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**AI Integration in Social Science  
Research: Current Practices,  
Knowledge Gaps, and Support Needs  
at UCT's CSSR**

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# AI Integration in social science research: Current practices, knowledge gaps, and support needs at UCT's CSSR

## Abstract

*This working paper examines the artificial intelligence (AI) tool usage patterns, barriers, and training needs of 25 members of the Centre for Social Science Research (CSSR) at the University of Cape Town through an internal survey conducted in June to July 2025.*

*The study reveals widespread AI adoption, with 96% of respondents currently using AI tools in their academic work, which significantly exceeds patterns observed in broader student populations. ChatGPT dominates usage (92%), followed by Grammarly (48%) and Elicit (40%). Most respondents employ multiple tools simultaneously with sophisticated quality assurance strategies: 70.8% cross-check outputs with other sources, 66.7% use iterative prompting, and 37.5% combine outputs from different tools.*

*Despite high adoption rates, several barriers were reported. Accuracy concerns affect 68% of users, ethical considerations worry 64%, and lack of formal training is a major obstacle for 56%. Critically, 80% of respondents have received no formal AI training, yet 72% express strong interest in structured capacity building, particularly hands-on workshops (73%) and ethics guidelines (69.6%).*

*The findings expose a disconnect between widespread usage and self-assessed 'moderate' understanding; this disconnect suggests that adoption of AI is driven by practical necessity instead of formalized knowledge. Qualitative insights reveal users envision AI as 'a partner in social science research' instead of replacement technology, and anticipate gains in efficiency and creativity while maintaining concerns about potential impacts on critical thinking.*

*The working paper argues that CSSR represents a community highly engaged yet cautiously navigating AI integration. To transition from informal experimentation to responsible implementation, five evidence-based recommendations are proposed: developing ethical guidelines, implementing tiered training programmes, establishing peer learning networks, forming an AI working group, and leveraging institutional resources. These interventions aim to maintain academic integrity while maximizing AI's transformative potential in social science research in South African higher education contexts.*

**Key words:** Artificial intelligence; higher education; AI adoption; AI tools; ethical AI; academic integrity; university policy; responsible AI use

## **Introduction**

Artificial Intelligence (AI) is increasingly transforming higher education globally, and South African universities are gradually recognizing its potential across teaching, learning, and administrative functions. The integration of AI tools in academic contexts represents both an opportunity for enhanced educational delivery and a challenge requiring careful institutional, ethical and methodological considerations. Recent evidence has identified AI as a catalyst for personalized instruction, adaptive assessment, and improved efficiency in academic delivery, while consequently introducing complex ethical, infrastructural and academic integrity challenges unique to the local context (Maphalala & Ajani, 2025).

South African universities have adopted varied governance approaches to manage AI integration responsively. Mogoale et al. (2025) conducted a systematic literature review, which identified key strategies for AI integration in South African higher education, and emphasised the need for careful planning, stakeholder collaboration, capacity building, and establishing ethical standards tailored to institutional needs. The diversity of these governance practices across universities reflects both innovation and adaptation to institutional contexts. For instance, North-West University (NWU) implemented an AI Steering Committee that co-developed policy and training materials, while the University of the Western Cape opted for inclusive guidelines developed through faculty consultations rather than rigid formal policies. University of Johannesburg embedded AI considerations into existing institutional frameworks, including academic misconduct and assessment strategies (Universities South Africa, 2025).

Studies on AI's educational role underscore its pedagogical promise. Maphalala and Ajani (2025) reviewed 87 empirical studies from 2014–2024, and found that AI tools facilitate personalised learning, enhance student engagement, and improve educational outcomes. Yet ethical concerns, such as data privacy, algorithmic bias, and academic integrity, remain central to the adoption of AI.

Lecturers' perspectives in South Africa offer a nuanced and contextually grounded understanding of AI tool usage in higher education. In a qualitative case study involving 15 lecturers at a South African institution, participants emphasized that successful AI integration to enrich blended learning depends on strong institutional support, digital infrastructure, professional development, and alignment with teaching goals (Sanders & Mukhari, 2024). Similarly, at Durban University of Technology, qualitative interviews with eight lecturers revealed that many have engaged with ChatGPT and are intrigued by its capabilities but fear it may encourage student laziness and undermine critical thinking (Mlambo, 2024).

Student engagement with AI tools demonstrates sophisticated and purposeful usage patterns. Xulu et al. (2024) surveyed 184 students at Mangosuthu University of Technology (MUT), and found a widespread perception of ChatGPT as a learning aid that improves access to information, writing skills, and engagement; yet students also expressed concerns about bias and integrity. An institutional survey conducted across five South African universities, namely the University of Cape Town (UCT), Rhodes University, Stellenbosch University, the University of the Witwatersrand, and Cape Peninsula University of Technology, revealed that students are selective and purposeful in their use of AI tools; students predominantly use writing aids such as Grammarly (80.5%) and Quillbot (46.5%), and to a lesser extent ChatGPT (37.3%) for essay help (Bosch & Uzuegbunam, 2023). Students reported using these tools to clarify concepts, structure essays, improve language proficiency, and summarize academic texts; they did not use these tools primarily to cheat. These digital tools were particularly valued for helping students to understand course materials, generate ideas, and save time, and for supporting non-native English speakers in improving their academic writing and referencing.

Concerns about academic integrity have driven a shift in policy and teaching strategies across universities. In the wider literature, a systematic review found that 88% of surveyed articles about ChatGPT raised cheating-related concerns, and universities responded in varied ways: outright bans, cautious acceptance, or exploratory usage (Sullivan et al. as cited in Singh, 2023). Some institutions,

including UCT, have even reconsidered the use of AI-detection software like Turnitin, because of high false-positive rates and fairness concerns (Mashinini, 2025).

Despite the concerns, some South African universities are actively developing policy responses to guide ethical and pedagogically sound AI usage. For example, the University of Pretoria has drafted guidelines that position ChatGPT as a supportive tool, not a substitute for critical thinking, and has established an advisory group focused on generative AI and academic integrity (Malinga, 2023). Furthermore, the University of KwaZulu-Natal supports a framework emphasising innovation, ethical use, academic integrity, and capacity building, and discourages outright banning of AI tools in favour of responsible use (Buthelezi, 2025). UCT has launched the AI in Education Framework that serves as a practical, user-facing guide for staff and students, and explains how to ethically incorporate AI tools (like ChatGPT) into teaching, assessment, and learning (Swingler, 2023). UCT also encourages options such as allowing students to critique AI-generated drafts or include AI-declaration statements in assignments. These measures aim to replace reliance on flawed AI-detection tools and foster transparency and responsible use of AI in academic work (Mashinini, 2025).

Beyond classroom applications, AI has started playing a role in academic libraries and research processes. Nkomo and Matli (2025) reviewed AI deployment in academic library services across African universities, and noted benefits like virtual assistance and improved resource discovery, while also highlighting barriers such as costs, technical skills shortages, and ethical concerns. In addition, Molopa and Cronje (2024) examined the use of AI in literature review methodologies, by weighing the efficiency gains against challenges to scholarly rigor and methodological transparency.

Despite growing recognition of AI's transformative potential in higher education, a comprehensive understanding of actual usage patterns, barriers to adoption, and support needs in specific institutional and diverse research disciplinary contexts remains limited. This gap is particularly pronounced in the South African context, where resource constraints, diverse student populations, and varying levels of digital literacy create unique implementation challenges.

## **Aims and Objectives**

The primary aim of this survey was to examine how researchers and professional staff at the Centre for Social Science Research (CSSR) including staff and students engaged with AI tools in their academic and professional work, with a focus on usage patterns, perceived benefits, barriers, and training needs.

The objectives of the working paper are as follows:

1. Map current patterns of AI tool usage by CSSR staff and students, including frequency, types of tools used, and levels of confidence.
2. Identify the main purposes and applications of AI tools in academic contexts, such as writing, research, teaching, and administrative tasks.
3. Explore barriers and challenges to AI adoption, including technical limitations, ethical issues, and concerns about accuracy.
4. Assess levels of knowledge and training related to AI tools, as well as how individuals currently learn about and engage with these technologies.
5. Capture interest and demand for future training and support, including preferred modes of capacity building (e.g., workshops, ethical guidelines, technical support).
6. Provide evidence-based insights to inform the CSSR's internal discussions, policies, and training initiatives on the responsible and effective integration of AI into research and teaching practices

## **Methods**

This working paper presents findings from an internal survey conducted with 25 members of the CSSR; the survey examined current AI tool usage patterns, barriers to adoption, and training needs. The survey was conceptualised at the Adolescent Accelerators Research Hub (AARHub, a research unit within the CSSR) Senior Leadership meetings, where we explored key questions about AI tools and their role in enhancing academic work.

## **Development of the Survey Tool**

The questionnaire was initially designed and piloted with colleagues at AARHub to gather feedback on the survey's content and relevance. Based on our colleagues' suggestions, we revised the questions and used their input to guide further discussions.

On 3 June 2025, we consulted Professor Jonathan Shock, a professor in the Department of Mathematics and Applied Mathematics, Director of the UCT AI Initiative, and adjunct professor at Institut National de la Recherche Scientifique Montreal. We sought both his feedback on the questionnaire and his insights into related initiatives at the UCT. Professor Shock responded with valuable suggestions, which we incorporated into the questionnaire. He also recommended that we consult with Sukaina Walji from the Centre for Innovation in Learning and Teaching (CILT). We subsequently shared the questionnaire with CILT via email. A summary of the questionnaire development and distribution processes is provided in Appendix A, while the AI questionnaire is presented in Appendix B. On 10 June 2025, the final version of the questionnaire was completed and prepared for distribution. On 24 June 2025, it was circulated via the CSSR internal mailing list, which comprised 85 members. Two reminders were sent on 30 June and 2 July, to encourage participation. The original closing date for the survey was 4 July. At that stage, about 55% of recipients had opened the communication (n=47). The deadline was extended to 6 July, which led to an increase in the response rate to 53.2% or 25 out of 47 researchers. The response rate among all participants who received the survey (29%) closely aligns with those seen in other remote methods of survey distribution at UCT, which notes a response rate of 17%–27% (Centre for Innovation in Learning and Teaching, 2020).

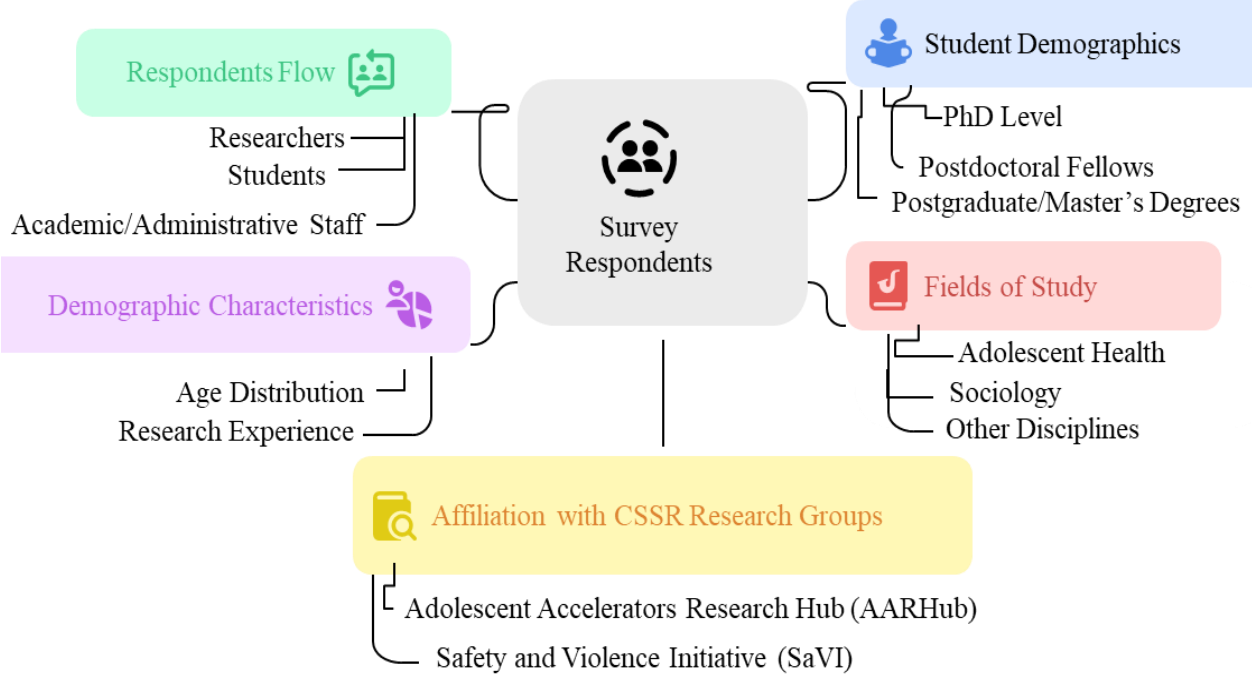
## **Data Analysis**

Quantitative survey responses were analysed descriptively, with frequencies and percentages calculated for each item to summarise the distribution of responses across participants. Open-ended (qualitative) responses were systematically and manually coded. Coding involved an initial reading of all responses to identify recurring themes, followed by the development of a codebook. Responses were then assigned codes and grouped into thematic categories, which allowed the identification of patterns and insights related to participants' perspectives on AI tools and their role in enhancing academic work.

## **Results**

The survey received responses from 25 CSSR members, which represented a diverse group of academic staff (64%), students (24%), and professional/administrative staff (12%). All individuals who selected 'student' in their responses were also concurrently employed as staff members. Respondents

varied in their levels of research experience, spanning from early-career to highly experienced professionals: 40% of respondents reported 3–5 years, 28% reported 6–10 years, while fewer respondents had more than 11 years of experience. The age distribution showed a predominance of younger researchers, with 52% aged 25–34 years and 36% aged 35–44 years, while only a small proportion (n = 8%) were aged 55 years and above. The majority of respondents were from the AARHub (n = 15; 60%), followed by respondents from the Safety and Violence Initiative (n = 7; 28%). Of the 12 student respondents, 33.3% were enrolled at the PhD level, 25% were postdoctoral fellows, and 41.7% were pursuing postgraduate/Master’s degrees. The most common fields of study were adolescent health (38.1%) and sociology (19%). The remaining respondents were distributed across five other disciplines, including anthropology, economics, political science, psychology, social sciences, and demography. Demographic characteristics of survey respondents is presented in Figure 1.



**Figure 1: Demographic characteristics of survey respondents**

The survey indicated a high rate of AI tool adoption, with 96% (24/25) of respondents currently using AI tools in their work. In terms of knowledge, 13 respondents (52%) reported having a moderate understanding of AI and its applications, while 7 respondents (32%) indicated fair to poor knowledge. The frequency of use varied considerably: 44% reported using AI tools weekly, 28% used them daily, 16% used them on a monthly basis, and 12% reported rare use.

Among the tools reported, ChatGPT emerged as the most widely adopted generative AI tool, used by 23 respondents (92%), with the majority relying on it regularly. Other commonly used generative AI platforms were Google Gemini/Bard (n = 9; 36%), Claude (n = 5; 20%), Microsoft Copilot (n = 5; 20%), DeepSeek (n = 4; 16%), and DALL·E (n = 2; 8%). The only non-generative AI tool reported was Elicit (n = 10; 40%). Grammarly (n = 12; 48%) was listed as the only hybrid tool; it was originally non-generative but now contains added generative features. See Figure 2.

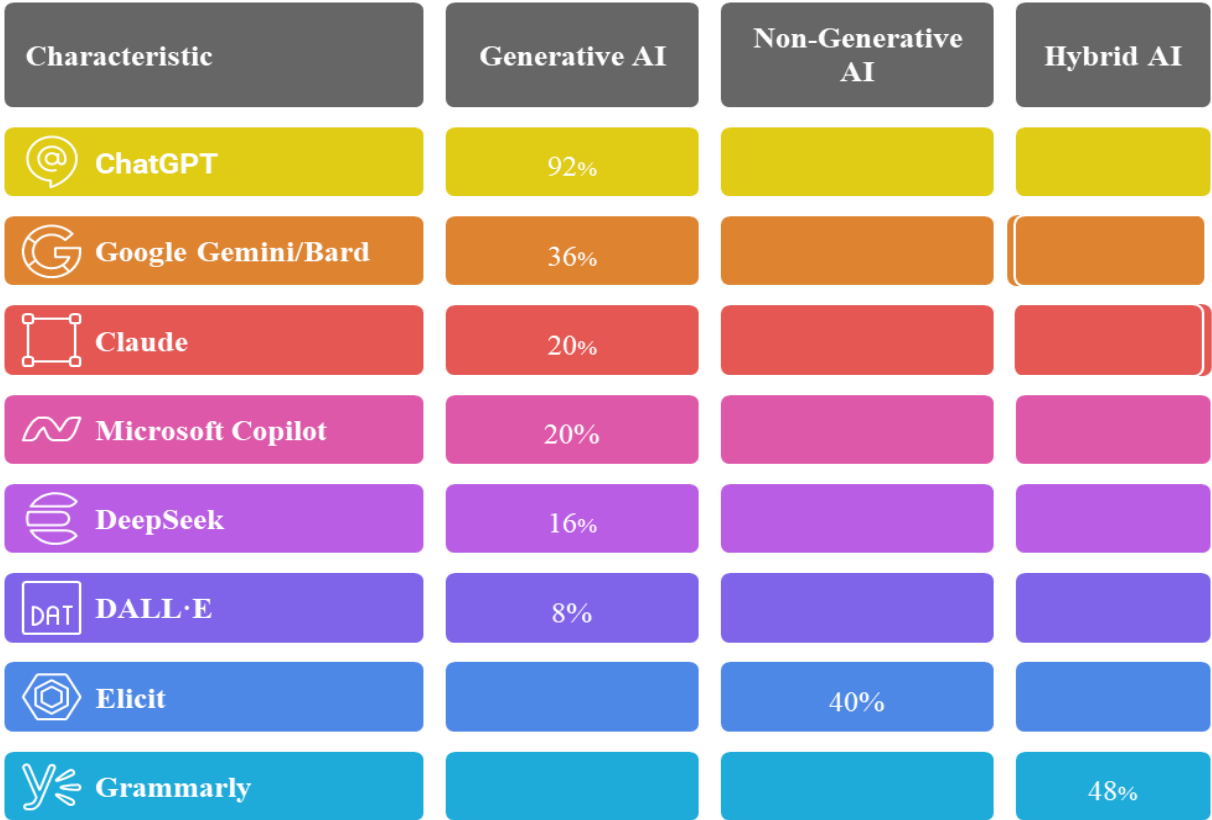
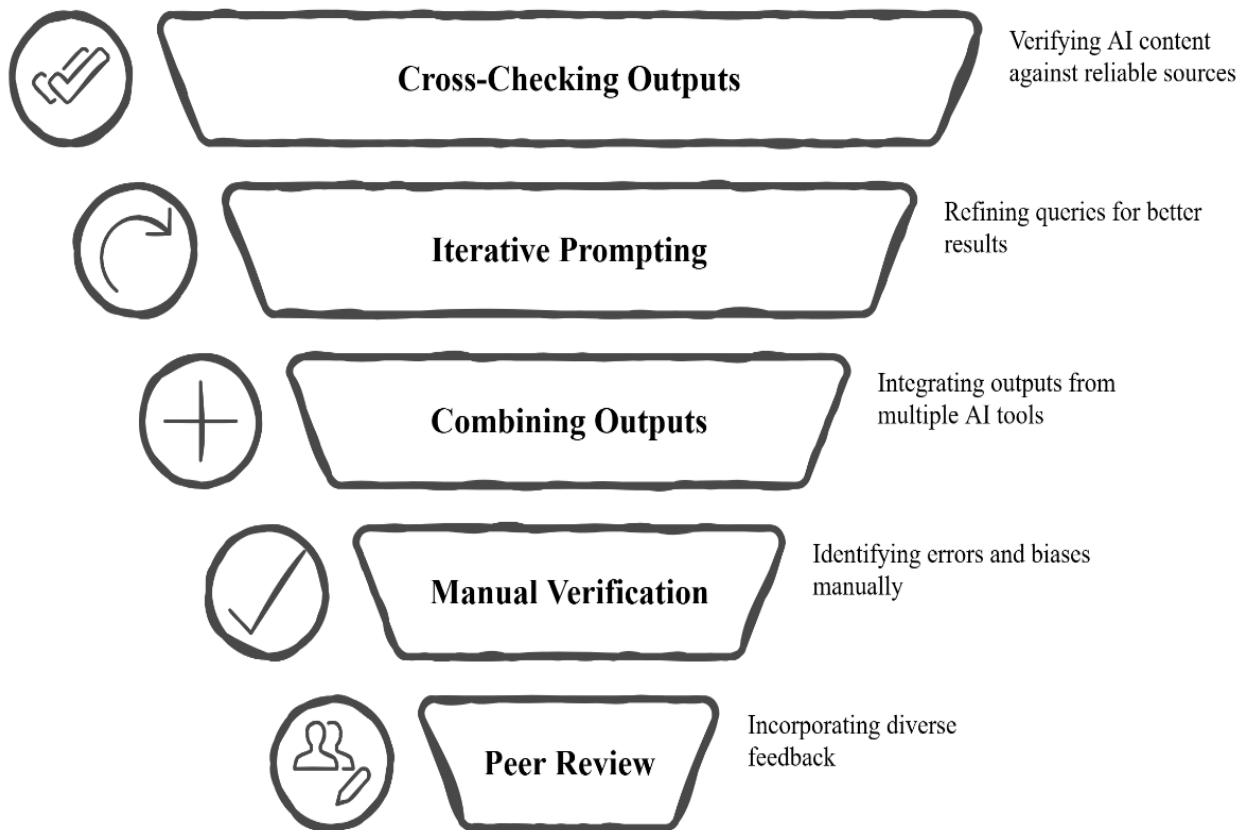


Figure 2: Adoption rate of AI tools

Notably, as shown in Figure 3, the majority of respondents reported using multiple AI tools simultaneously and adopting strategies to maximize accuracy and usefulness. For instance, 17 respondents (70.8%) indicated that they cross-check AI outputs with other sources, 16 (66.7%) reported using iterative prompting (refining queries multiple times), and 9 (37.5%) combined outputs from different AI tools. Several respondents elaborated on these strategies in the open-ended responses. One noted: ‘The better the prompt, the better the output – it’s vital to take time to write a clear prompt.’ Others described giving the AI ‘written

*feedback on its response'* or starting with smaller, simpler tasks that could then be built into more complex outputs.



*Figure 3: Generative AI applications, and user strategies for enhancing AI output quality*

While a subset of respondents ( $n = 16\%$ ) expressed high confidence and advanced knowledge of AI applications, others described their understanding as basic or still developing. Importantly, a substantial proportion of respondents ( $n = 96\%$ ) expressed interest in enhancing their AI literacy; this finding underscores the need for capacity-building initiatives to promote equitable and effective adoption of AI in research and academic practice. To ensure the quality and reliability of AI-generated outputs, respondents reported employing a range of quality assurance strategies. These included cross-referencing AI outputs with multiple credible sources, performing manual verification to identify errors or inconsistencies, and engaging in peer review and collaborative practices to incorporate diverse perspectives and critical feedback. Respondents also emphasized the importance of critically evaluating AI-generated suggestions prior to implementation, which is a cautious and reflective approach to integrating AI tools into research and decision-making processes.

Respondents identified several barriers to the adoption of generative AI tools in academic settings, as presented as a SWOT (Strength, Weakness, Opportunity, Threat) analysis in Figure 4. The most frequently cited concern was the accuracy and reliability of AI-generated outputs (n = 17; 68%), which raised questions about trustworthiness and the potential for misinformation. Ethical considerations and academic integrity also emerged as major deterrents (n = 16; 64%), particularly regarding plagiarism and the responsible use of AI in research and assessment. A lack of formal training or institutional guidance was noted by 14 respondents (56%); this lack left many users uncertain about best practices and appropriate applications. Additional barriers included bias in AI systems (n = 13; 52%), distrust of the technology (n = 11; 44%), and the cost of accessing certain tools (n = 7; 28%). A smaller proportion of respondents reported technical limitations, such as the complexity of specific AI platforms (n = 4; 16%), as inhibiting broader adoption.

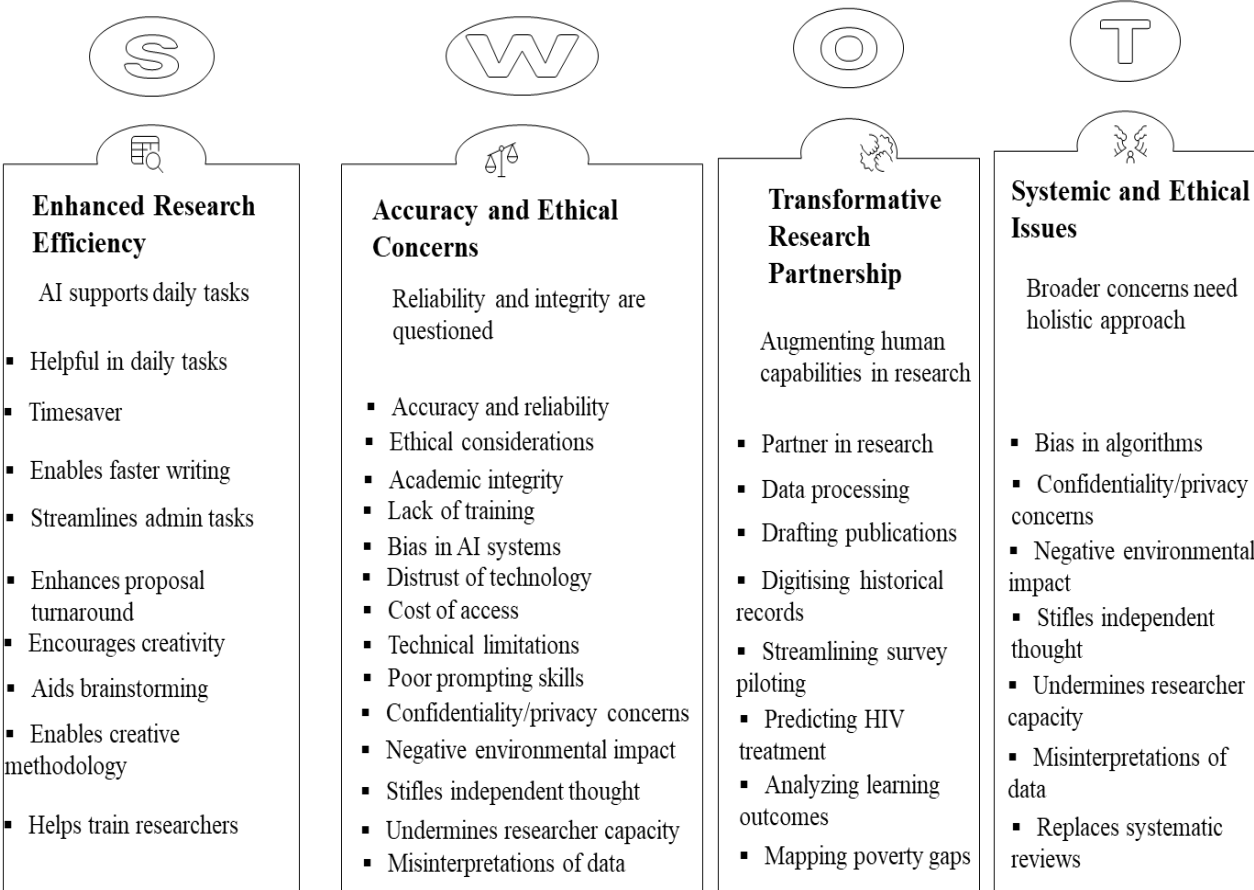


Figure 4: AI use in academic research

Qualitative responses also addressed these barriers, with several respondents stressing that poor prompting skills could compromise accuracy: ‘If one doesn’t

*know how to prompt, [it] could lead to inaccurate info.'* Concerns also extended beyond accuracy to broader systemic and ethical issues, including '*bias in the algorithms*', '*confidentiality/privacy concerns*', and even the '*negative environmental impact it's already having*'. Some expressed unease about how AI might shape scholarly practice, warning that it '*may stifle independent thought*' and that '*AI "assistance" too easily undermines researchers' capacity to think through problems themselves*'. One respondent cautioned: '*Relying exclusively on the judgement of AI may lead to misinterpretations of data with obvious consequences.*'

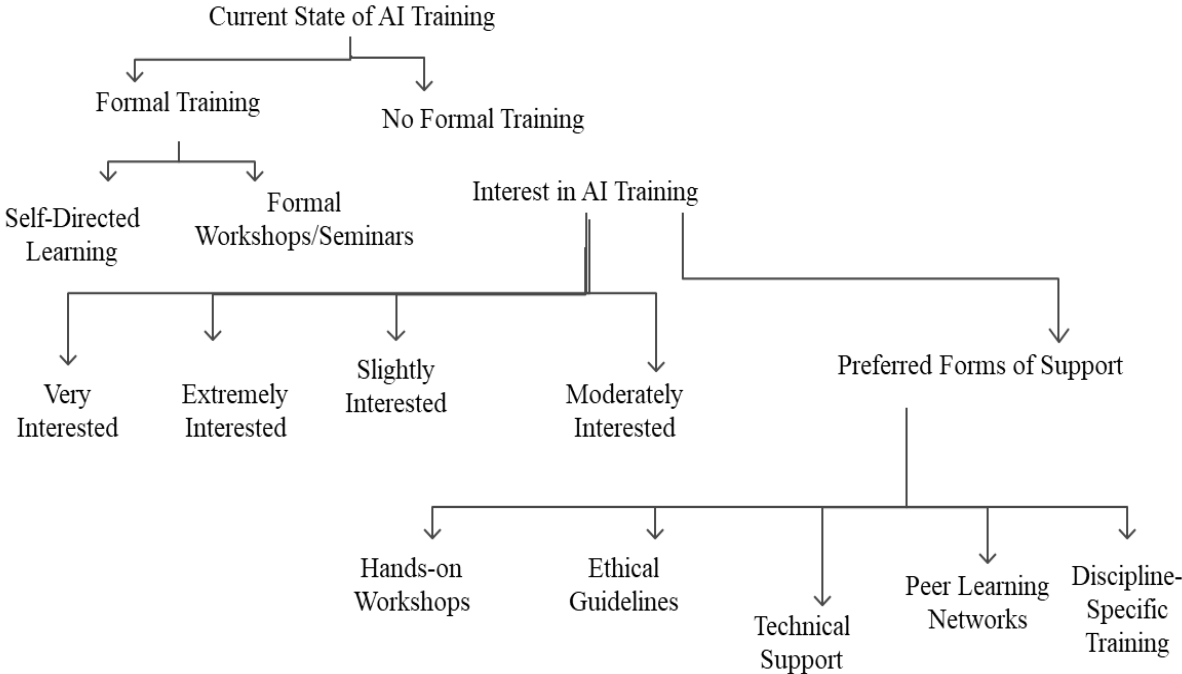
Despite these challenges, the effectiveness of AI tools was largely perceived as positive. The majority of respondents (n = 23; 92%) indicated that AI tools were helpful in supporting their daily academic and research-related tasks. However, the level of perceived effectiveness appeared to be influenced by factors such as prior training, user confidence, and the availability of institutional support.

Looking ahead, respondents also shared visions of AI's future role in social science research, with some emphasizing partnership: '*More than anything, I think AI will be a partner in social science research, rather than substantively replace humans in knowledge production.*' Others anticipated transformative gains in efficiency and scale, describing AI as '*a timesaver in that certain tasks can be done much more quickly when using generative AI*' and noting that it '*enables writing in less time than before*', '*makes admin tasks faster and easier*', and could even '*enhance turnaround times of proposals and reports*'. Respondents also valued AI's potential to '*encourage creativity, help with brainstorming*', and '*enable us to be creative in exploring new methods of methodology confidently*'. One respondent pointed to AI's role in capacity building, by suggesting that AI could '*help train new researchers in understanding some aspects of research*' and reduce reliance on others for guidance.

Alongside these benefits, respondents anticipated more structural changes, including generative AI's role in '*data processing and drafting related publications to really capitalise on all the data from a study*', and even the replacement of systematic reviews: '*I think it will replace systematic reviews almost entirely.*' In the South African context, respondents saw potential applications ranging from digitising historical records and streamlining survey piloting to supporting health research – for example, '*predicting HIV treatment*

*adherence, analyzing learning outcomes and dropout risks, and mapping poverty or service delivery gaps.'*

The findings revealed a limited level of formal training in AI. Only 20% of respondents had received any formal instruction, whereas the majority (80%) reported no training at all. Of those who had received training, 50% had engaged in self-directed learning using online resources, while 25% had participated in formal workshops or seminars. Despite this gap, there was clear evidence of a strong interest in and demand for training. Nearly half of the respondents (48%) indicated they were very interested in receiving formal AI training, 24% were extremely interested, 16% slightly interested, and 8% moderately interested, as presented in Figure 5.



**Figure 5: AI training and support for social science researchers**

When asked about preferred forms of support, respondents highlighted several key approaches:

- Hands-on workshops with practical applications (n = 17; 73%)
- Ethical guidelines and best practice documentation (n = 16; 69.6%)
- Technical support for tool selection and implementation (n = 15; 65.2%)
- Peer learning networks and discussion groups (n = 8; 34.8%)
- Discipline-specific training tailored to social science research (n = 5; 21.7%)

These findings underscore both the current lack of structured training opportunities and the substantial demand for capacity-building initiatives to enhance AI literacy and responsible use in academic and research contexts.

## Discussion

This snapshot of members of the CSSR provides a critical microcosm of the broader trends and tensions surrounding AI adoption in South African higher education. The findings reveal a Centre that is engaging with yet cautiously navigating the AI landscape, which is characterised by widespread experimentation, significant perceived benefits, and a clear demand for structured institutional support to mitigate inherent risks.

The finding that 96% of CSSR members use AI tools aligns with global and national trends that indicate there is rapid integration of these technologies into academic workflows (Bosch & Uzuegbunam, 2023). The predominance of ChatGPT mirrors the survey by Xulu et al. (2024), although its higher prevalence among CSSR members compared to the multi-institutional student survey suggests that researchers and academic staff may be at the forefront of exploratory use. The concurrent use of multiple tools such as Grammarly for writing, Elicit for research literature, and Gemini/Bard for alternative outputs demonstrates a sophisticated, task-specific approach to AI, which moves beyond seeing AI as a monolithic technology. This reflects a purposeful application, similar to the patterns observed by Bosch & Uzuegbunam (2023), where students used different tools for clarifying concepts, structuring essays, and improving language. However, this high adoption rate exists alongside a self-assessed ‘moderate’ understanding of AI and a significant minority with ‘fair to poor’ knowledge as stated in the current study. This dissonance between use and understanding is a critical finding. It suggests that adoption is being driven by practical need and peer influence rather than deep, formalized knowledge, which potentially increases users’ vulnerability to the tools’ limitations, such as inaccuracies and algorithmic biases (Mlambo, 2024; Nkomo & Matli, 2025).

The CSSR community primarily uses AI for research support, writing assistance, and data analysis, which indicates AI’s value in enhancing efficiency and overcoming specific skill barriers, particularly for non-native English speakers. This benefit was also noted for the students in the institutional survey conducted across five South African universities (Bosch & Uzuegbunam, 2023). Most importantly, respondents reported employing advanced strategies to ensure

reliability, including cross-checking outputs with other sources, iterative prompting, and combining outputs from different tools. This indicates the development of a critical, reflective praxis around AI. Users are not passively accepting AI outputs but are actively engaging in a form of critical peer review with the technology. This practice aligns with pedagogically sound approaches encouraged by institutions like UCT, which advocate for critiquing AI-generated content rather than outright banning it (Swingler, 2023).

The identified barriers are consistent with the global and South African literature. The primary concern regarding accuracy and reliability is well-founded, as large language models are known to ‘hallucinate’ or produce plausible but incorrect information (Sullivan et al. as cited in Singh, 2023). This directly impacts trust and is a significant barrier to deeper integration of AI into core research analysis. Our results have stressed ethical concerns and academic integrity, which remain paramount. A number of these issues were found in the study by Mlambo (2024), who interviewed lecturers. In the systematic review by Sullivan et al. as cited in Singh (2023), ethical concerns were found to reduce the development of critical thinking and were also associated with increased worries about cheating. Although CILT at UCT has developed commendable guidelines to support the responsible integration of AI in teaching and learning, the findings indicate a persistent lack of formal training and institutionalised support. This gap represents one of the most actionable areas for intervention, as it leaves academic staff and professional practitioners to navigate complex ethical and practical dilemmas alone. The absence of structured, university-wide training initiatives risks fostering uncertainty and potentially inconsistent practices in the Centre, thus underscoring the importance of translating existing guidelines into systematic professional development and policy implementation across the university.

Our survey further reveals a critical training-deficit, with the majority of respondents having received no formal AI training. This lack of support is a major barrier to responsible and effective adoption, as identified by Mogoale et al. (2025), who emphasize capacity building as a key strategy for integration. The strong demand for training with respondents being ‘very’ or ‘extremely’ interested underscores a readiness and willingness to engage more deeply with AI integration. The preferred modes of support are particularly noted: The demand for hands-on workshops, ethical guidelines, and technical support provides a clear roadmap for intervention. It calls for moving beyond theoretical discussions to practical, applicable skill-building, coupled with the essential ethical scaffolding

to ensure responsible use. The lower demand for discipline-specific training may indicate that users are first seeking to master foundational AI literacy before applying AI to niche research contexts.

Several refinements could enhance the clarity and utility of future survey iterations. First, including a concise introductory statement that defines AI, clarifies the survey's scope (e.g., whether it concerns university-related tasks specifically or general daily use), and outlines the purpose of the study would ensure shared understanding among respondents. Second, distinguishing between generative and non-generative AI tools in the questionnaire could yield more nuanced insights into patterns of adoption and perceived value. Third, certain items could be modified for greater flexibility, for example, by allowing respondents to select multiple roles in Question 1 (such as both 'student' and 'research assistant') to better reflect the overlapping responsibilities commonly found in academic contexts. Finally, adding new items that invite respondents to list time-consuming or repetitive tasks in their work environment that might benefit from AI support would generate actionable data to guide targeted training and tool development initiatives.

Future research could build on these findings by refining survey tools and expanding the scope of inquiry to include broader contextual and ethical dimensions of AI use. Incorporating items that explore respondents' awareness of the environmental impact of AI technologies, such as energy consumption and data centre sustainability, would provide a more holistic understanding of perceptions and priorities in the higher education context. Similarly, survey items probing knowledge of and attitudes toward the organisations and corporations driving AI development could illuminate how issues of trust, transparency, and perceived bias shape adoption and ethical positioning. Methodologically, future iterations could also include mixed-methods approaches, by combining quantitative data with in-depth interviews or focus groups to capture the nuanced reasoning behind institutional and individual practices.

## **Recommendations for Responsible AI Use**

Based on the survey findings and supported by the literature, the following recommendations could inform the CSSR's approach to fostering ethical and responsible AI use by its staff and researchers:

**Monitoring Unintended Consequences and Reimagining Assessment:** To strengthen accountability and ensure that any future UCT-wide framework for

responsible AI use remains responsive to emerging challenges, UCT could establish clear monitoring and evaluation mechanisms to assess both intended and unintended consequences of AI adoption. This may include systematic tracking of potential risks, such as bias, plagiarism, overreliance on AI, and possible shifts in core academic skills like critical thinking and creativity. Developing measurable indicators of the impact on teaching quality, learning outcomes, and assessment integrity would enable UCT to evaluate progress over time. The CSSR would then align its own internal practices with these institutional guidelines once established.

Furthermore, the creation of a structured feedback and review process with defined metrics, regular reporting intervals, and transparent adaptation of policies based on evidence would help ensure that the AI in Education Framework remains effective, ethical, and aligned with UCT's broader educational mission.

With the responsibility for plagiarism detection now largely devolved to individual lecturers, the framework could further promote assessment redesign, including greater use of in-person, oral, or process-based evaluations that reduce opportunities for AI misuse while supporting authentic learning.

**Implement a Tiered Training Programme:** Address the clear training gap with a multi-level capacity-building initiative:

- **Foundation Workshops:** Hands-on sessions covering prompt engineering, cross-verification techniques, and an overview of different tool types (e.g., writing aids like Grammarly vs. research assistants like Elicit). These sessions could be peer-led by interested researchers.
- **Advanced and Ethics-Focused Sessions:** For more experienced users, workshops on mitigating bias, understanding AI limitations in data analysis, and navigating authorship and plagiarism concerns. These sessions should complement existing resources provided by UCT, CILT, and different faculties.
- **Foster Peer Learning:** Peer learning networks or discussion groups to share use cases, prompts, and strategies, thereby creating an organic community of practice within the CSSR.

To strengthen this approach, participants could also be directed to existing external training opportunities, such as the Prompt Engineering Course, which is currently free and estimated to take around 15 hours to complete. The link to the course can be found [here](#).

**Form an AI Interest or Working Group:** Establish a small, representative group comprising staff and students in collaboration with the Centre for AI Research and CILT, to stay abreast of AI developments, continuously refine the CSSR's guidelines, and serve as a point of contact for technical and ethical queries. This mirrors the successful model of NWU's AI Steering Committee and aligns with UCT's Institutional Working Group.

**Promote a Culture of Critical AI Engagement:** Actively encourage the critical and transparent use of AI that respondents are already developing. Integrate discussions about AI into research meetings and seminars. Share links to talks on AI use and highlight new papers monthly through the CSSR website or mailing list. Normalise the practice of documenting AI use in methodologies and using it as a tool for critique and brainstorming, thus preserving academic integrity and critical thinking (Mlambo, 2024; Buthelezi, 2025).

**Advocate for and Leverage Institutional Resources:** CSSR should formally engage with central university structures like the UCT AI Initiative, the Centre for AI Research, and CILT to share its findings, learn from other faculties, and ensure CSSR's policies are aligned with and inform broader university policy development.

By adopting these recommendations, CSSR can transition from its current state of widespread but informal AI use to becoming a model unit within UCT for the responsible, effective, and critical integration of artificial intelligence in social science research.

## Conclusion

This snapshot reveals a dynamic and engaged community within CSSR, that is characterized by high rates of AI tool adoption. This enthusiasm, however, is matched by a thoughtful and mature approach to technology integration, with users demonstrating conscious concerns regarding ethical application, accuracy, and academic integrity. This positions the Centre favourably to become a leader in responsible AI adoption within the social sciences. Critically, this snapshot highlights a significant gap in formal training, which now presents a clear strategic priority. The strong demand for support, specifically for hands-on workshops, ethical guidelines, technical assistance, and peer learning networks, provides a direct roadmap for intervention. Addressing these identified needs is crucial to empower our researchers. By translating these insights into concrete actions and

building this critical capacity, we can harness AI's full potential to enhance rigorous, ethical research practices, and thus ultimately advance knowledge and innovation in AI-enhanced social science research. The next steps will involve translating these insights into concrete actions that support our community's continued growth and innovation in AI-enhanced academic work.

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## **Appendix A. Survey Development and Distribution**

This working paper draws on data from an internal survey conducted with members of the Centre for Social Science Research (CSSR) to examine patterns of AI tool use, barriers to adoption, and training needs. The survey was conceptualised during Senior Leadership meetings of the Adolescent Accelerators Research Hub (AARHub), a research unit within the CSSR. The questionnaire was initially designed and piloted with AARHub colleagues to ensure content validity and relevance, and was subsequently refined based on their feedback.

On 3 June 2025, further expert input was obtained from Professor Jonathan Shock (Department of Mathematics and Applied Mathematics; Director, UCT AI Initiative; Adjunct Professor, Institut National de la Recherche Scientifique Montreal). His suggestions, alongside additional recommendations from the Centre for Innovation in Learning and Teaching (CILT), were incorporated into the final instrument. The survey was distributed to the CSSR internal mailing list ( $n = 85$ ) on 24 June 2025, and was followed by reminders on 30 June and 2 July. The survey deadline was extended from 4 July to 6 July 2025, resulting in a final response rate of 53.2% (25 of 47 active recipients). A final version of the distributed survey follows in Appendix B.

# Appendix B. AI Survey Instrument

## *AI Tool Usage in University Work and Studies*

We are conducting this survey to understand how university students and staff use AI tools. Your anonymous responses will only be used for academic purposes. Participation is voluntary and takes 5–10 minutes. Thank you!

\* Indicates required question

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### Section 1: Demographics

1. **Question 1: What is your current academic position/role in the University?**

*Tick all that apply.*

- Student
- Lecturer
- Administrative Staff
- Research Fellow
- Senior Lecturer
- Professor
- Other: \_\_\_\_\_

2. **Question 2: Which unit/research group do you belong to at the CSSR? \***

*Tick all that apply.*

- Sustainable Societies Unit (SSU)
- The Safety and Violence Initiative (SaVI)
- The Adolescent Accelerators Research Hub (AARHub)
- Institute for Democracy, Citizenship and Public Policy in Africa
- Other: \_\_\_\_\_

3. **Question 3: Level of Study (for Students only)**

*Mark only one oval.*

- Undergraduate
- Postgraduate/Master's
- PhD
- Post-doc
- Other: \_\_\_\_\_

4. **Question 4: What is your primary field of study within social sciences?**

*Mark only one oval.*

- Anthropology
- Economics
- Political Science
- Psychology
- Sociology
- Other: \_\_\_\_\_

5. **Question 5: How many years of experience do you have in social science research?**

*Mark only one oval.*

- 0-2 years
- 3-5 years
- 6-10 years
- 11-15 years
- 16+ years

6. **Question 6: What is your Age Range \***

*Mark only one oval.*

- 18-24
- 25-34
- 35-44
- 45 - 54
- 55+

## Section 2: AI Awareness and Usage

7. **Question 7: Do you use AI tools? \***

*Mark only one oval.*

- Yes  
 No  
 I am not sure

8. **Question 8: How would you rate your current knowledge of AI and its applications in social science research?**

*Mark only one oval.*

- 1   2   3   4   5  
Very      Very high

9. **Question 9: How often do you use AI? \***

*Mark only one oval.*

- Daily  
 Weekly  
 Monthly  
 Rarely

10. **Question 10: Which of the following AI tools have you used?** (Select all that apply) \*

*Tick all that apply.*

- ChatGPT
- Grammarly
- GitHub Copilot
- MidJourney
- DALL·E
- Custom ML Models
- Microsoft Copilot
- Consensus
- Google Gemini/Bard
- DeepSeek
- BERT
- RapidMiner
- KNIME
- SurveyMonkey Genius
- Claude
- Rayyan
- ASReview
- Connected Papers
- Qualtrics XM
- Elicit
- Other: \_\_\_\_\_

11. **Question 11: Purpose of AI Use** (select all that apply) \*

*Tick all that apply.*

- Academic research (e.g., summarizing papers, data analysis)
- Writing/editing essays, reports, or emails
- Teaching
- Data Analysis
- Coding/programming assistance
- Content Creation
- Administrative tasks (e.g., drafting emails, forms)
- Healthcare
- Creating presentations/visual content
- Work and productivity
- Time management/scheduling
- Language translation/learning
- Brainstorming ideas or solving problems
- Grading/assessment (for instructors)
- Other: \_\_\_\_\_

**Question 12: Sharing New AI Strategies**

12. **12(a).** Have you discovered any creative or unexpected ways to improve AI tool results? If yes, describe one example (e.g., "I ask ChatGPT to rate its confidence in its answer before using it").

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13. **12(b).** What strategies do you use to ensure AI outputs are accurate or useful? (Select all that apply)

*Tick all that apply.*

- Asking the tool to self-evaluate (e.g., "Rate your answer's accuracy on a scale of 1-10")
- Cross-checking outputs with other sources
- Using iterative prompting (e.g., refining the query multiple times)
- Combining AI tools (e.g., ChatGPT + Grammarly)
- Other: \_\_\_\_\_

14. **12(c).** Share a tip or "hack" you've learned for using AI effectively

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**Section 3: AI Integration and Perceptions**

15. **Question 13: To what extent do you agree with the following statements? \***  
(Strongly disagree, Disagree, Neutral, Agree, Strongly agree)

*Mark only one oval per row.*

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<b>AI tools can significantly enhance the efficiency of social science research</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>AI tools can help reduce bias in research design and data analysis</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>I am concerned about the ethical implications of using AI in social science research</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>AI tools will eventually replace human researchers in some aspects of social science research</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

#### Section 4: Challenges

16. **Question 14: What are the main barriers to your adoption of AI tools in research?** (Select all that apply) \*

*Tick all that apply.*

- Cost of AI tools
- Lack of knowledge or training
- Distrust
- Accuracy Issues
- Bias Concerns
- Complexity
- Concerns about data privacy and security
- Ethical concerns
- Lack of institutional support
- Other: \_\_\_\_\_

17. **Question 15: How effective do you find AI tools in helping you complete tasks in your daily work or studies?** \*

*Mark only one oval.*

1   2   3   4   5

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Not      Very Effective

#### Section 5: Training and Support

18. **Question 16: Have you attended/accessed any formal training in using AI tools for social science research?**

*Mark only one oval.*

- Yes
- No

19. **Question 17: If yes, what type of training did you receive?** (Select all that apply)

*Tick all that apply.*

- Online courses
- University courses
- Workshops or seminars
- Self-taught through online resources
- Other: \_\_\_\_\_

20. **Question 18: What is the name or link of the AI training accessed?**

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21. **Question 19: How interested are you in receiving training on AI tools for social science research?**

*Mark only one oval.*

- Not interested
- Slightly interested
- Moderately interested
- Very interested
- Extremely interested

22. **Question 20: What types of support would be most helpful in integrating AI tools into your research?** (Select all that apply)

*Tick all that apply.*

- Workshops and training sessions
- Access to AI tools and software
- Funding for AI-related research projects
- Collaboration opportunities with AI experts
- Guidelines on ethical use of AI in research
- Other: \_\_\_\_\_

**Question 21: Future Outlook**

23. **21(a): How do you envision the role of AI in social science research worldwide over the next 5 years?**

(Open-ended question)

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24. **21(b). In your opinion, what are the potential positive and negative impacts of increased AI adoption in social science research? Please consider both benefits and challenges.**

(Open-ended question)

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25. **21(c). Are there any specific areas of social science research in South Africa where you believe AI could have a significant impact?**

(Open-ended question)

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