MKW Guidelines: AI in Academic Studies

The use of AI in academic studies is generally permitted at the Institute for Media and Communication Studies (MKW) and does not require documentation. AI can facilitate certain aspects of the research process but does not replace personal reflection and disciplinary competence. Use established strategies and workflows as a complement or alternative, and keep in mind that the critical use of AI does not necessarily lead to time savings. You bear full academic responsibility for the quality of your work. You should also consider research ethics, data protection and copyright issues when working with AI:

RESEARCH ETHICS**:** Under no circumstances is it permitted to use AI to fabricate research data such as interview transcripts or data sets. If you intend to use AI for individual work steps such as creating stimulus material or the automatic coding of media content, you must document this precisely. In these cases, the same scientific quality standards apply as for the manual procedures. In case of doubt, consult your instructor or supervisor in advance.

DATA PROTECTION: Personal data must not be entered into external AI systems that are publicly or commercially accessible. The processing of such data is permitted only in AI systems explicitly authorised for this purpose by the University of Mannheim.

COPYRIGHT: When using third-party content (e.g. text, images or code from third parties) in AI systems, please ensure that you comply with copyright law and the relevant licence terms. As many AI services cache input content or use it for training purposes, you otherwise risk the unauthorised distribution of this data, for which you may be held liable. It is your responsibility to check that the input (prompts) is permissible.

By AI, we are primarily referring to large language models (LLMs) such as ChatGPT or Perplexity.

An overview of various language models and their fields of application can be found online in the list of AI tools of the University of applied Sciences and Arts in Hildesheim (HAWK).

When using AI, consider the tips and notes in the AI self-study course offered by the Faculty of Philosophy on ILIAS.

	Here is how AI can be useful	But be critical!	Use the following strategies as well
Research design			
Finding ideas and generating research problems	Chatting with AI can be useful for generating ideas.	Do not adopt ideas before you have read the state of research – investigate which research problems already have answers. Keep in mind that many AI models are trained to respond in a helpful and affirmative manner. They generally do not evaluate content critically. You must	Follow current events in the news; use MKW course offerings as a source of inspiration; exchange ideas with instructors and fellow students.

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		verify ideas and arguments yourself.	
Formulating research questions	AI can help with precise wording if it is provided with the necessary information about independent and dependent variables etc.	Check whether the wording is substantively accurate, i.e., whether it expresses the context you intend to investigate.	Examine variable relationships yourself; discuss your research question with your fellow students and instructors.
Deriving hypotheses	AI can assist with the linguistic formulation of hypotheses (less stiff, less cumbersome, more fluent, in line with scientific conventions).	Check whether the suggested wording is substantively specific and correct. Generating original and testable hypotheses requires detailed prompting. Suggestions must be thoroughly examined on the basis of scientific literature. At best, AI can serve as a source of inspiration here.	Generate original and testable hypotheses based on scientific literature; discuss them with your fellow students and instructors.
Selecting suitable research methods	AI can suggest research methods based on similar studies.	Check whether the suggestions are reasonable and feasible.	Draw on the materials and knowledge from your methods courses. Read relevant methodological literature. Discuss your choice with your fellow students and instructors.
Selecting relevant concepts or variables	If the problem is described precisely, AI can suggest suitable concepts and relevant variables. However, this requires a high level of competence on the part of the user.	Critically review the suggestions.	Read the scientific literature related to your research problem and examine which concepts and variables are referenced.

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Literature research			
Finding relevant literature	In addition to database searches, results from ChatGPT, Perplexity, Elicit, and Consensus can point to further articles related to your research questions.	Keep in mind that AI does not have access to numerous publications (e.g., behind paywalls). However, the lack of access to the state of research does not only concern paywalls, but also non-digitized books and non-English-language literature. AI models often refer to unpublished and non-peer-reviewed manuscripts (e.g., from the preprint platform arXiv) as well as to lower-quality journals (so-called predatory journals without qualified peer review). Also expect that AI models still hallucinate and invent sources. Be critical if AI models suggest theories and models you have not heard of before and verify how well established they are.	Use multiple sources for your literature research: • your own database search via CMMC, Google Scholar • Consensus • Perplexity • Elicit Once you have found relevant articles and papers, evaluate them according to quality and reliability (qualified peer review, subject-relevant and well-known academic journals). Review the literature cited in these papers and ideally repeat the process until you no longer obtain new references.
Summarizing scientific papers	AI should only be used to a limited extent.	Ask the AI to provide page references for claims and verify them.	Read and work through academic literature yourself — this will not only help you find the relevant content on your topic but also teaches you how to argue and write scientifically. Instead of AI applications, use reference management software such as Zotero or Citavi.

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Identifying the state of research	AI should only be used to a limited extent.	Keep in mind that AI does not have access to numerous publications. However, the lack of access to the state of research does not only concern paywalls, but also non-digitized books and non-English-language literature. Keep in mind that AI models still hallucinate and invent sources.	Use your literature research and review the current literature.
Identifying research gaps	AI should only be used to a limited extent.	The use of AI is particularly sensitive in this context because it requires theoretical competence and involves not merely filling gaps, but also demolition and reconstruction. AI cannot assess the conceptual quality of research. It is likely to ignore rather than recognize a brilliant design at the margins of the mainstream.	Review and work through the current literature. In the discussion sections, articles and contributions often explicitly refer to research deficits. Ideally, develop your own point of view from which you can evaluate the productivity and value of research work.
Data analysis and interpretation			
Selecting suitable analysis methods	AI can make suggestions with precise prompting.	Check whether the suggestions appear reasonable and feasible.	Draw on the materials and knowledge from your methods courses. Read relevant methodological literature.
Identifying steps for data analysis	AI can help with error messages in R and contribute to identifying errors (what are possible causes of the error message?). AI can provide explanations for codes in R (what do the individual elements	Review suggested error solutions and analysis steps.	Consult primary scientific sources, methodological texts, and/or the documentation of the packages used.

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	mean?).		
Generating code for data analysis (e.g., in R)	AI can assist in generating an initial draft of code.	Do not adopt any code you do not understand. Go through the code step by step, have it explained to you, and compare the explanations with the official R documentation as well as with trustworthy sources (e.g., Stack Overflow, GitHub, CRAN). Be cautious with tools that have integrated AI (e.g., Cursor): strongly restrict write access, otherwise there is a risk that files will be deleted or overwritten due to hallucinations.	Use GitHub Copilot in RStudio (registration with university ID required). GitHub Copilot works directly with you in your editor and suggests lines of code or complete functions.
Debugging/improving existing code	AI can help you understand existing code. Have individual lines or blocks of code explained to you and work through them yourself. AI can assist with troubleshooting, identify possible causes, and suggest appropriate sources. AI can provide suggestions for improving codes.	Check every suggested change yourself; do not adopt anything you do not fully understand. Directly searching for error messages can lead to incorrect or unsuitable solutions. Therefore, have the AI explain every proposed solution, compare the explanation with the official function documentation, and check whether it fits your own situation.	Use the official R documentation, check step by step

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		Also use a separate window or chat to critically question the proposed solution ("What argues against this approach?").	
Interpreting data	AI can suggest alternative interpretations and explanations.	Maintain a level of skepticism toward proposed explanations that is at least as high as toward your own explanations. Do not adopt any explanation that you have not logically understood and critically reflected on yourself.	Interpret your results in the context of established theories and models. Only then will the empirical findings become meaningful.
Writing			
Generating text	AI can be helpful when summarizing texts you have written yourself (e.g., an abstract for your own thesis).	Independently check accuracy and completeness. Do not adopt unscientific "marketing speak" — not everything that sounds good makes sense in terms in content.	Write yourself. Writing is thinking; it helps you develop a coherent argument.
Rephrasing texts	AI can examine text passages for vulnerabilities: Ask specific questions about potential problems: Are justifications incomplete? Are there hidden assumptions that need to be justified? Are false dichotomies being constructed? Are technical terms unclear or not explained? AI can check for readability: Have the comprehensibility and readability of the text evaluated.	Do not adopt any text you have not understood. When rephrasing texts, AI models often omit individual steps, skip points, or address certain points twice. Always check texts for completeness and coherence. Keep in mind that AI models work best in sections — weaknesses in one section may already have been answered in others.	Revise your text yourself repeatedly. Writing is a process — it requires numerous revision cycles until the final result. Do not let your own style be completely replaced by an AI model. Have the courage to develop your own phrasing. Ask your fellow students for feedback on your text.

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	You can assign AI a specific role, e.g., "You are an editor for academic texts," to obtain targeted feedback.	Be cautious with phrasing that sounds catchy — it may still be factually incorrect; always reconsider content literally.	
Linguistic correction (error checking, readability)	AI can assist with the translation of technical terms: Get advice on how to translate English technical terms into German, ideally with references to sources from the academic literature.	Be cautious: AI models can reproduce linguistic ambiguities from texts. Many technical terms used in MKW (e.g., framing, parasocial relationship) have already become blurred in everyday language. Only use technical terms whose meaning you are certain of and deliberately look up unfamiliar terms in primary scientific sources. Check translations: Consult the academic literature to determine which translations of key constructs and technical terms are commonly used in research practice to avoid misunderstandings or incorrect translations.	Ask fellow students or acquaintances for feedback on your text (e.g., for theses).
Creating images for research papers	AI can help create conceptually explanatory illustrations. AI can be used to create stimuli when suitable real-world images do not exist.	Check whether the graphic correctly conveys the concept or the intended insight and ensure that no existing illustrations are plagiarized. When generating stimulus material, always verify that the produced materials correctly represent the intended	Try to visualize your thoughts and hypotheses yourself (e.g., first by hand as a sketch, then in PowerPoint)—this helps in developing the argumentation.

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		properties and content. Carefully inspect the generated materials for artifacts, conduct pretests as usual, and consider possible effects of generated stimuli (e.g., potential reactance).	
Referencing			
Creating lists of reference	Use AI to check literature lists according to APA 7 and to identify errors.	Critically review the revisions: page numbers and DOIs are sometimes mixed up, so manual checking is necessary!	Use reference management software (e.g., Zotero, Citavi); this helps to create clean lists of reference and also provides extensive support in the overall writing process (collecting and systematizing literature, collaborative projects, etc.).
Presentations			
Structure and key message	AI can help you identify a key message and develop a storyline. You may use it to summarize relevant content for your slides and suggest counterarguments and alternative perspectives on your line of reasoning. AI can suggest areas for cutting.	When using AI, you run the risk of neglecting your own style, your own creativity and your own understanding of the subject. Make sure that the central message and the overarching theme of the presentation remain clear. Ensure, amongst other things, that key technical terms are retained and defined.	Depending on the content, different structures may be appropriate. Ask your lecturer for advice. The possible level of detail is limited by the length of the presentation. Ask yourself: What are the main elements and concepts that you absolutely want to convey? What kind of introduction would you find interesting? Do individual points build on one another, thereby providing a structure?
Design and visualization	The use of AI to create slides is not recommended.	Do not use slides created solely by AI, as they are difficult to customise and you will lose control over the design.	Use applications such as PowerPoint or Prezi to create your slide decks. These applications include features for design

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	You can use AI to check your slides for clarity and ensure that the bullet points they contain are concise. AI is not suitable for visualizing empirical data and correlations. AI can be used, with careful consideration, to create purely illustrative visual material.	AI can make errors when citing sources on slides. AI often misrepresents empirical data and correlations (e.g. in graphs and tables). AI-generated images intended for illustrative purposes may contain distorted or discriminatory depictions (e.g. predominantly white, male doctors). Assess AI-generated images against criteria of representation.	suggestions. The University of Mannheim provides standardized templates. Prepare your delivery by formulating the content, designing the visuals and selecting multimedia aids (e.g. flipcharts, mind maps, whiteboards) yourself. Create your own graphs and tables in R or Excel to avoid errors and ensure you do not breach data protection or copyright laws. Plenty of image and video material is freely available online. You can also use hand-drawn sketches.
Preparing the delivery and final touches	AI can be used to prepare the first draft of a script and flashcards. AI can help you gather ideas for audience engagement and identify any questions you might be asked, so that you can prepare for them.	If you rely entirely on AI, you run the risk of struggling to explain yourself if questions are asked. You should be able to explain the logic and the structure of your argument. If you use AI models to generate suggestions for engaging the audience, ensure that they are appropriate and feasible for your context.	Independent preparation and rehearsal help strengthen your presentation's content, structure, and delivery, while reducing reliance on notes, preparing you for questions, and ensuring good time management. To engage your audience, you can include simple estimation questions and questions on basic knowledge from your studies.