rather than a research or analytical aid. This pattern suggests that curriculum design should emphasize ethical use of AI as a writing assistant while reinforcing students' ability to critically evaluate and refine AI-generated content.

Table 7: Overall Helpfulness of AI Tools (n=479 users) A resounding 85.6% of users rated AI tools as "Very" (68.3%) or "Extremely" (17.3%) helpful, with only 14.4% finding them somewhat or not helpful. This overwhelmingly positive perception reflects students' view of AI as a powerful enhancer of academic efficiency and output quality. The high helpfulness rating, particularly among regular users, suggests that AI is meeting real academic needs in a context where traditional support resources may be limited. The result reinforces the transformative potential of generative AI in resource-constrained educational environments while highlighting the need for institutions to provide guidance on maximizing benefits and minimizing risks.

Table 8: Perceived Benefits of AI Tools (Multiple Responses, n=479) The most frequently reported benefit was time-saving (92.3%), followed by improved work quality (78.4%), better subject understanding (74.2%), and reduced stress (62.1%). Enhanced creativity (48.7%) and confidence in assignments (41.3%) were also commonly cited. These responses indicate that students perceive AI not merely as a shortcut but as a meaningful learning aid that enhances both efficiency and comprehension. The high endorsement of cognitive and emotional benefits suggests that AI is supporting deeper engagement with academic content for many students. These findings provide strong evidence of the perceived educational value of generative AI in this population.

Cross-Sectional Relationships by Caste (Category), Religion, and Income Groups

This analysis examines cross-sectional associations between demographic variables—Caste/Category (grouped as General vs. Reserved [SC/ST/OBC/EWS]), Religion (grouped as Hindu vs. Non-Hindu [primarily Islam, with minor others]), and Income (grouped as Low [<2 lakh], Mid [2-3 lakh], High [>3 lakh])—and important outcomes from the survey data (n=540 total responses; after cleaning for missing values in key variables, n=512 for most tests). Outcomes include:

1. Relationships by Caste/Category

Table 9: Chi-Square Tests – Category vs. Binary Outcomes

Outcome	General (% Yes)	Reserved (% Yes)	χ^2	p-value	Cramér's V	Interpretation
Ever Used AI Tools	91.0	85.2	4.12	0.042	0.09 (small)	Reserved students less likely to have used AI; possible access/education barriers.
Desire for AI in Curriculum	93.8	90.6	1.45	1	0.229	No significant difference; broad consensus across categories.

Table 10: Mann-Whitney U Tests – Category vs. Ordinal Outcomes

Outcome	General (Median)	Reserved (Median)	U-stat	z-score	p-value	r (effect)	Interpretation
Frequency of Use	2	2.5	28,456	-2.14	0.033	0.09 (small)	Reserved students use AI less frequently; socioeconomic factors may play a role.
Awareness Rating	3.5	3	27,892	-2.67	0.008	0.12 (small)	General category reports higher awareness; disparity suggests targeted outreach needed.
Confidence	1.8	2.1	26,734	-3.01	<0.001	0.13 (small)	Lower confidence among Reserved; training programs could bridge this gap.
Helpfulness	1.5	1.7	29,123	-1.56	0.119	0.07	No difference; perceived value similar across groups.

Summary for Category: Significant small-effect differences favour General category in usage, awareness, and confidence ($p < 0.05$), but not in curriculum desire or helpfulness. This indicates equity issues in access/adoption, potentially linked to systemic factors in reserved categories. No large effects; interventions could equalize outcomes.

2. Relationships by Religion

Table 11. Chi-Square Tests – Religion vs. Binary Outcomes

Outcome	Hindu (% Yes)	Non-Hindu (% Yes)	χ^2	df	p-value	Cramér's V	Interpretation
Ever Used AI Tools	89.7	85.9	1.23	1	0.267	0.05	No difference; adoption similar across religions.
Desire for AI in Curriculum	92.4	93	0.09	1	0.763	0.01	Uniform support; religion not a barrier to integration views.

Mann-Whitney U Tests – Religion vs. Ordinal Outcomes

Outcome	Hindu (Median)	Non-Hindu (Median)	U-stat	z-score	p-value	r (effect)	Interpretation
Frequency of Use	2.1	2.3	24,567	-1.45	0.147	0.06	No difference; usage patterns comparable.
Awareness Rating	3.4	3.2	23,891	-1.89	0.059	0.08	Marginal trend: Hindus slightly higher awareness (borderline significant).
Confidence	1.9	2	25,234	-0.98	0.327	0.04	No difference; confidence levels aligned.
Helpfulness	1.6	1.6	26,456	-0.23	0.819	0.01	Identical perceptions; AI value transcends religious lines.

Summary for Religion: No significant differences (all $p > 0.05$) across outcomes, with negligible effects. This suggests equitable AI perceptions and adoption between Hindu and Non-Hindu (primarily Muslim) students, possibly due to shared digital access in the region. A slight awareness trend warrants monitoring but does not indicate disparity.

3. Relationships by Income Groups

Table 12. Chi-Square Tests – Income vs. Binary Outcomes

Outcome	Low (% Yes)	Mid (% Yes)	High (% Yes)	χ^2	df	p-value	Cramér's V	Interpretation
Ever Used AI Tools	86.1	92.9	96.6	6.78	2	0.034	0.11 (small)	Higher income linked to greater usage; access barriers in low-income groups evident.
Desire for AI in Curriculum	91.8	94.1	93.2	0.67	2	0.716	0.04	Consistent desire across incomes; not influenced by SES.

Kruskal-Wallis Tests – Income vs. Ordinal Outcomes

Outcome	Low (Median)	Mid (Median)	High (Median)	H-stat	p-value	Post-hoc (Dunn's $p < 0.05$)	Interpretation
Frequency of Use	2.4	1.8	1.5	12.45	<0.001	High > Low; Mid > Low	Higher incomes use AI more often; connectivity/affordability drives frequency.
Awareness Rating	3.2	3.6	3.8	9.23	0.01	High > Low	Awareness increases with income; low-SES may lack exposure.
Confidence	2	1.7	1.4	14.67	<0.001	High > Low; Mid > Low	Confidence gradient by income; resource access boosts self-efficacy.
Helpfulness	1.7	1.5	1.4	4.56	0.103	None	No difference; perceived benefits universal.

Summary for Income: Significant small-to-medium effects ($p < 0.05$) show higher income associated with increased usage, awareness, and confidence, but not helpfulness or curriculum desire. Post-hoc confirms low group lags (e.g., 10% lower usage rate). This highlights socioeconomic divides in AI adoption, recommendable for subsidized access initiatives.

Table 13. Cross-Sectional Relationships by Gender

Outcome / Variable	Female (%) / Median	Male (%) / Median	Test Statistic	p-value	Effect Size	Interpretation
Ever used AI tools for learning (Yes)	86.60%	94.00%	$\chi^2 = 6.89$	0.009	Cramér's V = 0.113 (small)	Males significantly more likely to have used AI
Frequency of use (1=Daily → 5=Never)	Median = 3.0	Median = 2.0	U = 23,456	<0.001	r = 0.19 (small-medium)	Males use AI much more frequently
Daily use	24.20%	38.40%	$\chi^2 = 10.78$	0.001	V = 0.141	1.6× more males use daily
Awareness rating (1=None → 4=Very high)	Median = 3.0	Median = 3.5	U = 27,891	0.002	r = 0.14	Males report higher awareness
Confidence in independent use (1=High → 3=Low)	Median = 2.0	Median = 1.5	U = 21,456	<0.001	r = 0.24 (approaching medium)	Males significantly more confident
High confidence	52.30%	68.90%	$\chi^2 = 11.34$	0.001	V = 0.145	32% more males feel highly confident
AI tools are very helpful	65.20%	75.50%	$\chi^2 = 5.67$	0.017	V = 0.103	Males rate AI as more helpful
AI saves study time (Yes)	79.40%	86.80%	$\chi^2 = 4.12$	0.042	V = 0.087	Males more likely to agree
AI improved subject understanding (Yes)	71.60%	80.10%	$\chi^2 = 5.01$	0.025	V = 0.096	Males report greater benefit
AI tools can replace teachers (Yes)	9.00%	18.50%	$\chi^2 = 9.67$	0.002	V = 0.134	Males twice as likely to believe replacement possible
Students likely to misuse AI for cheating (Yes/Very likely)	84.00%	79.50%	$\chi^2 = 1.45$	0.228	V = 0.052	No gender difference in ethical concern
Should AI be part of college curriculum? (Yes)	91.20%	95.40%	$\chi^2 = 2.56$	0.11	V = 0.069	High support from both; males slightly higher but not significant
Main challenge reported						
• Lack of knowledge/guidance	42.00%	28.50%	$\chi^2 = 8.23$	0.004	—	Females cite this more often
• Internet issues	34.80%	23.20%	$\chi^2 = 7.01$	0.008	—	Females face connectivity barriers more
• Language barrier	21.40%	13.20%	$\chi^2 = 4.56$	0.033	—	Females more affected

(n = 539 valid responses: Female = 388 [72.0%], Male = 151 [28.0%])

Statistical tests used (same methodology as previous sections):

- Chi-square (Yates-corrected) + Cramér's V
- Mann-Whitney U test + effect size r (small ≥ 0.1 , medium ≥ 0.3 , large ≥ 0.5)
- Significance: $p < 0.05$ (bolded)

Summary and Interpretation of Gender Differences

1. Adoption & Intensity Gap

- Males are significantly ahead in every stage of AI engagement: awareness \rightarrow ever used \rightarrow frequency \rightarrow confidence \rightarrow perceived benefits.
- Effect sizes are consistently small-to-medium, indicating a real and meaningful gender digital divide even among college students in rural/semi-urban Jammu.

2. Confidence Gap is the Largest Observed

- The strongest statistical difference is in independent confidence ($p < 0.001$, $r = 0.24$).
- This suggests that even when females use AI, they feel less sure about using it without help — a critical barrier for deep integration.

3. Perceptual Differences

- Males are more likely to see AI as highly beneficial and are twice as open to the idea that AI could replace teachers.
- Females show greater ethical caution and report more practical barriers (knowledge, internet, language).

4. Policy Implications Specific to Gender

- Targeted women-only AI literacy workshops are urgently needed in these colleges.
- Improve campus Wi-Fi reliability and provide offline/mobile-friendly AI tools to reduce female-reported connectivity barriers.
- Curriculum should include confidence-building exercises (hands-on projects, peer mentoring) specifically designed to close the gender confidence gap.

While AI adoption is high among both genders, male students are currently leading the AI revolution in government colleges of Udhampur district, and female students face both practical and psychological barriers that must be deliberately addressed for equitable outcomes.

10. Main Challenges in Using AI Tools

Table 14: Challenges faced while using AI tools (multiple response allowed, $n=479$ users)

Challenge	n	% of users
Lack of proper knowledge/guidance	183	38.2%
Internet or connectivity issues	151	31.5%
Language barrier (non-English content)	90	18.9%
Occasional difficulty in getting accurate/reliable output	55	11.4%
Ethical concerns / fear of plagiarism detection	42	8.8%
Cost of premium versions	36	7.5%
Other	18	3.8%

Interpretation: The two most prevalent barriers are institutional/educational rather than technical: lack of guidance (38.2%) and poor internet access (31.5%). Notably, only 11.4% cite inherent limitations of AI output as a frequent problem, and ethical/plagiarism fears are relatively low (8.8%). This indicates that the biggest hurdles to equitable and effective AI integration are teachable skills and infrastructure rather than distrust in the technology itself.

Overall Summary of Important Insights

- AI awareness is near-universal (97.4%), driven by self-directed online discovery.
- ChatGPT is the overwhelmingly dominant tool (94.8% most familiar).
- 88.7% of students use AI academically; two-thirds at least weekly.
- Usage intensity, confidence, and advocacy for curricular inclusion increase significantly with academic seniority and family income.
- Students perceive AI as highly beneficial (85.6% very/extremely helpful), primarily for time-saving and quality enhancement.
- Primary remaining barriers are lack of institutional guidance (38%) and connectivity issues (32%), pointing to clear policy and infrastructural interventions needed for equitable adoption.

Conclusion

This comprehensive survey of 540 undergraduate students in six government degree colleges of Udhampur district provides robust evidence of the exceptionally rapid and widespread adoption of generative AI tools in a resource-constrained higher education context. With 97.4% awareness and 88.7% usage, ChatGPT has become virtually synonymous with AI for these students. The overwhelming positive perception (85.6% rating tools very/extremely helpful) and strong demand for formal AI education (92.6%) demonstrate both the transformative potential and responsible awareness of this technology, significant disparities persist. Males, higher-income students, and senior semesters show higher engagement, confidence, and frequency of use, revealing clear digital divides along gender and socio-economic lines. Primary barriers—lack of guidance (38.2%) and connectivity issues (31.5%)—are addressable through institutional intervention. These findings highlight the urgent need for proactive policy measures to ensure equitable and ethical integration of AI in higher education. Recommended actions include introducing a compulsory AI literacy and ethics module, developing clear institutional guidelines on acceptable use, enhancing campus Wi-Fi infrastructure, and providing targeted training for female and low-income students. This study serves as a critical baseline for policymakers in Jammu & Kashmir and similar contexts to harness AI's benefits while addressing existing divides and safeguarding academic integrity.

Policy Recommendations

- Introduce a compulsory 2-credit "Introduction to AI Tools & Ethics" course from 1st/2nd semester.
- Conduct faculty development programs on responsible AI integration.
- Develop institutional guidelines on acceptable AI use in assignments/examinations.
- Improve campus Wi-Fi and provide regional-language AI interfaces to reduce barriers.

This study provides baseline evidence for higher-education policymakers in Jammu & Kashmir and similar rural Indian contexts planning for the AI-augmented academic future.

AI Statement (for Inclusion in the Paper)

This research utilized generative artificial intelligence (AI) tools, specifically ChatGPT and Grok, during the preparation of this manuscript.

These tools were employed solely for the following limited purposes:

- Assisting with initial drafting and rephrasing of certain sections for clarity and conciseness,
 - Improving sentence structure and grammar, and
- All AI-generated outputs were thoroughly reviewed, edited, and substantially revised by the authors to ensure accuracy, academic integrity, and alignment with the study's original findings and voice. No AI tool was used for data analysis, generation of results, creation of figures, or production of the core scientific content. The final manuscript reflects the authors' intellectual contribution, critical judgment, and responsibility for all claims made. All use of AI was disclosed transparently in accordance with ethical publishing guidelines.

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