

# Education and training of chiropractic students and graduates: a scoping review

Coauthor instructional video:  
Covidence Step 1 – Title and Abstract Inclusion/Exclusion



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## Need for Study and Purpose

- Need: A scoping review would provide evidence to inform the development of new training programs, policy decisions, and establish areas needing further research on chiropractic education.
- Purpose: to systematically map and synthesize the extent of the literature on chiropractic education and training globally.



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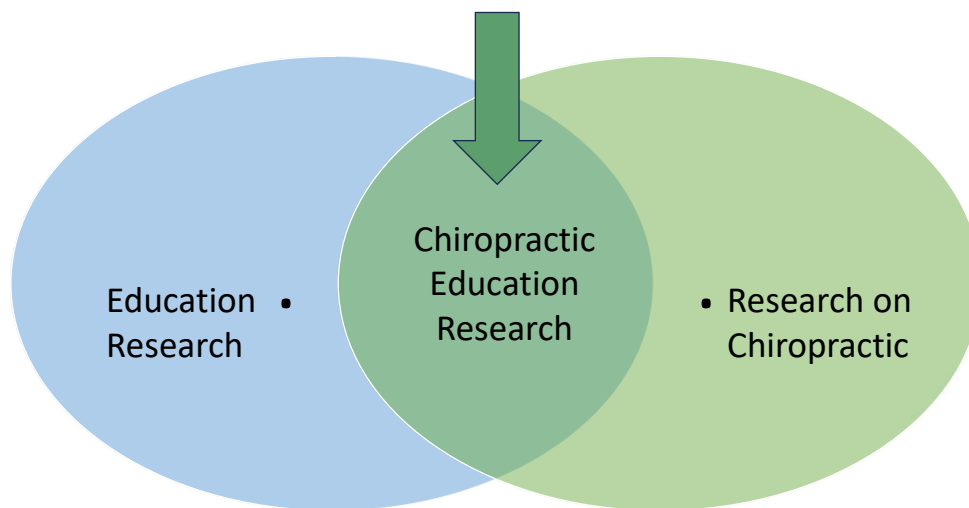
## Questions this scoping review will answer

1. What is the state of research on chiropractic education and training for chiropractic students and graduate chiropractors?
2. What are the characteristics of chiropractic education research studies and literature reviews published in the indexed literature?



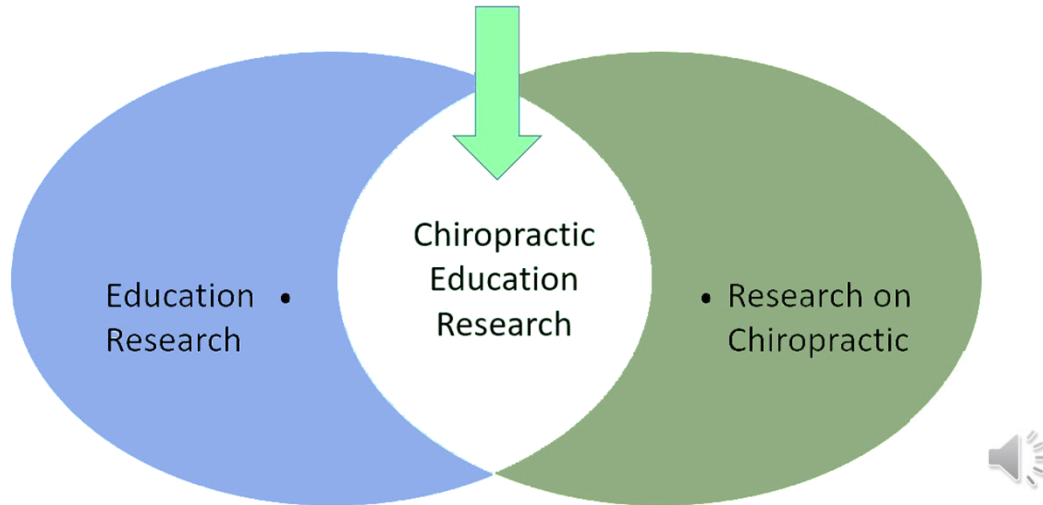
3

## What our scoping review is focusing on



4

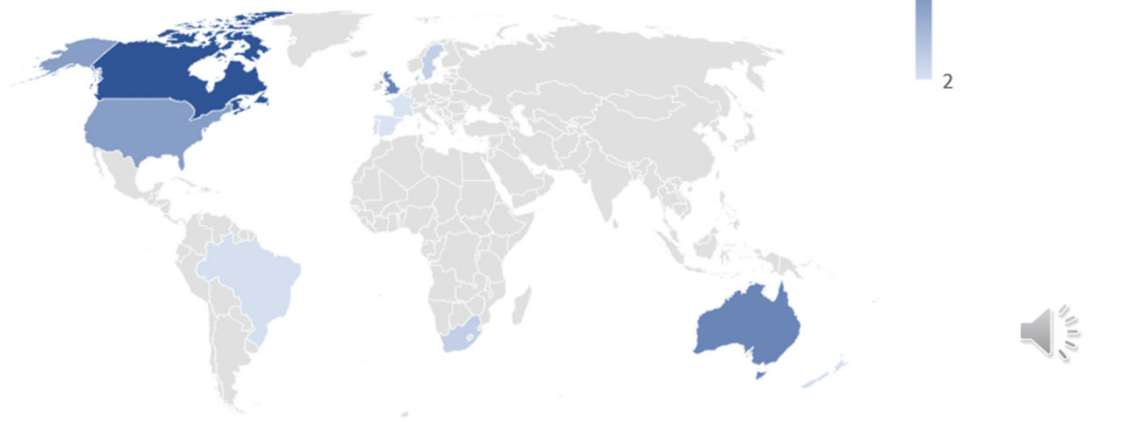
## What our scoping review is focusing on



5

## In our scoping review, we will report

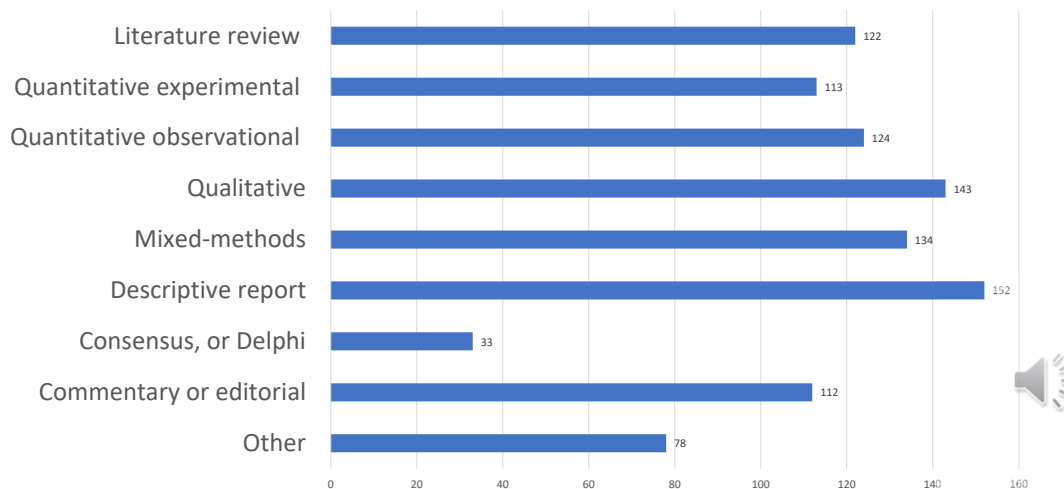
Regions where chiropractic education research is happening and where more needs to be done



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## In our scoping review, we will report

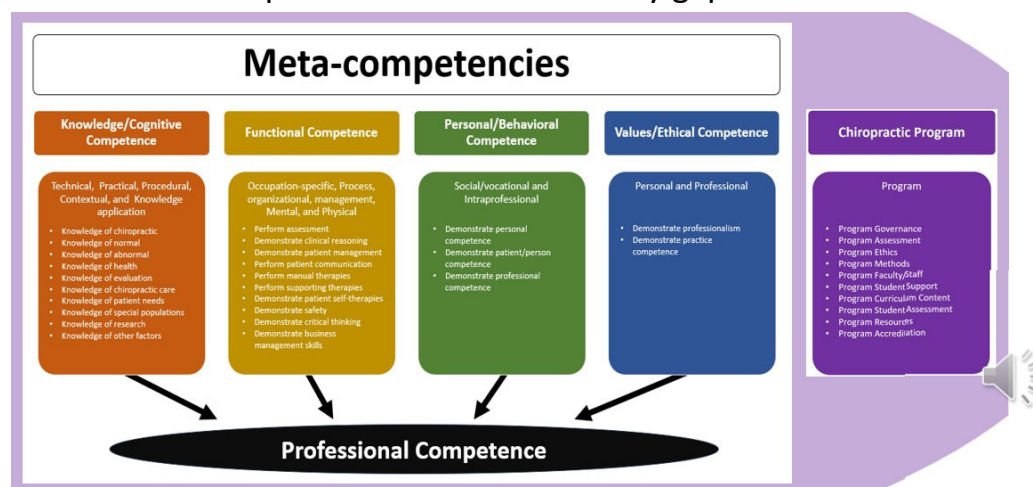
What types of study designs are being published



7

## In our scoping review, we will report

Evidence of research on the metacompetencies and program research, to show research emphasis and if there are any gaps



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## In our scoping review, we will report

Evidence of research on the metacompetencies and program research, to show research emphasis and if there are any gaps

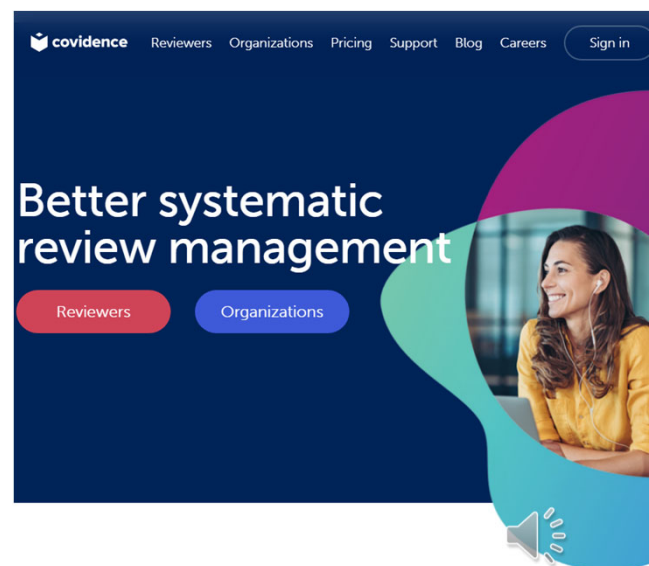
Student Knowledge, Cognitive Competence	Student Functional Competence	Student Personal, Behavioral Competence	Student Values, Ethical Competence	Chiropractic Program
55	14	11	12	16
20	7	33	16	23
5	22	14		6
33	60			11
28	22			12
22	14			16
10	36			14
45	43			12
25	2			17
37	54			22



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## What is Covidence?

- Covidence is a proprietary online tool that allows people to do systematic and scoping reviews.
- Allows multiple users, is easy to access anywhere at any time
- Brighthall has covered the nominal fee for Covidence use for this project.



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## How do I sign up?

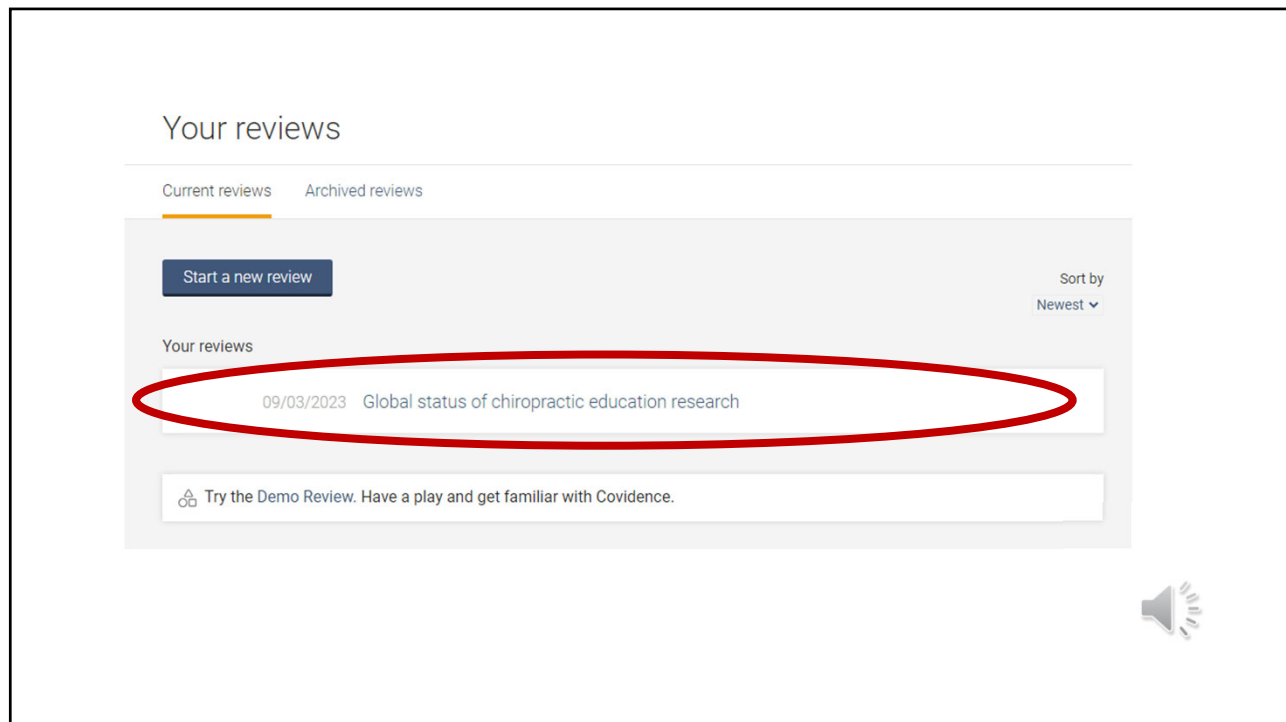
- Once you have watched this video and completed the online survey, you will receive an email from [support@covidence.org](mailto:support@covidence.org) letting you know that you have been invited and will ask you to verify your email address.
- Follow the instructions Covidence provides to sign up.



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The screenshot shows the Covidence website's sign-in interface. At the top is a dark blue navigation bar with the Covidence logo on the left and links for Home, Reviewers, Organizations, Pricing, Careers, and Support on the right. The main content area has a light gray background with the heading "Sign in to Covidence" in bold. Below the heading is a white sign-in form. The form contains an "Email" field with a placeholder "email address" and a blue border, and a "Password" field with a yellow background and a blue border. Below these fields is a dark blue "Sign in" button. Underneath the button is a link for "Forgot password?". At the bottom of the form is a purple button labeled "Sign in with Cochrane" with a small diamond icon. Below the purple button is a link that says "Don't have a Covidence account? Sign up". A speaker icon is located in the bottom right corner of the form area.

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## Warning! We ask that you please do not change the settings or click “archive”

Once you enter Covidence, you are accessing the main worksheet, not your personal worksheet. This means it is important that you do not change settings or controls.

The controls are active for the entire project, not just for your work.

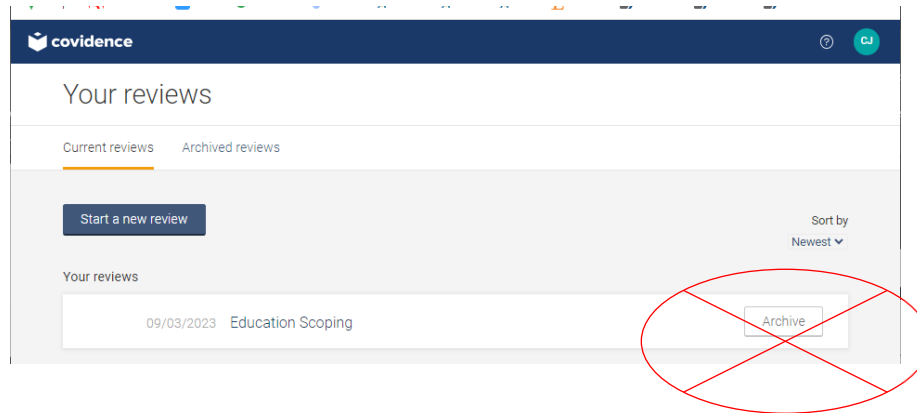
This means clicking on settings or controls will disrupt and possibly destroy the project.

Please do not click on or modify in any way the study outside of what you are being asked to do. 

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Please do not click on or modify in any way

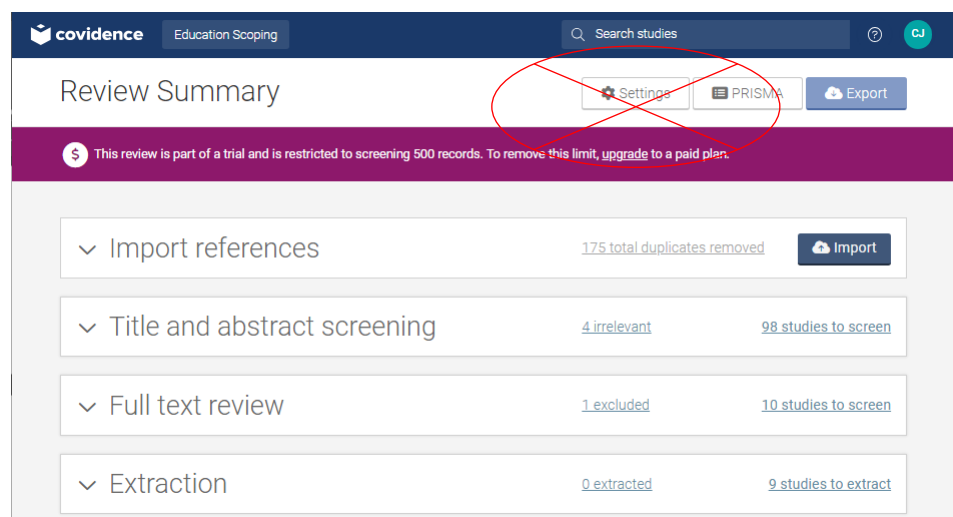
- Do not click on the “Archive” button on the Your reviews tab



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Please do not click on or modify in any way

- Do not click on the “Settings” button on your Review Summary page

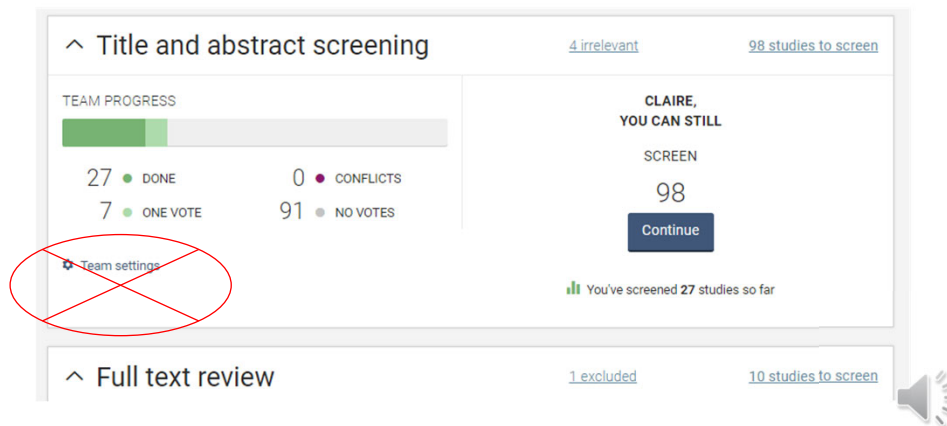


16



Please do not click on or modify in any way

- Do not click on the “Team Settings” on any page



17

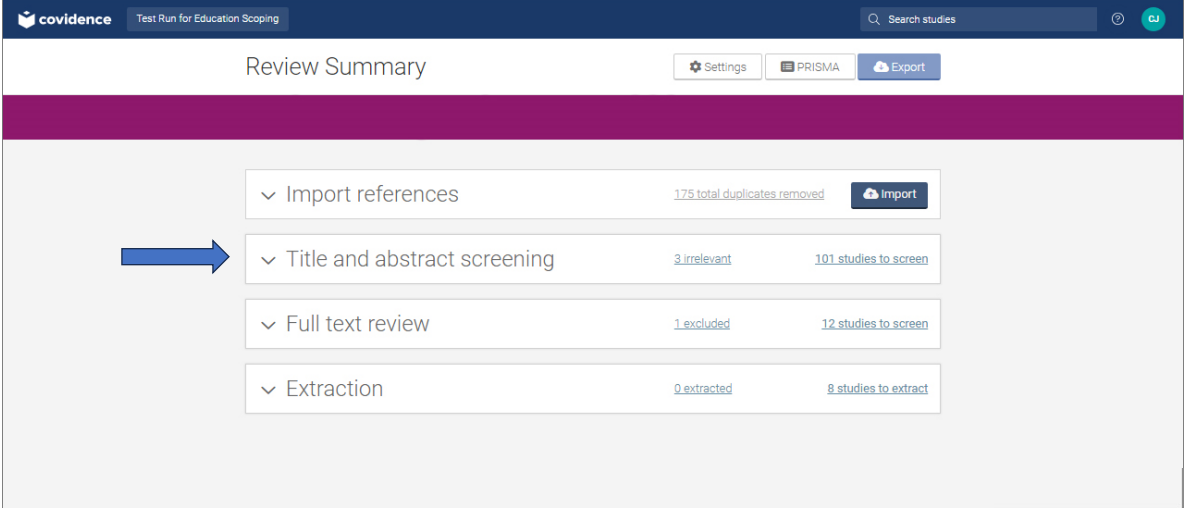
A general rule of thumb is that if you the action will change the study or delete something, do not do it.

If you are not sure, please ask Claire first.

Thank you!



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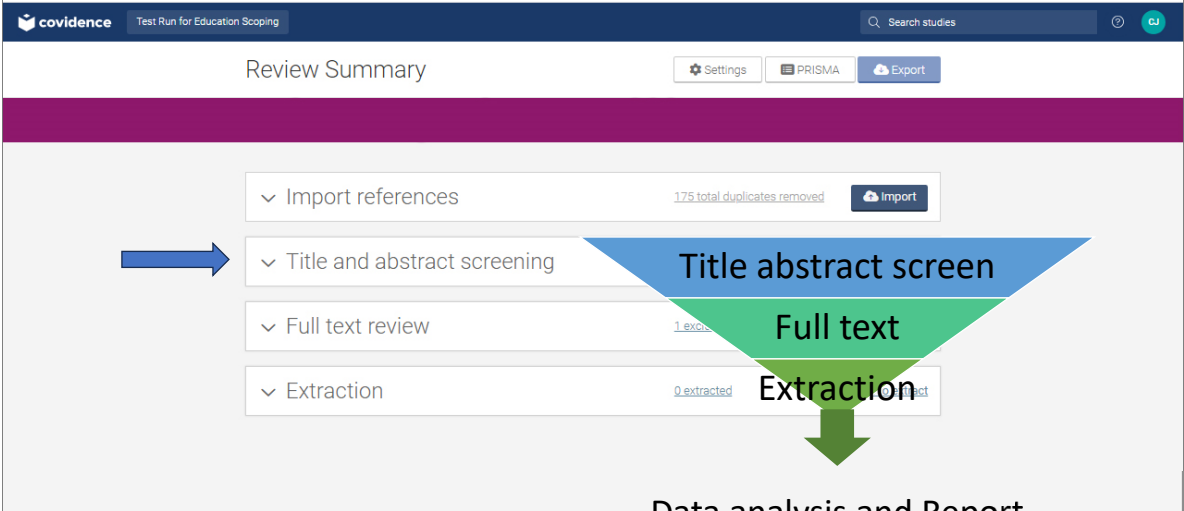
**Review Summary**

Settings PRISMA Export

- Import references [175 total duplicates removed](#) [Import](#)
- Title and abstract screening [3 irrelevant](#) [101 studies to screen](#)
- Full text review [1 excluded](#) [12 studies to screen](#)
- Extraction [0 extracted](#) [8 studies to extract](#)

Speaker icon

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**Review Summary**

Settings PRISMA Export

- Import references [175 total duplicates removed](#) [Import](#)
- Title and abstract screening [3 irrelevant](#) [101 studies to screen](#)
- Full text review [1 excluded](#) [12 studies to screen](#)
- Extraction [0 extracted](#) [8 studies to extract](#)

**Title abstract screen**

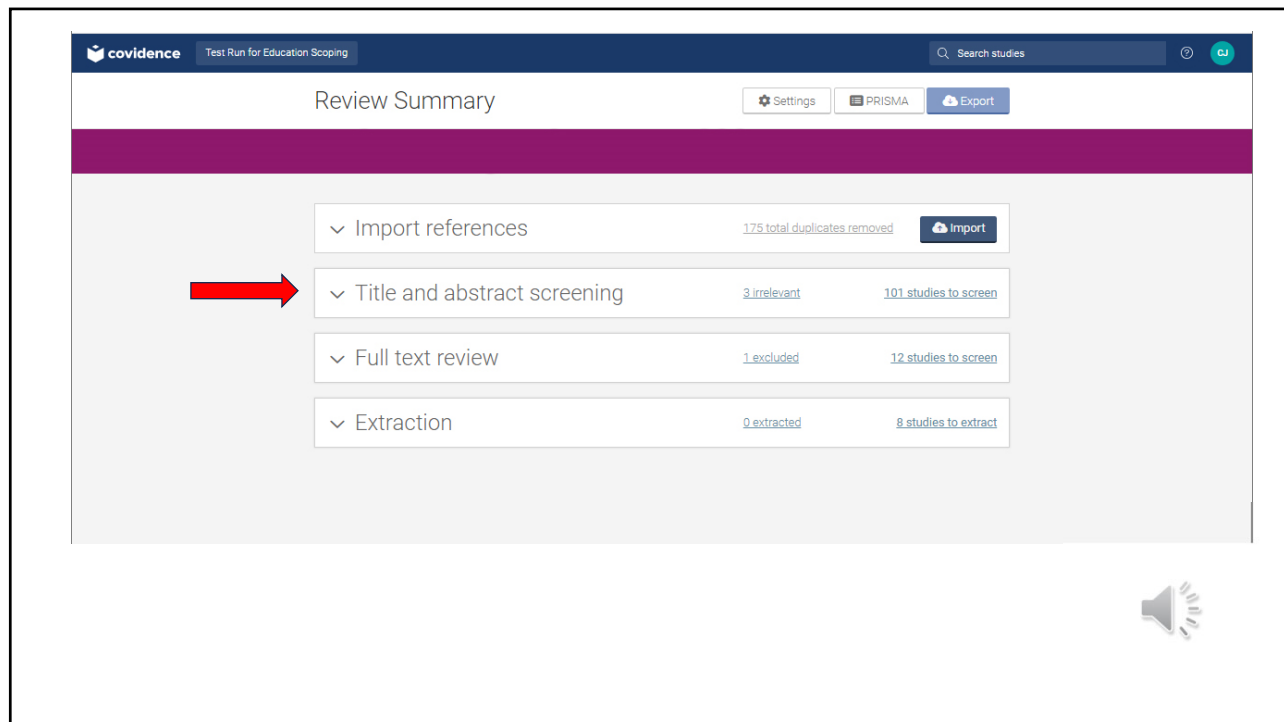
**Full text**

**Extraction**

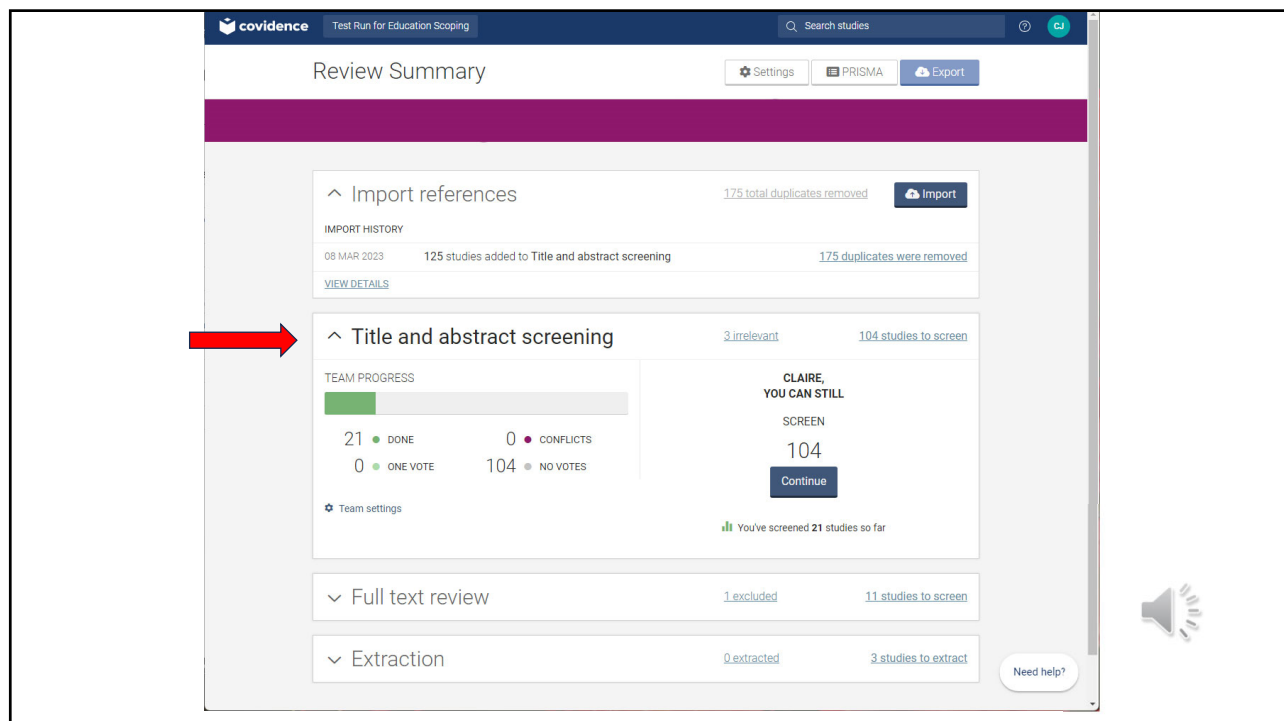
**Data analysis and Report**

Speaker icon

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22

## Helpful hint

YOU CAN STILL

SCREEN

1456

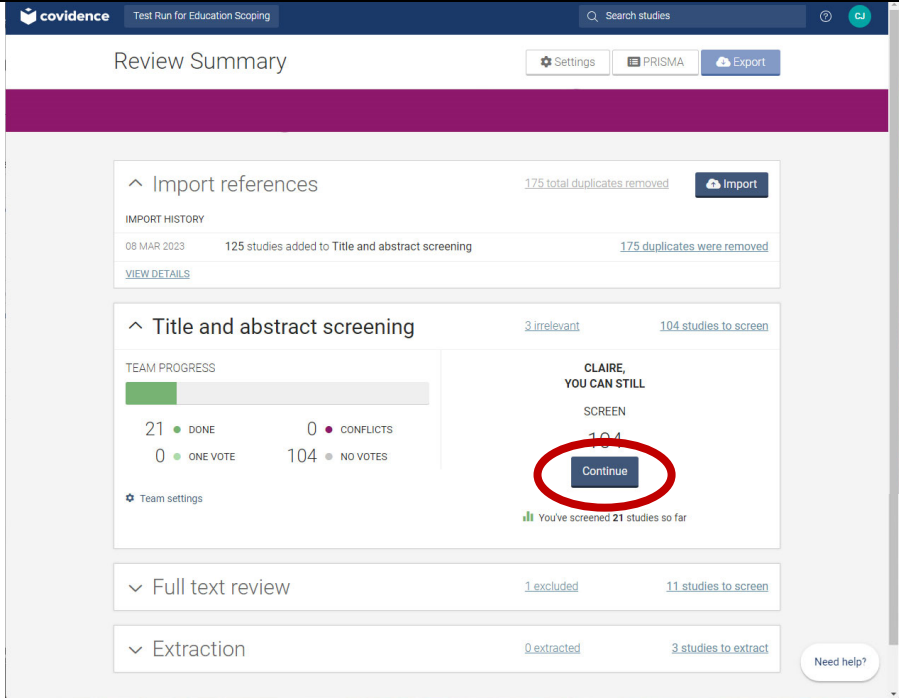
Continue

 You've screened 21 studies so far

- Since this is a scoping review, there will be lots of papers, thousands of them, to screen in the beginning.
- The “You can still screen” will show a large number of available abstracts to screen. This is not the number that are assigned only to you.
- That is why we have a team of authors. If everyone does their share, we will be able to easily get this done.



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**Review Summary**

Settings PRISMA Export

Import references 175 total duplicates removed Import

IMPORT HISTORY

08 MAR 2023 125 studies added to Title and abstract screening 175 duplicates were removed

VIEW DETAILS

Title and abstract screening 3 irrelevant 104 studies to screen

TEAM PROGRESS

21 DONE 0 CONFLICTS

0 ONE VOTE 104 NO VOTES

Team settings

CLAIRE, YOU CAN STILL SCREEN

104

Continue

You've screened 21 studies so far

Full text review 1 excluded 11 studies to screen

Extraction 0 extracted 3 studies to extract

Need help?

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← Title and abstract screening

Screen references 1156   Resolve conflicts 24   Awaiting other reviewer 2915   Irrelevant references 99

☐ All   Filter ▾   Tags   **Criteria ▾**   Hide highlights   Show abstracts   Display: 25 ▾   Most relevant ▾

Promoting the use of self-management in novice chiropractors treating individuals with spine pain: the ... Undo

☐ #1251 - Evans 2009  
 Hand hygiene and treatment table sanitizing in **chiropractic teaching** institutions: results of an **education** intervention to increase compliance  
 Evans, M. W., Jr.; Ramcharan, M.; Ndetan, H.; Floyd, R.; Globe, G.; Pfefer, M.; Brantingham, J.  
 J Manipulative Physiol Ther Jul-Aug 2009;32(6):469-76  
 2009 Jul-Aug  
 DOI: 10.1016/j.jmpt.2009.06.007 [C](#)

Abstract

Note History Duplicate

☐ #5909 - McCarthy 1997  
 Sports **chiropractic** experience at a **chiropractic** college  
 McCarthy, K.; Souza, T.; Jacobs, B.; Alvarez, C.  
 Topics in Clinical Chiropractic 1997;4(2):57-84  
 Baltimore, Maryland Lippincott Williams & Wilkins 1997

Abstract

Note History Duplicate

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## Title and Abstract screening upper function tabs

Criteria = Shows a text box with inclusion and exclusion criteria

☐ All   Filter ▾   Tags   **Criteria ▾**   Hide highlights   Hide abstracts   Display: 25 ▾   Most relevant ▾

**Study Characteristics**

**Include**

- All types of studies: primary research, systematic reviews, narrative reports, experimental, quasi-experimental, qualitative, cross-sectional, and descriptive designs. Relevant editorials are included.

**Exclude**

- Grey literature, opinion/commentary, conference abstracts
- Duplicate reports of the same study
- From an unreliable source (eg web advertisements, blogs)

**Population**

**Include**

- Studies directly related to the education and training of chiropractic students and/or graduates, chiropractic academics.

**Exclude**

- Not related to education or training of chiropractors, education programs, or studies that are only peripherally related.

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## Know the inclusion and exclusion criteria

### Study Characteristics

#### Include

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#### Exclude

- Grey literature, opinion/commentary, conference abstracts
- Duplicate reports of the same study
- From an unreliable source (eg web advertisements, blogs)



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## Know the inclusion and exclusion criteria

### Population

#### Include

- Studies directly related to the education and training of chiropractic students and/or graduates, chiropractic academics (faculty/administrators/staff) and chiropractic programs/accreditation.
- Any chiropractic education setting, including chiropractic programs, continuing education, and accreditation agencies

#### Exclude

- Not related to education or training of chiropractors, education programs, or studies that are only peripherally related



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# Know the inclusion and exclusion criteria

## Intervention / Exposure

### Include

- Any studies that describe or explore chiropractic education and training. For the purposes of this study, chiropractic education research is considered any investigation related to the education of chiropractors.
- Education research will include studies done within chiropractic programs, graduate (post-graduate training), and continuing chiropractic education.
- Additional topics will include studies related to chiropractic programs, which includes curriculum development, teaching methods, student evaluation, faculty evaluation, course evaluation, faculty development, and other relevant educational constructs.

### Exclude

- Research done at a chiropractic educational institution without the focus being on education or training will be excluded.
- Articles on non-educational topics or clinical research done in chiropractic academic settings as well as articles on education of patients or other health care providers about chiropractic will be excluded.
- Studies that mention the terms "chiropractic" or "chiropractor" but are not about the education of chiropractors will be excluded.



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# Know the inclusion and exclusion criteria

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Show highlights = will highlight key words. Red = unfavorable Green = favorable

☐ All Filter ▾ Tags ▾ Criteria ▾ Show highlights Show abstracts

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☐ #1254 - Evans 2003

A pilot study for a randomized **clinical trial** assessing **chiropractic** care, medical care, and self-care **education** for acute and subacute neck pain patients

Evans, R.; Bronfort, G.; Bittell, S.; Anderson, A. V.  
J Manipulative Physiol Ther Sep 2003;26(7):403-11  
2003 Sep  
DOI: [10.1016/s0161-4754\(03\)00093-9](https://doi.org/10.1016/s0161-4754(03)00093-9)

▶ Abstract

Note History Duplicate

No  
Maybe  
Yes

31

Show abstracts = will show abstracts if they are available

☐ All Filter ▾ Tags ▾ Criteria ▾ Show highlights Show abstracts

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☐ #220 - Myburgh 2008

The development of contemporary chiropractic education in Denmark: an exploratory study

Myburgh, C.; Moxton, J.  
J Manipulative Physiol Ther Oct 2008;31(8):583-92  
2008 Oct  
DOI: [10.1016/j.jmpt.2008.09.009](https://doi.org/10.1016/j.jmpt.2008.09.009)

▼ Abstract

**OBJECTIVE:** The purpose of this study was to capture the experience of key stakeholders regarding the development, structure, and influence of the local education program on the Danish chiropractic profession. **METHODS:** A gatekeeper was initially interviewed, after which a snowball sampling approach led to a further 11 respondents being identified. Semistructured interviews were conducted, and computer-assisted thematic analysis was used to interpret data. **RESULTS:** Seven themes emerged. Two described pertinent historical aspects during the development of the local education, 4 related to status quo issues around education at the University of Southern Denmark, and 1 explored perceived health care integration benefits attributable to the chosen model of education. **CONCLUSION:** The Danish chiropractic profession's incentive to raise its legitimacy lay in the access it stood to gain, through a local education, to state-subsidized copayments. "Stakeholder behavior," "boundary work," and "countervailing powers" underscore this example of professionalization, and evidence for secondary legitimization appears evident in the third-party influences, peer association legitimacy, and disciplinary endorsement observed. Our study suggests that secondary legitimacy may serve the interests of an emergent profession in its bid to claim a position of dominance, in this instance, chiropractic.

Note History Duplicate

No  
Maybe  
Yes

Need help?

32



☐ All
 

Filter

Tags

Criteria

Show highlights

Show abstracts

#220 - Myburgh 2008

☐

No

Maybe

Yes

The development of contemporary **chiropractic education** in Denmark: an exploratory study

Myburgh, C.; Mouton, J.  
J Manipulative Physiol Ther Oct 2008;31(8):583-92  
2008 Oct  
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▼ Abstract

OBJECTIVE: The purpose of this study was to capture the experience of key stakeholders regarding the development, structure, and influence of the local **education** program on the Danish **chiropractic** profession. METHODS: A gatekeeper was initially interviewed, after which a snowball sampling approach led to a further 11 respondents being identified. Semistructured interviews were conducted, and computer-assisted thematic analysis was used to interpret data. RESULTS: Seven themes emerged. Two described pertinent historical aspects during the development of the local **education**. 4 related to status quo issues around **education** at the University of Southern Denmark, and 1 explored perceived health care integration benefits attributable to the chosen model of **education**. CONCLUSION: The Danish **chiropractic** profession's incentive to raise its legitimacy lay in the access it stood to gain, through a local **education**, to state-subsidized copayments. "Stakeholder behavior," "boundary work," and "countervailing powers" underscore this example of professionalization; and evidence for secondary legitimization appears evident in the third-party influences, peer association legitimacy, and disciplinary endorsement observed. Our study suggests that secondary legitimacy may serve the interests of an emergent profession in its bid to claim a position of dominance, in this instance, **chiropractic**.

Note History Duplicate

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## How to submit your decision

#3190 - Schmitt 2008

☐

No

Maybe

Yes

Common errors and clinical guidelines for manual muscle testing: "the arm test" and other inaccurate procedures

Schmitt, W. H., Jr.; Cuthbert, S. C.  
Chiropr Osteopat Dec 19 2008;16(1):16  
2008 Dec 19  
DOI: [10.1186/1746-1340-16-16](https://doi.org/10.1186/1746-1340-16-16)

▼ Abstract

BACKGROUND: The manual muscle test (MMT) has been offered as a **chiropractic assessment** tool that may help diagnose neuromusculoskeletal dysfunction. We contend that due to the number of manipulative practitioners using this test as part of the **assessment** of patients, clinical guidelines for the MMT are required to heighten the accuracy in the use of this tool. OBJECTIVE: To present essential operational definitions of the MMT for **chiropractors** and other clinicians that should improve the reliability of the MMT as a diagnostic test. Controversy about the usefulness and reliability of the MMT for **chiropractic** diagnosis is ongoing, and clinical guidelines about the MMT are needed to resolve confusion regarding the MMT as used in clinical practice as well as the evaluation of experimental evidence concerning its use. DISCUSSION: We expect that the resistance to accept the MMT as a reliable and valid diagnostic tool will continue within some portions of the manipulative professions if clinical guidelines for the use of MMT methods are not established and accepted. Unreliable **assessments** of this method of diagnosis will continue when non-standard MMT research papers are considered representative of the methods used by properly **trained** clinicians. CONCLUSION: Practitioners who employ the MMT should use these clinical guidelines for improving their use of the MMT in their **assessments** of muscle dysfunction in patients with musculoskeletal pain.

Note History Duplicate

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## How to submit your decision

☐ #1251 - Evans 2009

Hand hygiene and treatment table sanitizing in chiropractic teaching institutions: results of an education intervention to increase compliance

Evans, M. W., Jr.; Ramcharan, M.; Ndetan, H.; Floyd, R.; Globe, G.; Pfefer, M.; Brantingham, J.  
J Manipulative Physiol Ther Jul-Aug 2009;32(6):469-76  
2009 Jul-Aug  
DOI: [10.1016/j.jmpt.2009.06.007](https://doi.org/10.1016/j.jmpt.2009.06.007)

### ▼ Abstract

OBJECTIVE: The purpose of this study was to test an educational intervention designed to increase hand and treatment table sanitizing on 3 chiropractic college campuses using a theory-based intervention. The second purpose is to see if an increase in observed hand hygiene would be noted as a result of the intervention. METHODS: Students at 3 campuses were surveyed, and their attitudes and practices of hand and table sanitizing were observed. The education intervention was developed using ecological theory of health promotion and involved educating staff and students along with a focus on modeling proper behaviors. The surveys were analyzed and generated frequencies. chi(2) analysis and logistic regression models were used to explore effects. RESULTS: The education campaign was associated with increases in desired behaviors regarding both hand hygiene and table sanitizing. Good hand hygiene practices increased 35% (odds ratio [OR], 1.35; 95% confidence interval [CI], 1.03-1.77), and observed practices increased more than 2-fold (OR, 2.6; 95% CI, 1.90-3.52). A 30% increase in table sanitizing was noted as well (OR, 1.30; 95% CI, 1.04-1.64). CONCLUSIONS: Educational interventions after a theory-based model can have an initial impact on increasing hand hygiene and table sanitizing. Further studies should look at a policy component as an effect modifier and whether long-term effects will be seen from such an intervention.

Note History Duplicate

No

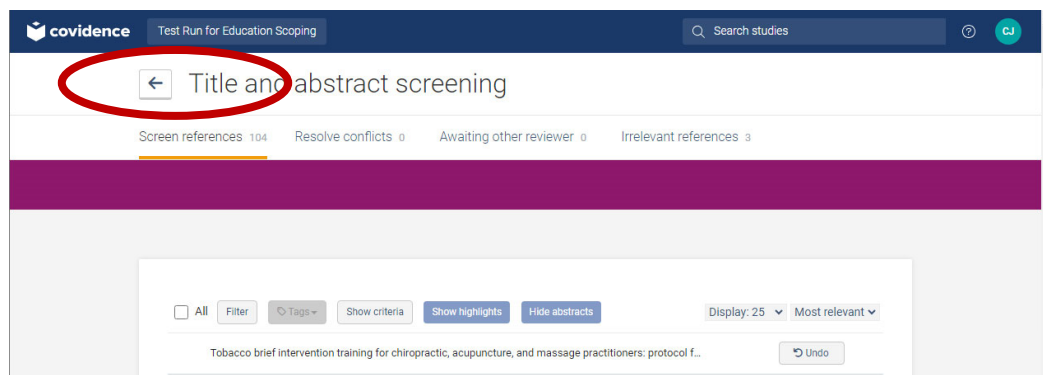
Maybe

Yes



35

Click upper left arrow to go back to the previous page.



36

The screenshot displays the Covidence 'Review Summary' page. At the top, there's a search bar and navigation links for Settings, PRISMA, and Export. The main section is titled 'Review Summary' and features a purple header. Below this, the 'Import references' section shows 175 total duplicates removed. The 'Title and abstract screening' section is highlighted, showing a team progress bar and a summary of 21 studies done, 0 conflicts, 0 one votes, and 104 no votes. A blue arrow points to the 'Continue' button next to the number 104. The 'Full text review' section shows 1 excluded and 11 studies to screen. The 'Extraction' section shows 0 extracted and 3 studies to extract. A 'Need help?' button is located at the bottom right.

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## Helpful hint

- The first step should be relatively fast. This decision is only if it should be considered or not.
- We are using 2 entry verification, this means for one title/abstract to be considered complete, 2 people must submit their decision.
- You can do as many or as few as you wish at a time. If you have a few minutes, log in and complete a few decisions. Or you can schedule a little more time when it is convenient to you to do more.
- When everyone is carrying their share of the work, this project will be completed easily.



38

Warning! We ask that you please do not change the settings or click “archive”

This is the main worksheet, not your personal worksheet.

The controls are active for the entire project, not just for your work.

This means clicking on settings or controls will disrupt and possibly destroy the project.

Please do not click on or modify in any way the pages.



39

A general rule of thumb is that if you the action will change the study or delete something, do not do it.

If you are not sure, please ask Claire first.

Thank you!



40

- Please do not move on to the full text or extraction levels until you are told to do so.
- We will let you know when it is time.



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Thank you for joining  
the authorship team

- This study will be possible by everyone participating
- Thank you!



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