

COFFEE



LECTURE

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**UNIVERSITÄT
BERN**

AI Tools To Start Your Literature Research



Tania Rivero, MLIS
Research Support Services Team
Medical Library

Wednesday
29.11.2023
13:00, Zoom

u^b AI tools

Aim for today's session

- Considerations when using AI tools
- Ways AI tools can assist literature research
- AI literacy and use
- Explore selected AI tools for literature research

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AI tools

Considerations

- Search query details are not available
- Hallucinations or inaccurate summaries
- Potential bias
- Privacy

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AI tools

Supporting literature research

- Facilitate a direction for a research topic
- Identify synonyms/alternative terms for key concepts
- Help formulate or refine research questions
- Retrieve a set of key papers
- Highlight connections among papers
- Offer brief summaries to place a topic into context
- Help identify similar papers

u^b AI tools

AI literacy

- Where to start?
 - Being able to identify tools that use AI technologies
 - Being able to identify the benefits and drawbacks of AI technologies

What is AI Literacy? Competencies and Design Considerations

Duri Long

Brian Magerko

u^b AI tools AI literacy

The ROBOT Test

Amanda Wheatley Sandy Hervieux

Reliability

Objective

Bias

Ownership

Type

Reliability

- How reliable is the information available about the AI technology?
- If it's not produced by the party responsible for the AI, what are the author's credentials? Bias?
- If it is produced by the party responsible for the AI, how much information are they making available?

u^b AI tools AI use

PRISMA AI reporting guidelines for systematic reviews and meta-analyses on AI in healthcare

[Giovanni E. Cacciamani](#) , [Timothy N. Chu](#), [Daniel I. Sanford](#), [Andre Abreu](#), [Vinay Duddalwar](#), [Assad Oberai](#), [C.-C. Jay Kuo](#), [Xiaoxuan Liu](#), [Alastair K. Denniston](#), [Baptiste Vasey](#), [Peter McCulloch](#), [Robert F. Wolff](#), [Sue Mallett](#), [John Mongan](#), [Charles E. Kahn Jr](#), [Viknesh Sounderajah](#), [Ara Darzi](#), [Philipp Dahm](#), [Karel G. M. Moons](#), [Eric Topol](#), [Gary S. Collins](#), [David Moher](#), [Inderbir S. Gill](#) & [Andrew J. Hung](#)

Nature Medicine 29, 14–15 (2023) | [Cite this article](#)

MASTER THESIS

Declaration of Authorship

If I use artificial intelligence as an aid, I must declare all elements that derive from it. I must list the name of the technology as well as the search terms "prompts" that I have used. I am aware that otherwise the thesis will receive the grade 1."



The NEW ENGLAND
JOURNAL of MEDICINE

JAMA Internal Medicine

Authorship Criteria and Contributions

Nonhuman artificial intelligence, language models, machine learning, or similar technologies for authorship. If these models or tools are used to create content or assist with writing or preparation, authors must take responsibility for the integrity of the content generated by these tools. Authors should report the use of artificial intelligence, language models, machine learning, or similar technologies to create content or assist with writing or editing of manuscripts in the [Acknowledgment section](#) or [Methods](#)

Use of AI-Assisted Technologies

The Journal has adopted the following policies, as specified by the International Committee of Medical Journal Editors (ICMJE), on the use of artificial intelligence (AI) in preparation of material to be submitted for publication in the *Journal*.

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AI tools

Tools we will explore



OPEN KNOWLEDGE MAPS



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AI tools

As we explore these tools

- Reflect on your information needs
- Consider what specific tasks/features can support your current scenario

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Perplexity



New Thread `Ctrl` `I`

🔍 Home

🔍 Discover

📖 Library

🔑 Login

Sign Up

Where knowledge begins

Ask anything...

🔍 Focus `+` File

Copilot



→ Try asking

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brown dog name ideas healthy restaurants in sf $d/dx x^2 v^4$ $d/dy x^2 v^4$

What are synonyms for Alemtuzumab?

Sources

Alemtuzumab - NCI Thesaurus nih · 1

Alemtuzumab (Campath,...) cancerresearch... · 2

Alemtuzumab - Wikipedia wikipedia · 3

View 2 more

Answer

Synonyms for Alemtuzumab include Campath, Campath-1H, LDP-03, and LDP03 ¹. It is also known by the brand names Lemtrada and MabCampath ³ ⁴. Alemtuzumab is a monoclonal antibody used in the treatment of B-cell chronic lymphocytic leukemia, relapsing forms of multiple sclerosis, and skin lymphoma ² ⁵.

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- what is the mechanism of action of alemtuzumab +
- what are the side effects of alemtuzumab +
- what is the recommended dosage of alemtuzumab +

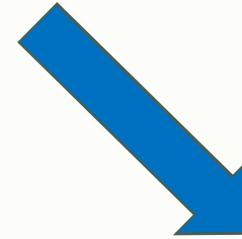
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Lemtrada for Multiple Sclerosis

Lemtrada (alemtuzumab) is an approved antibody-based therapy for relapsing forms of MS used to reduce relapses and prevent disability progression.

Administration: Given via intravenous infusions at a daily dose of 12 mg in two courses of treatment.

Indications: Approved for adults with relapsing forms of MS, including RRMS and active SPMS.

Side effects: May include

Contraindications: Not






What are synonyms for Alemtuzumab?

Sources

Alemtuzumab - NCI Thesaurus nih · 1

Alemtuzumab (Campath,...) cancerresearch... · 2

Alemtuzumab - Wikipedia wikipedia · 3

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Answer

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- what are the side effects of alemtuzumab +
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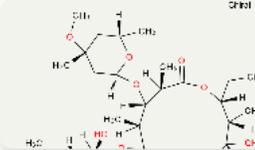
WhatsApp Facebook

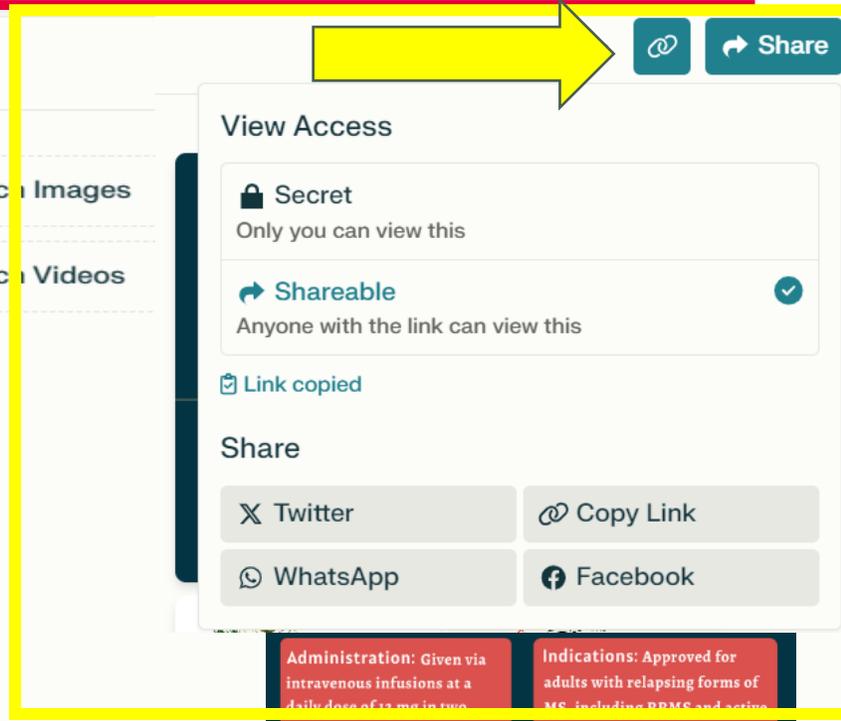
Administration: Given via intravenous infusions at a daily dose of 120 mg in two courses of treatment.

Indications: Approved for adults with relapsing forms of MS, including RRMS and active SPMS.

Side effects: May include

Contraindications: Not

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AI tools

Open Knowledge Maps



OPEN KNOWLEDGE MAPS

A visual interface to the world's scientific knowledge

PubMed (life sciences)

BASE (all disciplines)



Refine your search ▾

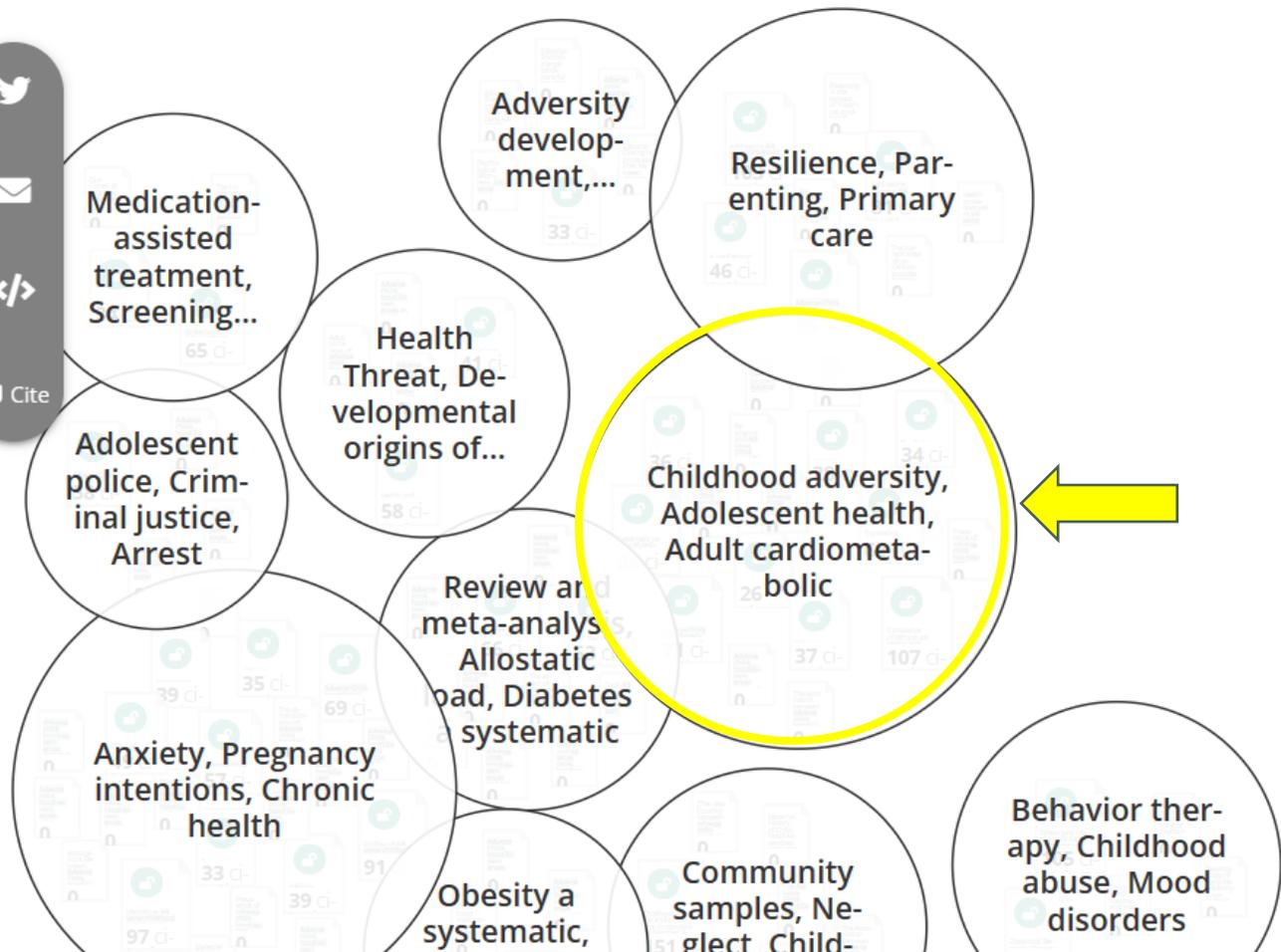
Enter your search term

GO

Try out: covid-19 "climate change"

Knowledge Map of "adverse childhood experiences"

100 most relevant documents Data source: PubMed Until 26 Nov 2023 Document types All lang More information



Overview (100 documents)

Search within visualization show: Any sort by: Citations

open access

Childhood trauma and schizotypy in non-clinical populations: a systematic review and meta-analysis. (2021)

Diamantis Toutountzidis, Tim M Gale, Karen Irvine, Shihong Chen, David M Laws
PloS one
[doi]: <https://doi.org/10.1371/journal.pone.0270494>

The association of early life adversities and psychosis symptoms is well documented in clinical populations; however, whether this relationship also extends into subclinical psychosis remains unclear. In particular...

PDF Export

Area: Community samples, Neglect, Childhood trauma questionnaires

open access

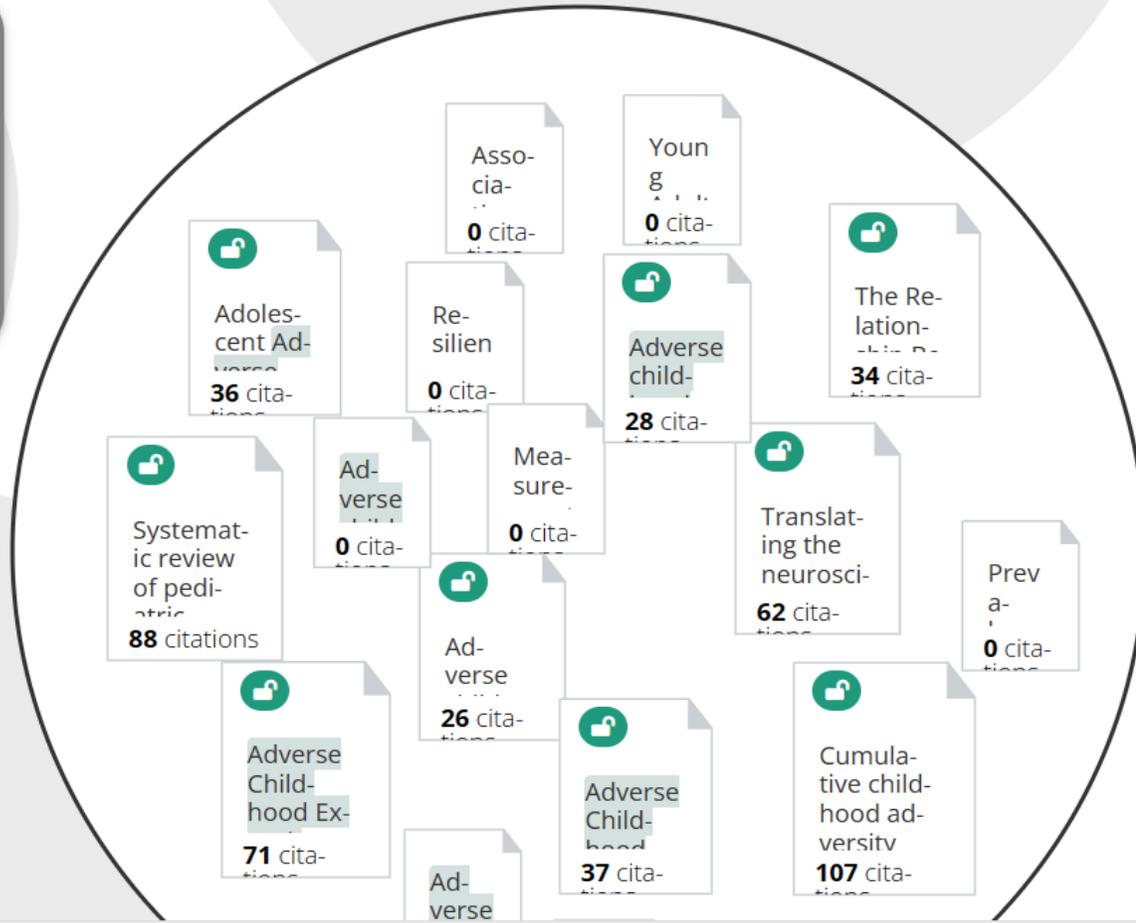
Risk factors for homelessness among U.S. veterans. (2015)

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Open Knowledge Maps

Area: Childhood adversity, Adolescent health, Adult cardiometabolic

[← Back to overview](#)



Area (17 documents)

Search within visualization

show: Any

sort by: Citations

open access

Cumulative childhood adversity and adult cardiometabolic disease: A meta-analysis. (2018)

Karen P Jakubowski, Jenny M Cundiff, Karen A Matthews

Health psychology : official journal of the Division of Health Psychology, American P...

[doi]: <https://doi.org/10.1037/hea0000637>

Adverse childhood experiences may be associated with cardiometabolic morbidity and mortality in adulthood. There is heterogeneity in this literature regarding the type of items in cumulative adversity indices,...

PDF

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Area: [Childhood adversity, Adolescent health, Adult cardiometabolic](#)

citations **107**

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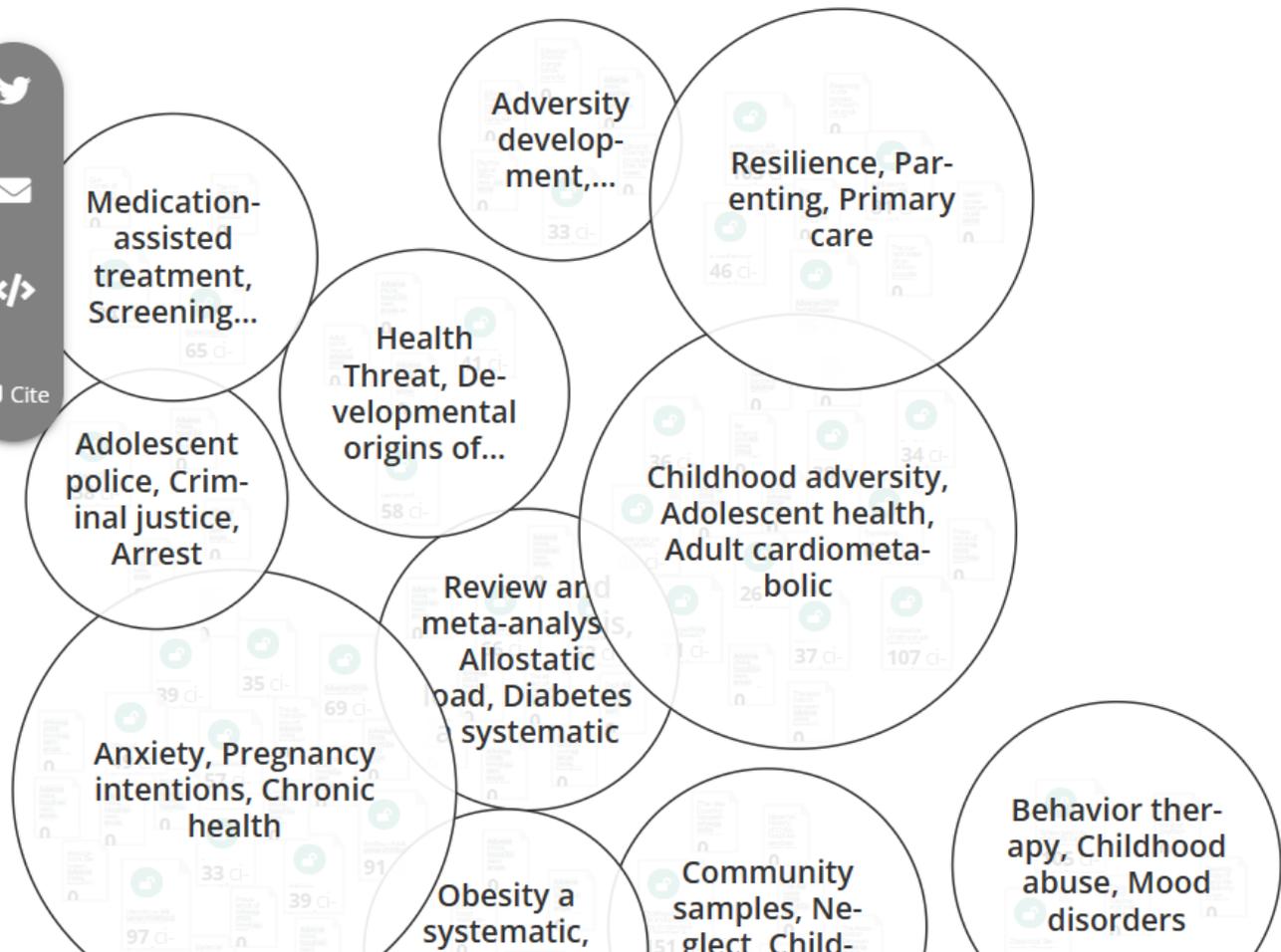
Systematic review of pediatric health outcomes associated with childhood adversity. (2018)

Debora Lee Oh, Petra Jerman, Sara Silvério Marques, Kadiatou Koita, Sukhdip

Share Your Map

Knowledge Map of "adverse childhood experiences"

100 most relevant documents Data source: PubMed Until 26 Nov 2023 Document types All lang More information



Overview (100 documents)

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Citations

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Childhood trauma and schizotypy in non-systematic review and meta-analysis. (2021)

Diamantis Toutountzidis, Tim M Gale, Karen Irvine, Shi...

PloS one

[doi]: <https://doi.org/10.1371/journal.pone.0270494>

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Area: Community samples, Neglect, Childhood trauma questio...

citation:

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Risk factors for homelessness among US veterans. (2015)

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AI tools

Elicit AI



Explore the scientific literature

1 Find papers

2 Extract data from PDFs

3 List of concepts

Ask a research question

A screenshot of the Elicit AI interface. At the top, the text "Explore the scientific literature" is displayed. Below this, three numbered steps are shown in a horizontal sequence: "1 Find papers" (with a graduation cap icon), "2 Extract data from PDFs" (with an upload icon), and "3 List of concepts" (with a starburst icon). Below these steps is a large white text input field with the placeholder text "Ask a research question". To the right of the input field is a small circular icon with a speech bubble. At the bottom right of the input field is a purple circular button with a white right-pointing arrow.

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AI tools

Elicit AI



Explore the scientific literature

1

 Find papers

 Extract data from PDFs

 List of concepts

Ask a research question



How effective is mindfulness meditation on chronic pain patients?

- Searching for papers
- Summarizing 4 abstracts
- Final answer



Summary of top 4 papers

Copy

Mindfulness meditation has been shown to be effective in reducing pain severity and improving quality of life in chronic pain patients ([Banth 2015](#), [Sheybani 2022](#)). It has also been found to help patients progress through the grieving process more quickly, and reduce depression and anxiety ([Sagula 2004](#), [Rod 2015](#)). These findings suggest that mindfulness meditation can be a valuable tool in the management of chronic pain.

- The top 4 papers are summarized
- A total of 8 papers are displayed in the results page

Sort Add columns Filters

CSV PLUS BIB PLUS

Paper

Abstract summary

The Effectiveness of Mindfulness Training on the Grieving Process and Emotional Well-Being of Chronic Pain Patients
 David Sagula +1
Journal of Clinical Psychology in Medical Settings
 2004 81 citations DOI

The treatment group advanced significantly more quickly through the initial stages of grieving than the comparison group.

Effectiveness of mindfulness meditation on pain and quality of life of patients with chronic low back pain

Mindfulness-based stress reduction was effective intervention on reduction of pain severity and improvement of physical and mental quality of life of female patients with

e.g. summary, counter-arguments

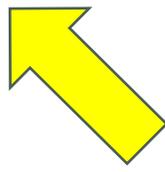
CURRENT COLUMNS

- Study design >
- Outcome measured >

ADD COLUMNS

- + Main findings
- + Intervention
- + Intervention effects
- + Study count

Cancel Save



Abstract summary

<p>The B... Chro... 2004 8</p>	<p>...cess and Emotional Well-Being of</p>
<p>Effectiveness of Mindfulness-based Stress Reduction (MBSR) on Patients With Chronic Pain: A Randomized Clinical Trial 2015 6</p>	<p>...f life of patients with chronic low back</p>
<p>Observed... Patients. Kim Rod Psychiatria Danubina 2015 29 citations</p>	<p>...xiety and Depression in Chronic Pain</p>
<p>Effectiveness of Mindfulness-based Stress Reduction (MBSR) on Patients With Chronic Pain: A Randomized Clinical Trial Farshad Sheybani +3 Iranian Journal of Psychiatry and Clinical Psychology 2022 0 citations DOI</p>	<p>...xiety and Depression in Chronic Pain</p>

The treatment group advanced significantly more quickly through the initial stages of grieving than the comparison group.

Mindfulness-based stress reduction was effective intervention on reduction of pain severity and improvement of physical and mental quality of life of female patients with nonspecific chronic low back pain.

Mindfulness meditation training may benefit chronic pain patients who suffer anxiety and depression.

Mindfulness-based stress reduction therapy can be used to improve the quality of life of patients with chronic pain.

Paper	Abstract summary	Study design	Outcome measured
<p>The Effectiveness of Mindfulness Training on the Grieving Process and Emotional Well-Being of Chronic Pain Patients</p> <p>David Sagula +1</p> <p><i>Journal of Clinical Psychology in Medical Settings</i></p> <p>2004 81 citations DOI</p>	<p>The treatment group advanced significantly more quickly through the initial stages of grieving than the comparison group.</p>	<p>randomized controlled trial</p>	<ul style="list-style-type: none"> •Response To Loss Scale (Measuring Grief) •Beck Depression Inventory •State Trait Anxiety Inventory
<p>Effectiveness of mindfulness meditation on pain and quality of life of patients with chronic low back pain</p> <p>Sudha Banth +1</p> <p><i>International Journal of Yoga</i></p> <p>2015 66 citations DOI</p>	<p>Mindfulness-based stress reduction was effective intervention on reduction of pain severity and improvement of physical and mental quality of life of female patients with nonspecific chronic low back pain.</p>	<p>randomized controlled trial</p>	<ul style="list-style-type: none"> •Pain Severity •Physical Quality Of Life •Mental Quality Of Life
<p>Observing the Effects of Mindfulness-Based Meditation on Anxiety and Depression in Chronic Pain Patients.</p> <p>Kim Rod</p> <p><i>Psychiatria Danubina</i></p> <p>2015 29 citations</p>	<p>Mindfulness meditation training may benefit chronic pain patients who suffer anxiety and depression.</p>	<p>observational study</p>	<ul style="list-style-type: none"> •Depression •Anxiety •Pain •Global Impression Of Change
<p>Effectiveness of Mindfulness-based Stress Reduction (MBSR) on Patients With Chronic Pain: A Randomized Clinical Trial</p>	<p>Mindfulness-based stress reduction therapy can be used to improve the quality of life of patients with chronic pain.</p>	<p>randomized clinical trial</p>	<ul style="list-style-type: none"> •Pain Intensity •Anxiety •Depression

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- Paper

The Effectiveness of Mindfulness Training on the Grieving Process and Emotional Well-Being of Chronic Pain Patients

David Sagula +1

Journal of Clinical Psychology in Medical Settings

2004 81 citations DOI

Effectiveness of mindfulness meditation on pain and quality of life of patients with chronic low back pain

Sudha Banth +1

International Journal of Yoga

2015 66 citations DOI

Observing the Effects of Mindfulness-Based Meditation on Anxiety and Depression in Chronic Pain Patients.

Kim Rod

Psychiatria Danubina

2015 29 citations

Effectiveness of Mindfulness-based Stress Reduction (MBSR) on Patients With Chronic Pain: A Randomized Clinical Trial

Farshad Sheybani +3

Iranian Journal of Psychiatry and Clinical Psychology

2022 0 citations DOI

Abstract summary

The treatment group advanced significantly more quickly through the initial stages of grieving than the comparison group.

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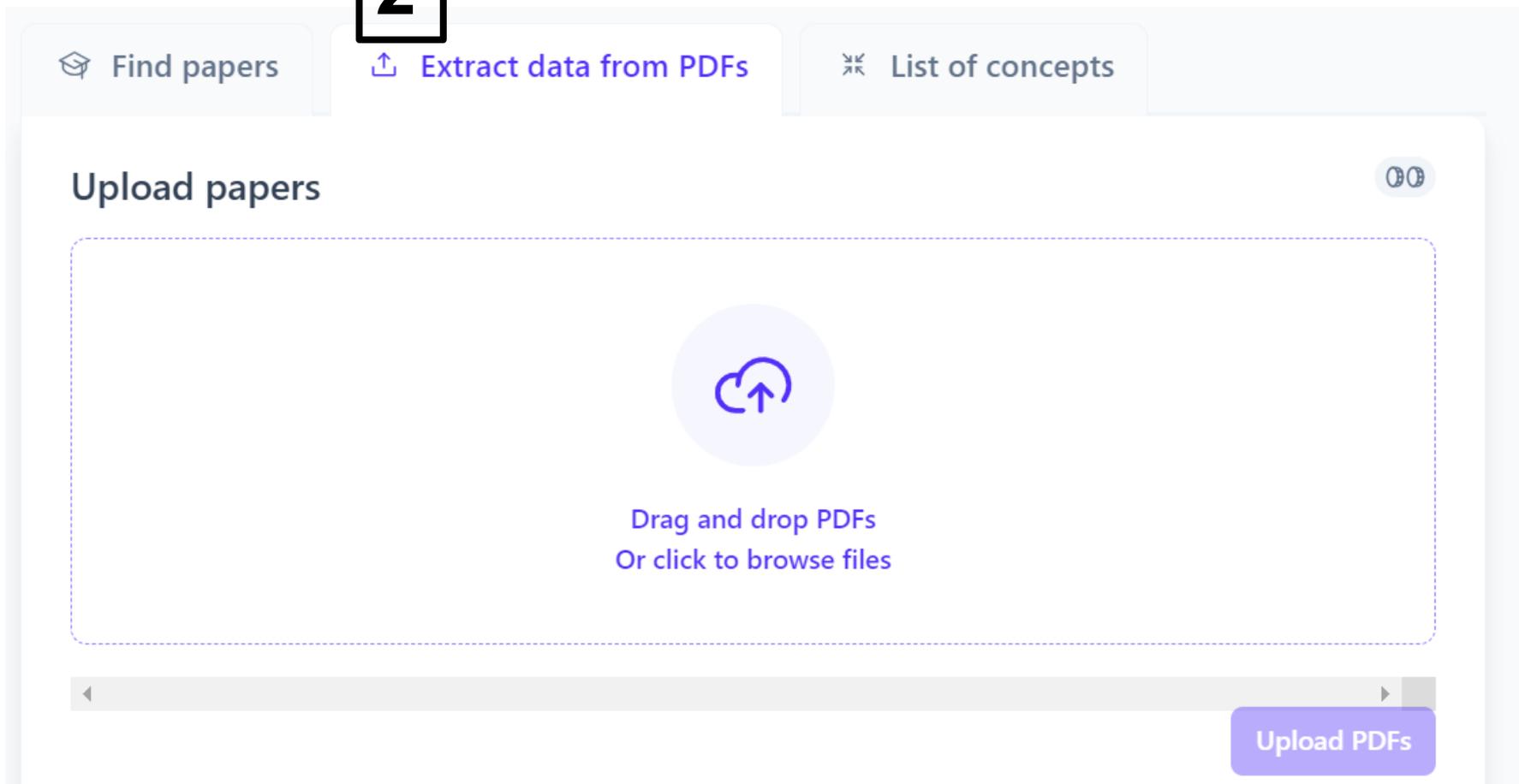
Mindfulness-based stress reduction therapy can be used to improve the quality of life of patients with chronic pain.

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AI tools

Elicit AI

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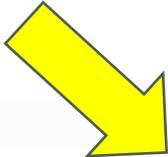
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- British Journal of Sociology - 2020 - Fox - Re-assembling climate change policy Materialism posthumanism and the policy.pdf X
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 Nick J Fox +1
- Integrating Public Health into Climate Change Policy and Planning: State of Practice Update
 Mary Fox +4

Sort

+ 2 columns

CSV

PLUS

Search or create a column

Describe what kind of data you want to extract

e.g. summary, counter-arguments

CURRENT COLUMNS

Limitations



Policy



ADD COLUMNS

+ Main findings

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Limitations

Policy

search was limited in scope and language, and the literature itself presents limitations due to insufficient research attention focused on low and middle income populations and intervention evaluation more broadly

The text defines social policy as "an initiative devised by a government, institution or organization to address issues bearing upon economic and political stability; continuity, security and cultural integrity, individual and collective safety; or liberty and rights to citizenship" (Shore & Wright, 1997, pp. 30-31). It also describes policy as "a material semiotic engagement or intervention that addresses an issue, event or interaction, with the objective of improving or reforming the social or natural world" (Taylor Webb & Gulson, 2012, pp. 87-88)

The text discusses the concept of policy development in the context of integrating public health into climate change policy and planning. It does not mention a specific policy or set of policies. Therefore, the answer is not mentioned

Paper

Re-as
posth

N

B.

2020 2

Integrating Public Health into Climate Change Policy and Planning: State of Practice Update

Mary Fox +4

International Journal of Environmental Research and Public Health

2019 58 citations

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AI tools

Elicit AI

Explore the scientific literature

Find papers Extract data from PDFs **3** List of concepts

What concepts are you looking for across papers? e.g. treatments for hair loss, scientific fact-checking datasets

→

Non-medical interventions to improve psychological outcomes in amputee patients

- Found 60 papers
- Found 131 concepts in 60 papers
- Found 71 unique concepts
- Final answer**

CSV PLUS

Concept

- Immersive Virtual Reality Therapy**
a treatment for amputees' phantom limb pain using immersive virtual reality.
- Structured Psychotherapeutic Intervention Module (PIM)**
a structured module developed for the intervention of amputee patients, involving six therapy sessions that address specific areas of concern, found to be effective in reducing psychological distress, depression, and anxiety.
- Exercise-based amputee rehabilitation program**
a program aimed at improving postural control and quality of life in people with unilateral transtibial amputation (TTA)

Source

"This paper describes a study protocol to investigate the use of immersive virtual reality as a treatment for amputees' phantom limb pain.", "This work builds upon prior research using mirror box therapy to induce vivid sensations of movement originating from the muscles and joints of amputees' phantom limbs." [C. Murray 2005](#)

"Structured psychotherapeutic module was developed for the intervention.", "Patients in PIM group were given six therapy sessions, addressing the specific areas of concern." [K. Srivastava & S. Chaudhury 2014](#)

"This study aimed to investigate whether the exercise-based amputee rehabilitation program improves postural control and quality of life in people with unilateral transtibial amputation (TTA).", "People with unilateral TTA who received exercise-based amputee rehabilitation program demonstrated significant improvement in balance performance with significant effects on quality of life." [Masoud Kashfi 2021](#)

Results [C. Murray 2005](#) X

Immersive Virtual Reality as a Rehabilitative Technology for Phantom Limb Experience: A Protocol

C. Murray, E. Patchick, S. Pettifer, Fabrice Caillette, T. H...

Cyberpsychology, Behavior, and Social Networking

2005 78 citations [Semantic Scholar](#) [DOI](#)

Immersive Virtual Reality Therapy

a treatment for amputees' phantom limb pain using immersive virtual reality.

This paper describes a study protocol to investigate the use of immersive virtual reality as a treatment for amputees' phantom limb pain. This work builds upon prior research using mirror box therapy to induce vivid sensations of movement originating from the muscles and joints of amputees' phantom limbs. The present project transposes movements of amputees' anatomical limbs into movements of a virtual limb presented in the phenomenal space of their phantom limb. It is anticipated that the protocol described here will help reduce phantom limb pain.

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AI tools

Take-aways

- AI searching tools can be a helpful starting point
- Consult with your advisor regarding policies on the use of AI tools for thesis and dissertations
- For journal submissions, review your target journal's policies on AI use and reporting
- Critically review and fact check generated summaries and references
- Continue to enhance your AI literacy skills

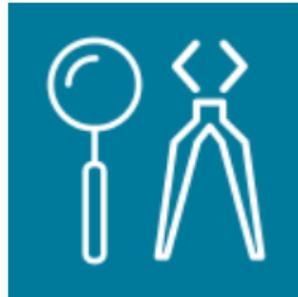
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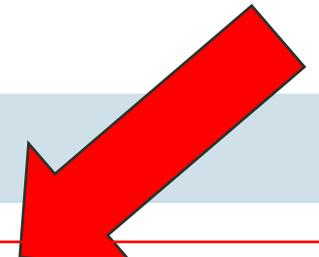
AI Tools



Useful databases in medicine



Useful databases in pharmacy



Thanks



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