

SOCIAL SCIENCE STUDENTS AND AI ASSISTANTS: PRELIMINARY STUDIES ON AWARENESS AND USAGE PATTERNS

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Abstract: *This preliminary study investigates the awareness and utilization patterns of artificial intelligence (AI) assistants among social science students in higher education. As AI tools become increasingly prevalent in academic settings, understanding students' engagement with these technologies is crucial for educators and institutions. The study examines five key dimensions of AI interaction: academic task categories (assignment planning, writing support, research assistance, and exam preparation), usage patterns (frequency, duration, and tool preferences), decision-making processes (task selection and verification practices), learning impact (perceived benefits and challenges), and disclosure practices (academic integrity considerations). Through a structured survey comprising 18 questions, we collected data from social science students to assess their awareness levels and interaction with AI assistants across these dimensions. Our preliminary findings indicate that students demonstrate substantial awareness of AI assistants, suggesting their growing integration into academic workflows. This research provides nuanced insights into how students navigate AI tools in their academic journey, from initial task planning to final submission, while considering ethical implications and institutional guidelines. Moreover, this study highlights the role of AI assistant usage in shaping students' academic behaviours and contributing to broader social development in higher education contexts. The findings contribute to the emerging body of literature on AI integration in higher education and offer valuable insights for developing appropriate educational policies and procedures regarding AI usage in academic settings.*

Keywords: *Social Science, AI Assistants, awareness, usage patterns*

Introduction

The rapid advancement and increasing accessibility of artificial intelligence (AI) technologies have significantly transformed various aspects of society, including education. In particular, the emergence of AI assistants such as ChatGPT, Google Gemini (formerly Bard), Microsoft Copilot, and Perplexity AI has created new opportunities and challenges for teaching and learning in higher education. These generative AI tools can perform various tasks including writing assistance, research summarization, brainstorming ideas, and explaining complex topics. The integration of AI assistants into academic contexts raises important questions about how students interact with these technologies, what they perceive as appropriate uses, and how educational institutions should respond. While concerns about academic integrity and the potential erosion of critical thinking skills have been raised (Cotton et al., 2024; Stokel-Walker, 2022), others have highlighted the potential for AI to enhance learning experiences and develop new digital literacies (Abbas et al., 2024).

This research focuses specifically on social science students, as these disciplines often require the development of argumentation, critical thinking, and writing skills that AI assistants claim to support. This preliminary study aims to investigate the awareness and usage patterns of AI assistants among social science students, providing insights that can inform institutional policies and pedagogical approaches in this rapidly evolving technological landscape.

Literature Review

The introduction of ChatGPT in November 2022 marked a significant turning point in the accessibility and capabilities of AI assistants (OpenAI, 2022). Unlike previous technological innovations in education, generative AI tools have been widely adopted by students before formal institutional integration, creating a bottom-up rather than top-down adoption pattern (Kanont et al., 2024; Zastudil et al., 2023). This phenomenon has prompted educators and institutions to respond reactively rather than proactively to the challenges and opportunities presented by these technologies. Several studies have documented the rapid adoption of AI assistants among university students. ChatGPT achieved remarkable uptake, reaching over 1 million users within just 5 days of its public release, highlighting students' immediate openness to adopting AI tools (Elbanna & Armstrong, 2024). This rapid adoption is further supported by Mollick & Mollick (2022), who observed that most business students surveyed were already using AI tools to support various aspects of their coursework, despite limited formal guidance from instructors.

However, the speed of adoption varies significantly across different contexts. While some students demonstrate immediate engagement, others remain hesitant due to concerns about academic integrity and dependency (Khairuddin et al., 2024). This variation suggests that adoption patterns are influenced by multiple factors beyond mere accessibility.

AI Assistants and Academic Tasks

Research examining how students utilize AI assistants for specific academic tasks reveals a structured approach to integration. Susnjak and McIntosh (2024) categorized these applications into four main areas: assignment planning (brainstorming, outlining), writing support (drafting, editing), research assistance (summarizing, synthesizing), and exam preparation (practice questions, concept explanations). These categories provide a useful framework for understanding the integration of AI tools into student workflows. From the student's perspective, AI assistance appears to enhance the writing process significantly. Students felt that AI enhanced their writing performance in terms of quality, speed, and topic knowledge.

Kim et al. (2024) found that students felt AI enhanced their writing performance in terms of quality, speed, and topic knowledge. This positive perception contrasts with some institutional concerns about the potential erosion of authentic learning experiences, highlighting a disconnect between student experiences and institutional apprehensions.

Student Awareness and Attitudes

The literature reveals significant disparities in AI awareness and adoption across academic disciplines, though these findings present some contradictory patterns that warrant deeper examination. (Zawacki-Richter et al., 2019) found that awareness of AI capabilities varied significantly across disciplines, with computer science students demonstrating higher awareness compared to those in the humanities and social sciences. This finding aligns with expected patterns given the technical nature of computer science education and students' greater exposure to emerging technologies.

Studies on student attitudes toward AI assistants reveal nuanced rather than uniformly positive or negative perspectives. Sallam (2023) noted that awareness does not necessarily correlate with actual usage or critical understanding of AI limitations. Regarding attitudes, research suggests that students generally view AI assistants positively as learning aids but express concerns about dependency and academic integrity (Khairuddin et al., 2024). Malik et al. (2021) found that students' attitudes toward AI tools were influenced by factors such as prior technological experience, perceived ease of use, and instructor attitudes. A total of 2555 students at the University of Liverpool participated in a survey to understand student perspective on generative artificial intelligence (GAI) (Johnston et al., 2024). Findings show that over 50% of students had used or considered using GAI technologies for academic purposes. Students with higher confidence in academic writing were less likely to use or support the use of GAI technologies.

Institutional Responses and Policies

Educational institutions have responded to the rise of AI assistants in various ways, ranging from prohibition to embracing these technologies as pedagogical tools. According to Moya Figueroa and Eaton (2023), reported that approximately 45% of institutions had developed specific policies regarding AI use in academic work by mid-2023, while others relied on existing academic integrity frameworks. Holmes and Porayska-Pomsta (2023) argue that instead of prohibition, institutions should focus on developing AI literacy among students and faculty. This perspective emphasizes transparency, appropriate citation of AI assistance, and critical evaluation of AI-generated content (Gatrell et al., 2024). argue that instead of prohibition, institutions should focus on developing AI literacy among students and faculty.

Despite the growing body of literature on AI adoption in higher education, significant gaps remain in our understanding of how social science students specifically engage with AI assistants. While existing studies have examined general adoption patterns across disciplines, there is insufficient attention to the unique characteristics of social science students and how their disciplinary requirements influence AI awareness patterns. Most research conflates awareness with actual usage, lacks discipline-specific analysis for social sciences, and focuses on advanced usage patterns without establishing fundamental baseline awareness levels. Additionally, there is limited investigation into how effectively institutions communicate AI policies to students, particularly in social science contexts where academic integrity implications may be less clear-cut than in technical disciplines. This pilot study addresses these gaps by providing a preliminary investigation into social science students' awareness of AI

assistants, offering foundational data that can inform both institutional policy development and future comprehensive studies on AI integration in social science education.

Methodology

Research Design

This pilot study employed a quantitative approach using a structured questionnaire to conduct a preliminary assessment of social science students' awareness and usage patterns of AI assistants. As an exploratory investigation, the research design was specifically structured to gather initial data that would provide foundational insight into current trends among social science students and establish a framework for future comprehensive research. The preliminary nature of this study allows for the identification of key patterns and the development of research hypotheses that can be tested in subsequent larger-scale investigations.

Participants

The sample consisted of 10 undergraduate and graduate students enrolled in various social science programs, representing a purposive convenience sample appropriate for this pilot study. Participants were distributed across different years of study: Year 1 (n=1), Year 2 (n=3), Year 3 (n=2), Year 4 (n=3), and others (n=1). The fields of study represented included Literature (n=2), English Language and Literature (n=1), Communication studies (n=2), English/Communications (n=2), Business management (n=1), Halal Industry Management (n=1), and Computer Science (n=1).

It is important to acknowledge that this small sample size (n=10) significantly limits the generalizability of findings and prevents robust statistical analysis or definitive conclusions about the broader population of social science students. The sample size was determined by the pilot nature of this study and resource constraints. However, despite this limitation, the diversity in years of study and fields within social sciences offers a broad preliminary perspective on AI awareness across different student populations and provides sufficient data to establish initial trends and inform the design of future larger-scale studies. The findings from this pilot study should be interpreted as exploratory indicators rather than generalizable conclusions.

Instrument

The questionnaire was developed based on the five key dimensions identified in the research framework: academic task categories, usage patterns, decision-making processes, learning impact, and disclosure practices. The instrument consisted of 18 questions divided into three sections, awareness of AI tools, sources of AI awareness, and understanding of AI capabilities. It also includes demographic questions.

The questionnaire began with an initial multiple-choice question allowing respondents to indicate their awareness of specific AI tools (ChatGPT, Google Gemini, Microsoft Copilot, DeepSeek, Perplexity AI, and others), followed by a series of 17 binary (Yes/No) questions assessing awareness of various AI capabilities relevant to academic contexts. The questions progressed logically from basic awareness of AI assistants and their general capabilities to more specific academic applications. This structure allowed for analysing both breadth and depth of AI awareness among participants while maintaining simplicity appropriate for a pilot investigation.

Data Collection and Analysis

The questionnaire was administered electronically, and responses were collected in an Excel spreadsheet. Demographic information (year of study and field within social sciences) was collected to enable cross-tabulation analysis. Given the pilot nature and small sample size of this study, data analysis involved descriptive statistics including calculating frequencies and percentages for each question to determine overall awareness levels. Cross-tabulation was used to examine potential patterns based on year of study and field of study, though the small sample size limited the statistical significance of these comparisons and prevented more sophisticated statistical analyses. The analytical approach was designed to identify preliminary trends and patterns that could inform hypothesis development for future research rather than to establish statistically significant relationships.

Results

The results are presented in different sections: awareness of AI tools, awareness of general AI capabilities, awareness of academic applications, analysis by year of study, and analysis by field of study.

Awareness of AI Tools

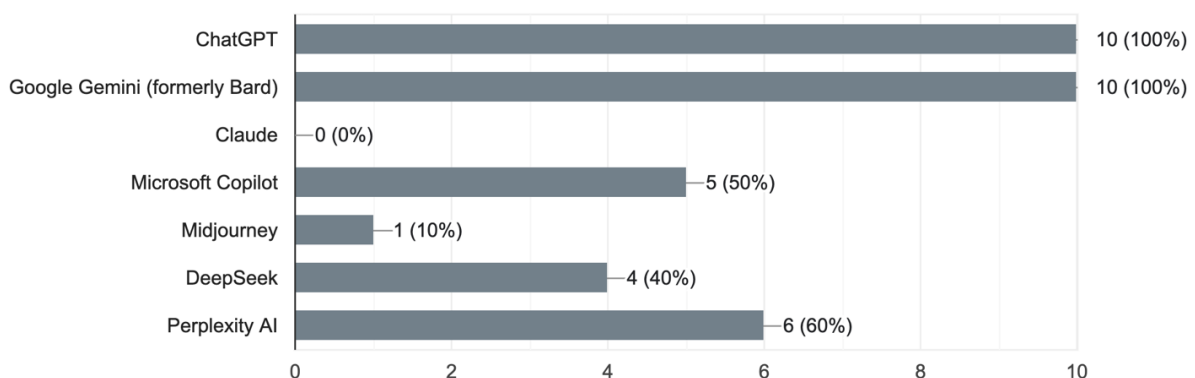


Figure 1: Awareness of AI Tools

Analysis of responses to the first question revealed widespread awareness of major AI assistants (Figure 1). All respondents (100%) were familiar with ChatGPT and Google Gemini (formerly Bard), making these the most recognized AI tools among the participants. Microsoft Copilot was known by 60% of respondents, while DeepSeek and Perplexity AI were identified by 40% and 70% of respondents, respectively. One respondent (10%) also indicated familiarity with Midjourney. This pattern suggests that while general-purpose conversational AI tools have achieved near-universal recognition among social science students, specialized tools have varying levels of awareness. The popularity of ChatGPT and Google Gemini likely reflects their prominent media coverage and marketing, as well as their free accessibility.

Awareness of General AI Capabilities

The respondents demonstrated high awareness of fundamental AI capabilities. 80% had learned about AI assistants from social media. 100% knew about AI writing assistants like Grammarly. 100% were aware that AI can summarize research papers. 30% of them first heard about AI assistants from professors/lecturers. 40% of them had classmates introduce them to AI assistants. 10% of them learned about AI from family members. 100% knew that AI can help brainstorm ideas. 100% were aware that AI can explain complex topics. These findings indicate that awareness of basic AI capabilities is nearly universal among the sampled social science

students. Notably, social media emerged as the primary source of AI knowledge (80%), substantially outpacing formal academic channels such as professors (30%). This suggests that students are primarily learning about AI assistants through informal networks rather than through curriculum integration or institutional guidance.

Awareness of Academic Applications

Regarding specific academic applications of AI, respondents showed high but more varied awareness levels. 90% of them knew AI could generate practice questions. 100% were aware that AI can create essay outlines. 100% knew about AI, suggesting counterarguments for essays. 100% were aware of AI's ability to generate different perspectives on topics. 80% of them knew AI can analyse the tone and style of writing. 80% of them were aware that AI can create mind maps. 90% of them knew AI could generate multiple-choice questions for self-assessment. 70% of them were aware of AI policies at their university. 60% of them knew AI could help with presentation slides. These results suggest that students are highly aware of AI capabilities directly related to writing and argumentation (core skills in social sciences), with slightly lower awareness of features related to visual organization (mind maps) and presentation development. The relatively lower awareness of university AI policies (70%) indicates a potential gap in institutional communication about guidelines and expectations regarding AI use.

Analysis by Year of Study

When examining awareness patterns by year of study, no clear progression was evident. Both early-year (1-2) and later-year (3-4) students demonstrated high awareness across most categories. This lack of a clear pattern suggests that awareness of AI tools may be spreading horizontally across cohorts rather than being accumulated through academic progression. The one Computer Science student classified as "Other" demonstrated the highest overall awareness, which aligns with findings from previous studies suggesting that students in technology-related fields tend to have greater familiarity with emerging technologies (Zawacki-Richter et al., 2023).

Analysis by Field of Study

Comparing awareness across different fields of study revealed generally high awareness levels across all disciplines, with some minor variations:

- Literature/English students (n=4) showed strong awareness of writing-related AI capabilities
- Communication/ENCOM students (n=3) demonstrated high awareness of AI applications for generating different perspectives and analysing tone
- Business/Management students (n=2) exhibited comprehensive awareness across all categories
- The Computer Science student showed complete awareness across all dimensions

These patterns suggest that students across different social science disciplines are developing awareness of AI capabilities relevant to their specific academic needs, though the small sample size limits definitive conclusions.

Discussion

The high awareness levels observed across all categories indicate that AI assistants have successfully penetrated the consciousness of social science students. This widespread awareness suggests that educators and institutions should acknowledge the presence of these tools in the academic ecosystem rather than assuming students are unfamiliar with them. The

finding that social media serves as the primary source of AI knowledge (80%) compared to formal academic channels (30%) highlights a potential gap in educational guidance. This discrepancy suggests that students may be developing their understanding of AI capabilities without critical frameworks or ethical guidelines that educational institutions could provide.

The near-universal awareness of AI capabilities related to essay writing, argumentation, and research summarization indicates that students recognize the potential applications of these tools in their academic work. This awareness does not necessarily imply usage or endorsement, but it does suggest that students are cognizant of how AI could support their academic tasks. The relatively lower awareness of university AI policies (70%) compared to awareness of AI capabilities suggests that institutional communication about appropriate AI use may not be reaching all students. This gap could potentially lead to unintentional academic integrity violations if students use AI without understanding institutional expectations.

This study has several limitations that should be acknowledged. The small sample size ($n=10$) limits the generalizability of findings and prevents robust statistical analysis. The binary (Yes/No) response format does not capture nuanced levels of awareness or actual usage patterns. The study focuses exclusively on awareness rather than measuring actual usage, skill levels, or ethical considerations. Self-reported data may be subject to social desirability bias, particularly regarding awareness of institutional policies. These limitations reflect the preliminary nature of this study and highlight opportunities for more comprehensive research.

Conclusion

This preliminary study provides valuable insights into the awareness levels of AI assistants among social science students. The findings indicate nearly universal awareness of major AI tools like ChatGPT and Google Gemini, as well as high awareness of AI capabilities relevant to academic tasks in social sciences. The observation that students primarily learn about AI through social media rather than formal academic channels suggests an opportunity for educational institutions to play a more active role in guiding AI literacy. The gap between awareness of AI capabilities and awareness of institutional policies further underscores the need for clearer communication about appropriate AI use in academic contexts. Future research should expand beyond awareness to examine actual usage patterns, ethical decision-making, verification practices, and the impact of AI assistants on learning outcomes. Larger sample sizes and more nuanced measurement approaches would enhance the robustness of findings. Additionally, longitudinal studies could track how awareness and usage evolve as AI technologies continue to develop and institutional responses mature. As AI assistants become increasingly integrated into academic workflows, understanding how students perceive and interact with these tools is essential for developing appropriate educational policies and pedagogical approaches. Integrating AI assistants into students' academic routines reflects a broader shift in how digital tools influence educational engagement and support social development in higher education settings. This preliminary study contributes to the emerging knowledge on this important topic and lays the groundwork for more comprehensive investigations.

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