INTRODUCTION ELON AI HUB

Using AI in Academic Research: A Student Guide

How to Use AI Effectively, Ethically, and Critically

What Is This Guide?

This packet series is designed to help you use artificial intelligence (AI) tools, like ChatGPT, throughout the research process in a responsible and effective way.

AI can support your work, but it cannot replace your thinking, judgment, or responsibility as a researcher.

How Should You Think About AI?

- AI is a tool for support, not a source of truth
- AI generates probable answers, not verified facts
- AI outputs are starting points, not final answers

AI vs. Traditional Research Tools

Traditional tools (like SPSS or databases):

- Follow clear rules
- Produce consistent, reproducible results
- Do not invent information

VS.

AI tools:

- Generate responses based on patterns
- Adapt to prompts and context
- May produce convincing but incorrect information

→ This means you must always verify and think critically when using AI.

Your Role as the Researcher

When using AI, you are responsible for:

- Accuracy of information
- Evaluating sources
- Interpreting results
- Ethical and transparent use

★ AI cannot take responsibility for your work; you do.

How to Use This Packet Series

Each packet focuses on one step of the research process:

1. Developing a research question
2. Finding academic sources
3. Reading and understanding research
4. Synthesizing information
5. Designing your study or argument
6. Writing and drafting
7. Revising and citing AI use
8. You can follow the packets in order or use individual steps based on your needs.

Before You Start

Ask yourself:

- What do I want AI to help me with?
- How will I check if the output is accurate?
- How will I take ownership of my final work?

Bottom Line

AI can make research faster and more efficient, but only if you use it thoughtfully.

AI helps you work. It does not replace your thinking.

STEP 1

ELON AI HUB

Developing a Research Question with AI

How to brainstorm, refine, and evaluate research ideas responsibly

What Is This Step?

A research question is the foundation of your entire project. It guides what you search for, how you analyze information, and what conclusions you draw.

A strong research question should be **clear**, **specific**, and **researchable**.

Important Reminder

AI tools generate probabilistic ideas and suggestions based on patterns in data, not verified knowledge.

Always check the original source.

How Can AI Help?

AI can support early-stage thinking by helping you:

- Generate topic ideas quickly
- Turn broad interests into possible research questions
- Suggest variables, populations, or relationships
- Explore multiple perspectives on a topic

AI is especially useful for brainstorming and expanding ideas, you **remain in control.**

Risks & Limitations

AI is helpful, not always accurate or precise.
Be aware that AI may:

- Generate overly broad or vague questions
- Suggest research ideas that are not realistic or testable
- Claim there are "gaps" in research that don't actually exist
- Sound confident even when the idea is weak

Remember: AI is designed to sound convincing, not to verify quality. Always think critically.

Best Practices for Refining Your Question with AI

1. **Start broad, then narrow.** Ask AI for general ideas first, then drill down to more specific angles.
2. **Be specific in your prompts.** Include your topic, interests, variables, population, and desired outcomes.
3. **Ask for multiple options.** Compare different versions and choose the strongest starting point.
4. **Evaluate each option.** Check for clarity, measurability, feasibility, and relevance to your goals.
5. **Refine iteratively.** Ask AI to revise, tighten, or clarify your question based on your feedback.
6. **Take ownership.** Rewrite the final question in your own words to ensure it reflects your thinking.

Working Example: Refining a Research Question with AI

1 Start with a broad idea

Student interest:

Sleep and health

2 Ask AI for ideas

Prompt example:

"Generate 5 research questions about sleep and health in college students."

3 Review and evaluate

Consider:

- Is the question specific?
- Are the variables clear?
- Is it measurable?
- Is it realistic to study?

4 Refine and own it

Refined question (your words):

"How does average nightly sleep duration (measured by actigraphy) relate to academic performance (GPA) among first-year college students?"

Using Elicit AI to Refine Research Questions

Elicit is an AI research assistant designed specifically for academic research. When you are in **"Find Papers,"** Elicit can suggest ways to improve your research question.

How it works:

1. Enter your initial research question in Elicit.
2. Click "Find Papers."
3. At the top of your results, Elicit may provide suggestions to refine your question (see example on the right).
4. Review the suggestions and select the elements that make your question more prelid more relevant and
5. high-quality papers.

Why this helps: A refined question leads to more focused search results and more meaningful research.

Example: Elicit AI Suggestions (Find Papers)

Why do we need 8 hours of sleep each night?

More precise questions work better. Try adding elements like these:

Research design and measurable outcome | Specificity and population | ›

Scope and evidence-based approach

Elicit suggests adding elements that strengthen your question. Consider how each suggestion could improve clarity, measurability, and relevance to your research goals.

Hover over any element to see how Elicit would revise your research question to address that element.

Try It Yourself

Use AI to generate and refine research questions.

1 Ask AI for 5 possible research questions about your topic.

2 Try Elicit AI to see what suggestions it offers to improve your question.

3 Write your final research question in your own words.

Before You Move On

Ask yourself:

- Did I read the full article or key sections?
- Did I verify the AI summary against the original source?
- Did I identify the study's limitations and context?
- Could the AI have oversimplified or generalized?
- How does this study fit with other research I've read?

Remember: AI is a tool to support your research process, not a replacement for your critical thinking and expertise.

STEP 2

Finding Articles (Using Elicit AI)

ELON AI HUB

Use AI to discover relevant research then verify, evaluate, and think critically.

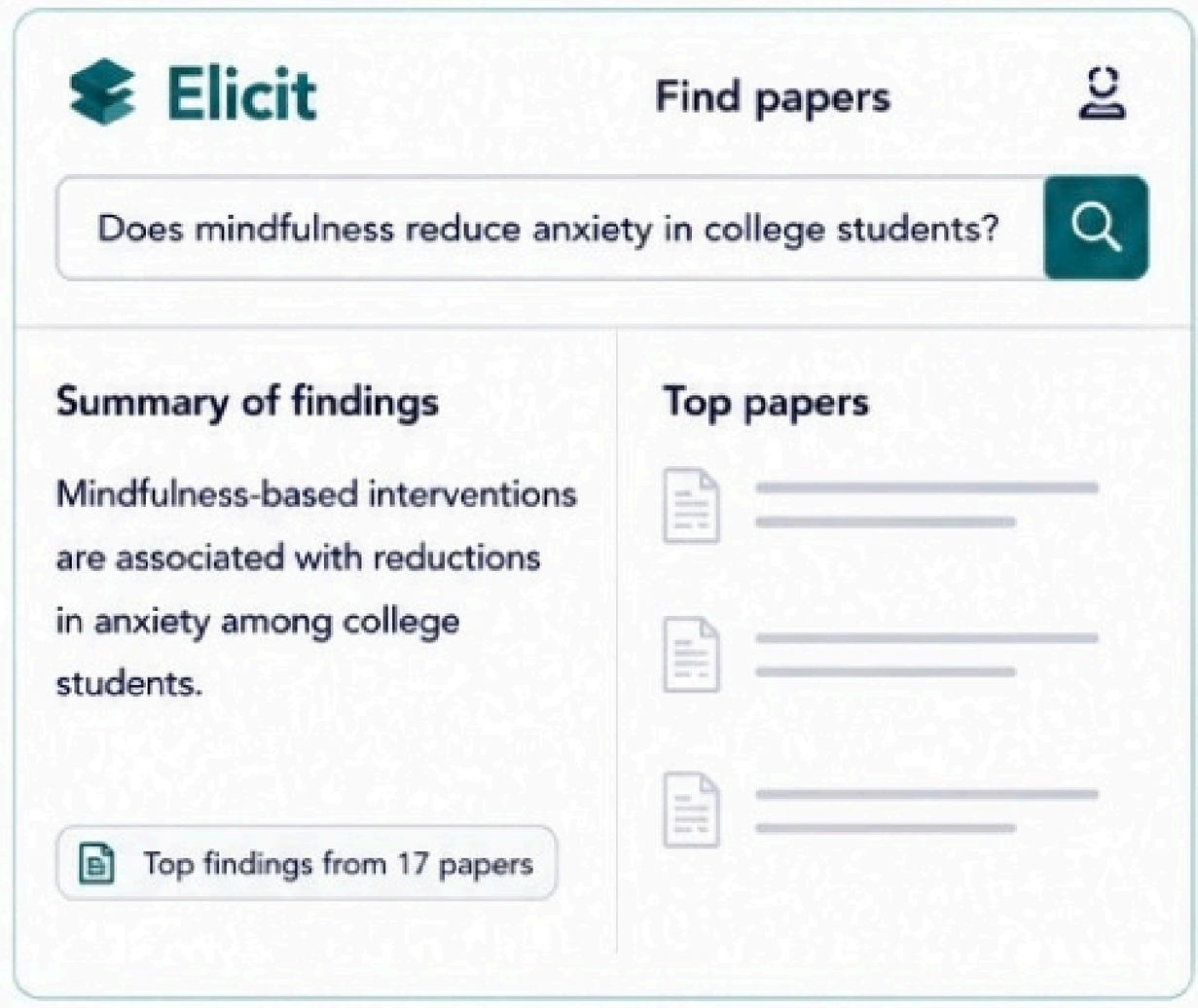
What Is This Step?

This step is about using AI tools like Elicit to find academic articles that are relevant to your research question and to get a snapshot of what those studies show.

AI can help you find and summarize research faster, but you are responsible for confirming that sources are real, accurate, and appropriate for your project.

Important Reminder

AI tools generate probabilistic summaries and recommendations based on patterns in data, not verified understanding.



A What AI Tools Like Elicit Do

Elicit AI assists with the literature search process by:

- Finding articles related to your research question
- Summarizing key methods, results, and findings
- Highlighting relevant statistics or outcomes
- Identifying trends, patterns, and connections across studies

How it works:

1. Enter your research question.
2. Elicit searches academic databases.
3. It returns papers, summaries, and insights.
4. You explore, filter, and save the most relevant studies.

B Benefits

Saves time
Quickly scans large bodies of literature.

Finds connections
Identifies relationships or patterns across multiple studies (Haber et al., 2025).

Broadens your perspective
Surfaces studies you might not have found on your own.

Supports evidence synthesis
Helps you compare findings, methods, and populations.

C Limitations

May omit key articles
AI tools may miss important studies that don't match their indexing or patterns.

May misclassify relevance or importance
A paper may be labeled relevant when it is not, or irrelevant when it is.

Summaries may be incomplete or inaccurate
AI-generated summaries can oversimplify or leave out critical details.

Does not replace critical reading
You still need to read the full article to understand methods and implications.

D Best Practices

Use AI tools alongside traditional databases.
Search PsycINFO, Google Scholar, or library databases to ensure comprehensive coverage.

Verify sources.
Make sure each article actually exists and is peer-reviewed.

Evaluate relevance.
Read the abstract and, when needed, the full paper to confirm it fits your question.

Keep records.
Document search terms, filters, and sources for transparency.

E Key Takeaway

AI supports discovery but does not replace systematic literature review skills.

Use AI to get started and explore.

Use your judgment to verify and select.

You are responsible for the quality of your sources and your work.

Before You Move On

Ask yourself:

- Did I search multiple tools and databases?
- Did I confirm the sources are real and relevant?
- Do these studies help answer my research question?
- Do I understand the methods and limitations?
- How might bias or missing studies impact my understanding?

Bottom Line

Elicit AI is a powerful research assistant that can help you find and understand research faster. ***But thoughtful, critical evaluation is what makes your research trustworthy.***

Remember: AI tools generate probabilistic summaries and recommendations based on patterns in data, not verified understanding. Always verify, evaluate, and think critically.

STEP 3

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Summarizing and Annotating Articles with AI

Use AI to understand articles, verify details, and take meaningful notes.

What Is This Step?

This step focuses on using AI to help you read and understand research articles more efficiently.

AI can summarize articles and extract key components so you can focus your time on critical thinking and evaluation.

Important Reminder

AI tools generate probabilistic summaries and recommendations based on patterns in data, not verified understanding.
Always check the original source.

ChatGPT

Summarize a research article

How it works

1. Upload or paste an article (PDF, abstract, or full text).
2. Ask ChatGPT to summarize and extract key components.
3. Review the AI-generated summary.
4. Read the original article to verify all details.

Example prompt

"Please summarize this psychology research article. Identify the research question, methods, key findings, limitations, and the main takeaways."

Upload or paste article here

Use AI summaries to guide your reading, not replace it.

A How AI Can Assist

AI can summarize articles and extract key components such as:

- **Research question**
  What the study aimed to answer
- **Methods**
  How the study was conducted
- **Findings**
  What the main results showed
- **Limitations**
  What the authors note as constraints or weaknesses
- **Other details**
  Population, measures, design, and key statistics

B Strengths

- Speeds up initial understanding of articles.
- Helps organize notes across multiple sources.
- Highlights important components so you can focus on what matters.
- Useful for comparing studies side by side.

C Risks

- **Hallucinations:** AI may generate fabricated details, citations, or statistics.
- **Oversimplification:** AI may remove nuance or ignore methodological complexity.
- **Inappropriate generalization:** AI may extend findings beyond the population or context studied.
- **Overconfidence:** AI outputs may sound clear and confident but still be wrong.

D Best Practices

- **Always read the original article.**
  Do not rely on AI alone.
- **Use AI summaries as a starting point, not a substitute.**
- **Cross-check information with the article.**
  Verify claims, numbers, and interpretations.
- **Document your use.**
  Keep track of how and why you used AI for transparency.

Example: Summarizing an Article with ChatGPT

1 Upload or paste the article

Upload a PDF or paste the abstract or full text into ChatGPT.

2 Ask ChatGPT to summarize

Use a clear prompt to request the key components you need.

Example prompt: "Summarize this article and identify the research question, methods, findings, limitations, and takeaways."

3 Review and evaluate the summary

Compare the summary with the article. Check for:

- Accuracy
- Completeness
- Nuance
- Context
- Methodological detail

4 Take and organize your notes

Save verified information in your own words.

Add your reflections, questions, and ideas.

Before You Move On

Ask yourself:

- ✓ Did I read the full article or key sections?
- ✓ Did I verify the AI summary against the original source?
- ✓ Did I identify the study's limitations and context?
- ✓ Could the AI have oversimplified or generalized?
- ✓ How does this study fit with other research I've read?

Key Takeaway

AI can help you understand articles faster, but you are responsible for ensuring accuracy, depth, and context.

- You do the reading.
- You do the thinking.
- You do the evaluating.

Bottom Line

AI summaries are helpful starting points. Critical reading and verification are what make your research reliable and trustworthy.

Remember: AI tools generate probabilistic summaries and recommendations based on patterns in data, not verified understanding. Always verify, evaluate, and think critically.

STEP 4

ELON AI HUB

Prompting as a Research Skill

Well-designed prompts lead to better, more reliable, and more interpretable AI outputs.

What Is This Step?

Prompting is the process of giving AI clear instructions to guide what it produces and how it responds.

Effective prompting is a critical research skill that improves the quality, relevance, and credibility of AI outputs.

Important Reminder

AI tools generate probabilistic outputs based on patterns in data, not verified understanding. Your prompt sets the constraints, but you are responsible for evaluating the results.

Why Prompting Matters

- Effective prompting improves clarity, accuracy, and usefulness.
- Well-structured prompts reduce ambiguity and guide AI toward research-appropriate responses.
- Poor prompting increases the risk of errors, bias, and misleading results.

Key Insight: Prompting is analogous to designing a methods section. It structures how the AI operates.

Prompt Patterns for Psychological Research (White et al., 2023)

1 Persona Pattern

Ask AI to adopt a specific role, perspective, or expertise. Encourages discipline-specific standards.

Example Prompt

"Act as a peer reviewer for a cognitive psychology journal and critique this hypothesis."

Benefits

- Applies discipline-appropriate standards
- Encourages perspective-taking
- Reveals scientific norms and expectations

Cautions

- Persona confidence can mask uncertainty
- Narrows perspectives
- Can create a false sense of expert validation

2 Recipe Pattern

Ask AI for step-by-step processes or workflows. AI fills in missing steps and makes implicit steps explicit.

Example Prompt

"I want to conduct a correlational study on sleep and memory. I know I need to recruit participants and collect survey data. Fill in the missing steps and flag any unnecessary ones."

Benefits

- Makes research process logic visible
- Supports planning, organization, and learning
- Helps identify overlooked steps or assumptions

Cautions

- May include invented or unnecessary steps
- Can reduce methodological reasoning
- Risks one-size-fits-all thinking

3 Meta-Language Pattern

Define key terms for this task, even if they have other meanings elsewhere. Reduces construct confusion in psychological research.

Example Prompt

"In this conversation, when I say 'stress,' I mean self-reported perceived stress measured by a Likert scale, not physiological stress."

Benefits

- Prevents construct confusion
- Makes assumptions explicit
- Improves interpretability
- Reinforces research-method thinking

Cautions

- Overly complex or ambiguous definitions can confuse
- False precision and overconfidence
- Definitions can embed bias

Risks of Poor Prompting

Hidden Assumptions

AI may assume things you did not specify, shaping the output in unintended ways.

Bias

Prompts can reinforce existing biases in the training data or in how questions are framed.

Overconfident Outputs

AI may present incorrect information with high confidence, making errors harder to detect.

Misleading Results

Ambiguous or vague prompts increase the chance of irrelevant or low-quality responses.

Best Practices for Prompting

1. Be specific and provide all relevant context.
2. Use clear definitions for key constructs.
3. Ask AI to show its reasoning or steps when helpful.
4. Iterate and refine prompts based on feedback.
5. Evaluate outputs critically and verify accuracy.
6. Keep a record of prompts and outputs for transparency.

Before You Move On

- Did my prompt clearly communicate what I need?
- Did I define key terms and constructs?
- Did I consider multiple perspectives?
- Could hidden assumptions or bias be influencing the output?
- Have I tallied the accuracy of the results?

Key Takeaway

Prompting is not just asking questions. It is designing instructions that shape how AI tools think and respond.

Good prompts lead to better research.

Bottom Line

Strong prompts plus critical evaluation equals trustworthy, meaningful AI-supported research.

Source: White et al. (2023). A Prompt Pattern Catalog to Enhance Prompt Engineering with ChatGPT.

STEP 5

ELON AI HUB

Academic Writing with AI

Use AI to support your writing across all stages while you maintain ownership, accuracy, and integrity.

What Is This Step?

This step focuses on using AI tools to support the writing process in any academic discipline.

AI can help you generate ideas, structure content, refine language, check clarity, and ensure your writing meets academic standards.

Important Reminder

AI tools generate probabilistic text based on patterns in data, not verified knowledge. Always verify information and think critically about what you include in your work.

How AI Can Support Your Writing ★

Generating ideas and topics	"Help me brainstorm potential research questions about social media and adolescent well-being."
Outlining and structuring	"Create a detailed outline for a literature review on cognitive behavioral therapy for anxiety."
Drafting and developing content	"Draft a background section summarizing key research on attachment styles and academic achievement."
Improving clarity, flow, and tone	"Revise this paragraph for clarity, conciseness, and academic tone."
Summarizing and paraphrasing	"Summarize the main findings of this study in 3–4 sentences."
Providing counterarguments and alternative perspectives	"What are potential limitations or counterarguments to this claim?"
Interpreting results and synthesizing	"Help me interpret these results and explain their implications."

Disclose Key Information

AI use must be cited at every stage of the research process where it contributed to your work.

- Name of the AI tool
- Version or model
- Purpose of use
- Key prompts used, when relevant
- How it contributed to your work

Essential Rules

AI cannot be listed as an author. Only human authors are credited.

- **You are responsible for verifying all content.** Check facts, data, citations, and interpretations carefully.
- **Use AI ethically and responsibly.** Follow your institution's policies and academic integrity guidelines.
- **Disclose when AI is used.** Include relevant details about the tool and its role in your writing.

Example Prompt to Write

Draft a methods section describing a cross-sectional survey study on stress and sleep in college students. Include participants, measures, and analysis plan."

Example Output to Refine

AI-generated draft:

"Human revision for accuracy, clarity, and alignment with discipline standards."

Example Works Cited Entry*

Author, A. A. (Year). Title of article. *Journal Title, volume*(issue), pages. https://doi.org/xxxx

**Format varies by citation style. Always check your required style guidelines.*

A Appropriate Uses

AI can be appropriately used for many parts of the writing process, including:

- Brainstorming ideas and research questions
- Outlining and organizing content
- Drafting and expanding sections
- Revising for clarity, tone, grammar, and flow
- Summarizing and paraphrasing complex material
- Generating titles, abstracts, or key points
- Checking consistency and identifying gaps

B Human–AI Collaboration

AI is a partner, not a replacement. You remain responsible for:

- Defining the research question and argument
- Selecting sources and data
- Evaluating evidence
- Interpreting results
- Ensuring originality
- Making final decisions about content

C Risks and Limitations

- AI may produce incorrect, fabricated, or misleading information.
- Overreliance can weaken critical thinking and originality.
- Outputs reflect biases in their training data.
- AI cannot understand context, nuance, or your specific discipline standards.
- Inconsistent quality: outputs vary based on prompts and models.

D Best Practices

- Iterate and refine: give clear instructions, then revise the output.
- Verify everything: fact-check claims, data, and citations.
- Maintain control: you decide what to include, change, or exclude.
- Be transparent: disclose AI use as required by your institution or journal.
- Stay within guidelines: follow ethical, privacy, and academic integrity policies.

Example: Iterative Writing Workflow with AI

1 Plan — Use AI to brainstorm ideas and outline your structure.

→ **2 Draft** — Use AI to draft sections based on your outline, sources, and notes.

→ **3 Revise** — Review and edit for accuracy, clarity, flow, tone, and alignment with your argument.

→ **4 Finalize** — Polish your writing, format citations, and ensure originality and transparency.

Before You Move On

Ask yourself:

- Did I use AI for support, not to replace my thinking?
- Did I verify all information and citations?
- Did I cite and disclose my use of AI transparently?
- Does this align with my institution's policies?
- Am I confident this meets my discipline's standards?

Key Takeaway

AI can enhance your writing, but your expertise and judgment make it meaningful. Use AI thoughtfully, write ethically, and take responsibility for your work.
You do the thinking.
You do the writing.
You do the verifying.

Bottom Line

AI can supercharge your writing when you lead the process.
Good writing depends on honesty, critical thinking, and trustworthy scholarship.

STEP 6

ELON AI HUB

Citing AI in APA

Be transparent. Disclose use. Stay accountable.

APA
7th Edition Guidelines

A. Core Principle

Substantive AI use in research or writing should be transparently disclosed and appropriately cited according to APA and instructor or journal guidelines.

Transparency builds trust.

Clear disclosure helps readers evaluate how AI was used and supports academic integrity.

C. Additional Rules

AI cannot be listed as an author.
Human authors are fully responsible for the work.

Authors are responsible for verifying all content.
Check facts, citations, data, and interpretations.

Use AI ethically and responsibly.
Follow your institution's and your journal's policies.

Disclose when AI is used.
Include relevant details about the tool and its role in the work.

B. APA Guidelines

1. Describe how AI was used in the research or writing process.
2. Include relevant prompts and outputs when necessary for transparency or interpretation.
3. Cite the AI tool in the text and provide a reference entry.

Disclose Key Information

- Name of the AI tool
- Version or model (if known)
- Purpose of use
- Key prompts used (when relevant)
- How it contributed to your work

Example Disclosure Statement

ChatGPT (OpenAI, GPT-4, February 1, 2025) was used to help draft and paraphrase sections of the literature review and to suggest alternative phrasings for clarity. All content was critically reviewed and revised by the author.

Example Prompt to Report

"Summarize the main findings of this meta-analysis on cognitive behavioral therapy for depression."

Example Output to Report

(Provide relevant excerpt from the AI output that informed your work.)

Example APA Reference Entry

OpenAI. (2025). ChatGPT (GPT-4) [Large language model]. https://chat.openai.com

A. Appropriate Uses

AI can ethically support many parts of the research and writing process, including:

- Brainstorming ideas and refining research questions
- Literature discovery and summarization
- Outlining and organizing content
- Drafting or editing sections for clarity and flow
- Improving grammar, tone, and wording
- Suggesting alternative phrasings

B. Human–AI Collaboration

AI supports efficiency and idea generation.

- AI can help you explore options you may not have considered.
- Humans are always responsible for:
  - Argument quality
  - Accuracy of information
  - Interpretical alignment
  - Interpretation and meaning
  - Final decisions

C. Risks and Limitations

Be aware of limitations and potential harms.

- **Hallucinations:** AI may invent information, citations, or data.
- **Overreliance:** May weaken critical thinking and originality.
- **Bias:** AI can reflect and amplify biases in training data.
- **Inaccuracy:** AI output may sound plausible but be wrong.
- **Loss of voice:** AI text may lack your unique perspective and nuance.

D. Best Practices

- **Use AI iteratively:** outline, draft, then revise.
- **Maintain control over** content and argumentation.
- **Treat AI-generated content** as draft material requiring human verification.
- **Keep records of important** prompts and outputs when relevant.
- **Be transparent with readers** about how AI was used.

Important Reminder

AI-generated content is probabilistic, not authoritative.
Always verify, evaluate, and take full responsibility for your work.

Bottom Line

Use AI ethically. Disclose transparently. Verify everything.
Good science depends on honesty, critical thinking, and human judgment.

Note: Citation requirements may vary. Always check current APA guidance, your instructor's expectations, and the target journal's policies.

STEP 6

ELON AI HUB

Citing AI in Chicago

Be transparent. Disclose use. Take responsibility.

CHICAGO
18th Edition Guidelines

A. Core Principle

Substantive AI use in academic work should be transparently disclosed and acknowledged according to Chicago Style and instructor or publication guidelines.

Transparency builds trust.

Clear disclosure helps readers understand how AI tools were used and supports academic integrity.

B. Chicago Guidelines

1. Describe how AI was used in the research or writing process.
2. Include relevant prompts and outputs when necessary for transparency or interpretation.
3. Chicago Style uses a note (not the bibliography) to cite AI-generated content.

Disclose Key Information

Name of the AI tool

- Version or model (if known)
- Purpose of use
- Key prompts used (when relevant)
- Date of the interaction
- How it contributed to your work

Example Disclosure Statement

ChatGPT (OpenAI, GPT-4o, March 3, 2025) was used to help draft and paraphrase sections of the literature review and to suggest alternative phrasings for clarity. All AI-generated content was critically reviewed and revised by the author.

Example Prompt to Report

"Summarize the main findings of this meta-analysis on cognitive behavioral therapy for depression."

Example Output to Report

(Provide relevant excerpt from the AI output that informed your work.)

Example Chicago Note

1. ChatGPT (OpenAI, GPT-4o), response to "Summarize the main findings of this meta-analysis on cognitive behavioral therapy for depression," March 3, 2025, https://chat.openai.com/.

(Include "edited by author" if substantially revised.)

C. Additional Rules

- **AI cannot be listed as an author.** Only human authors are credited.
- **Authors are responsible for verifying all content.** Check facts, citations, data, and interpretations carefully.
- **Use AI ethically and responsibly.** Follow your institution's policies and Chicago Style guidance.
- **Disclose when AI is used.** Include relevant details about the tool and its role in the work.
- **Verify every output.** AI-generated content is probabilistic and must be independently verified.

A Appropriate Uses

AI can be appropriately used for many parts of the writing process, including:

- Brainstorming ideas and outlines
- Drafting paragraphs or sections
- Revising for clarity, tone, and flow
- Improving organization and transitions
- Suggesting stronger wording or alternatives
- Checking grammar and sentence structure

B Human–AI Collaboration

- AI supports efficiency and idea generation.
- AI can help you explore options you might not have considered.
- Humans are responsible for:
  - Argument quality
  - Accuracy of information
  - Theoretical alignment
  - Interpretation and meaning
  - Final decisions

C Risks and Limitations

- **Overreliance on AI:** May weaken critical thinking and originality.
- **Loss of original voice:** AI text may sound generic or impersonal.
- **Incorrect or fabricated information:** AI can hallucinate facts, statistics, or citations.
- **Inconsistent quality:** Outputs vary based on prompts and context.
- **Ethical concerns:** Unclear authorship, transparency, and academic integrity.

D Best Practices

- **Use AI iteratively**: outline, draft, then revise. Refine prompts and outputs over time.
- **Maintain control**: You decide what to include, change, or delete. You own the final product.
- **Verify everything**: Check facts, citations, statistics, and claims against primary sources.
- **Be transparent**: Disclose AI use when required by your course, institution, or journals.
- **Develop your voice**: Use AI to assist, not to replace your ideas or perspective.

Example: Iterative Writing Workflow with AI

1. **Outline** — Ask AI to help you brainstorm and create an outline.
2. **Draft** — Use AI to draft sections based on your outline and notes.
3. **Revise** — Review and edit for accuracy, clarity, flow, and alignment with your argument.
4. **Finalize** — Polish your writing, check references, and ensure full citation and transparency.

Bottom Line

Use AI ethically. Disclose transparently. Verify everything. Good science depends on honesty, critical thinking, and human judgment.

Note: Citation requirements may vary. Always check current Chicago Style guidance, your instructor's expectations, and the target journal's policies.

Key Takeaway

AI can enhance your writing process, but you are the researcher and author. Use AI as a tool to think better, write better, and communicate your research more clearly.

- You do the thinking.
- You do the verifying.
- You do the writing.

STEP 6

ELON AI HUB

Citing AI in MLA

Be transparent. Disclose use. Take responsibility.

MLA
9th Edition Guidelines

A. Core Principle

Substantive AI use in academic work should be transparently disclosed and acknowledged according to MLA style and instructor or publication guidelines.

Transparency builds trust.

Clear disclosure helps readers understand how AI tools were used and supports academic integrity.

B. MLA Guidelines

1. Describe how AI was used in the research or writing process.
2. Include relevant prompts and outputs when necessary for transparency or interpretation.
3. Cite the AI tool using an MLA Works Cited entry.

Disclose Key Information

- Name of the AI tool
- Version or model (if known)
- Purpose of use
- Key prompts used (when relevant)
- Date of interaction
- How it contributed to your work

Example Disclosure Statement

ChatGPT (OpenAI, GPT-4o, March 3, 2025) was used to help draft and paraphrase sections of the literature review and to suggest alternative phrasings for clarity. All AI-generated content was critically reviewed and revised by the author.

Example Prompt to Report

"Summarize the main findings of this meta-analysis on cognitive behavioral therapy for depression."

Example Output to Report

(Provide relevant excerpt from the AI output that informed your work.)

Example MLA Works Cited Entry

OpenAI. ChatGPT. Version GPT-4o, 1 Feb. 2025, chat.openai.com.

Note: Always check MLA guidelines and instructor or publication requirements.

C. Additional Rules

- **AI cannot be listed as an author.** Only human authors are credited.
- **Authors are responsible for verifying all content.** Check facts, citations, data, and interpretations carefully.
- **Use AI ethically and responsibly.** Follow your institution's policies and the MLA Handbook.
- **Disclose when AI is used.** Include relevant details about the tool and its role in the work.
- **Verify every output.** AI-generated content is probabilistic and must be independently verified.

A. Appropriate Uses

AI can be appropriately used for many parts of the writing process, including:

- Brainstorming ideas and outlines
- Drafting paragraphs or sections
- Revising for clarity, tone, and flow
- Improving organization and transitions
- Suggesting stronger wording or alternatives
- Checking grammar and sentence structure

B. Human–AI Collaboration

- AI supports efficiency and idea generation.
- AI can help you explore options you might not have considered.
- Humans are responsible for:
  - Argument quality
  - Accuracy of information
  - Theoretical alignment
  - Interpretation and meaning
  - Final decisions

C. Risks and Limitations

- **Overreliance on AI:** May weaken critical thinking and originality.
- **Loss of original voice:** AI text may sound generic or impersonal.
- **Incorrect or fabricated information:** AI can hallucinate facts, statistics, or citations.
- **Inconsistent quality:** Outputs vary based on prompts and context.
- **Ethical concerns:** Unclear authorship, transparency, and academic integrity.

D. Best Practices

- **Use AI iteratively:** outline, draft, then revise. Refine prompts and outputs over time.
- **Maintain control:** You decide what to include, change, or delete. You own the final product.
- **Verify everything:** Check facts, citations, statistics, and claims against primary sources.
- **Be transparent:** Disclose AI use when required by your course, institution, or journals.
- **Develop your voice:** Use AI to assist, not to replace your ideas or perspective.

Example: Iterative Writing Workflow with AI

1. **Outline** — Ask AI to help you brainstorm and create an outline.
2. **Draft** — Use AI to draft sections based on your outline and notes.
3. **Revise** — Review and edit for accuracy, clarity, flow, and alignment with your argument.
4. **Finalize** — Polish your writing, check references, and ensure full citation and transparency.

Bottom Line

Use AI ethically. Disclose transparently. Verify everything.
Good science depends on honesty, critical thinking, and human judgment.

Note: Citation requirements may vary. Always check current MLA guidelines, your instructor's expectations, and the target journal's policies.

STEP 7

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Ethics of AI Use in Research

Use AI responsibly. Uphold integrity. Protect your science.

ETHICS
Best Practices

A. Key Ethical Principles

Transparency

Be open about when, where, how, and why AI tools are used in your research.

Accountability

You are responsible for the accuracy, integrity, and impact of your work.

Verification

Independently check and validate all AI-generated information and claims.

B. Major Ethical Concerns

Bias in training data and outputs

AI models learn from data that may reflect historical and cultural biases, leading to skewed or unfair results. *(Bail, 2024)*

Fabrication and hallucination

AI can generate false information, invent citations, or misrepresent findings with confidence.

Misrepresentation of scientific evidence

AI outputs may oversimplify complex research, overgeneralize findings, or distort the scientific record. *(van Dis et al., 2023)*

C. Epistemic Responsibility

Researchers have an epistemic responsibility, an ethical obligation to:

- **Evaluate knowledge** critically, not just accept what AI provides.
- **Understand limitations** of AI tools and outputs.
- **Communicate** accurately, transparently, and responsibly.
- **Recognize** how your choices impact science, people, and society.

D. Ethical Use Checklist

Use this checklist before submitting any work that involved AI.

1 Have I verified all claims?

- I checked facts, statistics, and citations.
- I confirmed sources exist and are relevant.
- I did not rely on AI for accuracy.

2 Have I disclosed AI use?

- I described how AI was used in my methods or a comparable section.
- I cited the AI tool appropriately.
- I included relevant prompts and outputs when needed.

3 Have I critically evaluated outputs?

- I considered potential biases and limitations.
- I assessed whether the content is appropriate and contextually valid.
- I maintained my own voice and judgment.

A Appropriate Uses

- Brainstorming ideas and outlines
- Drafting or revising text
- Improving clarity, grammar, and tone
- Summarizing literature
- Generating code or analysis suggestions
- Organizing and formatting information

B Human–AI Collaboration

- AI supports efficiency and idea generation.
- AI can explore options you might not have considered.
- Humans lead the thinking, verify the results, and make final decisions.

C Risks and Limitations

- Overreliance weakens critical thinking.
- Loss of original voice and creativity.
- Incorrect or fabricated information.
- Bias in data leads to biased outputs.
- Inconsistent or low-quality results.

D Best Practices

- Use AI iteratively: outline, draft, then revise.
- Maintain control over decisions and final output.
- Verify everything from primary sources.
- Be transparent about AI use.
- Develop your voice and critical perspective.

Key Takeaway

AI can enhance research, but ethical use is essential.
Lead the process. Verify everything. Communicate transparently.

Responsible human–AI collaboration leads to better science, stronger scholarship, and greater impact.

CONCLUSION

AI in Psych Research: Final Takeaways

Use AI thoughtfully. Think critically. Do science responsibly.

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Key Takeaway

AI can enhance the research process when used thoughtfully and critically.

Through responsible human–AI collaboration, we strengthen our research and the future of psychology.

AI Can Enhance the Research Process

1. Explore & Plan

AI can help brainstorm ideas, refine research questions, and map key concepts.

2. Review Literature

AI tools can summarize findings, identify gaps, and connect research across disciplines.

3. Design & Collect

AI can suggest methods, support instrument development, and assist with data collection.

4. Analyze & Interpret

AI can generate code, assist analysis, and help explore patterns and interpretations.

5. Write & Share

AI can support drafting, editing, and refining for clarity, structure, and impact.

Throughout every step, human oversight, critical evaluation, and ethical judgment are essential.

Effective Use Requires

Strong Prompting

Clear, specific, and well-structured prompts lead to more useful and accurate outputs.

- Define your goal.
- Provide context and details.
- Ask for step-by-step reasoning when helpful.
- Iterate and refine.

Careful Verification

AI outputs are probabilistic, not authoritative. Always verify and think critically.

- Check facts, statistics, and citations.
- Look for potential hallucinations or overgeneralizations.
- Cross-check with primary sources.
- Consider limitations and bias.

Ethical Awareness

Responsible use strengthens the quality, credibility, and impact of research.

- Disclose and cite AI use.
- Respect privacy and confidentiality.
- Avoid bias, stereotypes, and misinformation.
- Maintain academic integrity.

The Goal

The goal is not to replace human thinking, but to support better research practices through responsible human–AI collaboration.

Keep These Cautions in Mind

AI can hallucinate or fabricate information.

- AI may oversimplify complex topics.
- Bias in training data can shape outputs.
- Overreliance can weaken critical thinking.
- You are always responsible for your work.

Research with Integrity

Ethical, transparent, and well-verified research builds trust and advances psychological science.

- Be open about how AI was used.
- Evaluate outputs with a critical eye.
- Communicate findings honestly.
- Contribute to a culture of responsible innovation.

AI is a powerful tool in psychological research. When used thoughtfully, critically, and ethically, it can help us ask better questions, analyze more carefully, and communicate more clearly, advancing science and supporting people.