

# Supplementary material

## S1 Preliminary searches

The search terms used in the preliminary searches are reported in Table S1. The reviews that were examined are detailed on Table S2 (published reviews) and Table S3 (ongoing reviews).

**Table S1:** Preliminary searches terms

| Database      | Date       | Terms                                                                                                                                                              | N hits | N review on EIH and reliability |
|---------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|---------------------------------|
| COCHRANE      | 2021-09-12 | hypoalgesia                                                                                                                                                        | 72     | 0                               |
|               | 2021-09-12 | exercise-induced analgesia                                                                                                                                         | 32     | 0                               |
|               | 2021-09-12 | exercise-induced analgesia                                                                                                                                         | 28     | 0                               |
|               | 2021-09-19 | exercise-induced analgesia OR exercise-induced hypoalgesia                                                                                                         | 77     | 0                               |
| EPISTEMONIKOS | 2021-09-12 | exercise-induced hypoalgesia                                                                                                                                       | 8      | 0                               |
|               | 2021-09-12 | hypoalgesia                                                                                                                                                        | 25     | 0                               |
|               | 2021-09-12 | exercise-induced analgesia                                                                                                                                         | 2      | 0                               |
|               | 2021-09-14 | (title:(exercise-induced hypoalgesia) OR abstract:(exercise-induced hypoalgesia)) OR (title:(exercise-induced analgesia) OR abstract:(exercise-induced analgesia)) | 9      | 0                               |
| PROSPERO      | 2021-09-19 | exercise induced hypoalgesia OR exercise induced analgesia                                                                                                         | 3      | 0                               |
|               | 2021-09-12 | exercise-induced hypoalgesia                                                                                                                                       | 11     | 0                               |
|               | 2021-09-12 | hypoalgesia                                                                                                                                                        | 20     | 0                               |
|               | 2021-09-12 | exercise-induced analgesia                                                                                                                                         | 2      | 0                               |
|               | 2021-09-13 | exercise-induced hypoalgesia OR hypoalgesia OR exercise-induced analgesia                                                                                          | 21     | 0                               |

EIH, Exercise-induced hypoalgesia.

Table S2: Published reviews found during preliminary searches

| Reliability | EIH     | Author (Year)                 | SR  | N studies | Design studies                                                                                             | Type of exercise                        | Population                                                | Years of included searches | Language limit | Databases                                                                |
|-------------|---------|-------------------------------|-----|-----------|------------------------------------------------------------------------------------------------------------|-----------------------------------------|-----------------------------------------------------------|----------------------------|----------------|--------------------------------------------------------------------------|
| No          | Yes     | Wewege et al. (2020)          | Yes | 13        | Randomized controlled studies (cross-over or parallel)                                                     | Single bout of standardized exercise    | healthy human, human with msk pain                        | 1996 to 2019               | English        | Scopus, EMBASE, PsycINFO, CINAHL, SPORTDiscus, and MEDLINE               |
| No          | Yes     | Munneke et al. (2019)         | Yes | 9         | Cross-sectional                                                                                            | Single bout of exercise                 | Adults: healthy and with msk pain                         | 2002 to 2018               | Not found      | MEDLINE Ovid, EMBASE, Web of Science, PsycINFO Ovid and CINAHL EBSCOhost |
| No          | Yes     | Naugle et al. (2012)          | No  | 25        | All published                                                                                              | Aerobic, Isometric, resistance exercise | Adults, healthy or chronic pain                           | 1900 to 2012               | Not reported   | PubMed, Medline, PsycINFO, and Academic Search                           |
| No          | Yes     | Pacheco-Barrios et al. (2020) | Yes | 36        | RCT including: included parallel-group, crossover designs and pilot studies and quasi-experimental studies | exercise intervention                   | Healthy subjects                                          | 1995 to 2019               | English        | MEDLINE, EMBASE, Web of Science, Lilacs, and Scopus                      |
| No          | Unclear | Baehr et al. (2021)           | No  | 196       | RCT, quasi-experimental, observational                                                                     | Not found                               | Healthy adults and adults with chronic medical conditions | Not found                  | Not found      | Medline (PubMed), CINAHL, Web of Science, Embase                         |
| No          | No      | Polaski et al. (2019)         | Yes | 75        | RCT                                                                                                        | 75.0                                    | See Green et al 2017                                      | See Green et al 2017       | English        | See Green et al. 2017                                                    |
| No          | Yes     | Bonello et al. (2021)         | Yes | 13        | RCT, non-randomized pre-post                                                                               | Isometric exercise                      | Persons with localised msk pain                           | 2002 to 2020               | English        | MEDLINE, EMBASE, CINAHL & SportDiscus                                    |

Table S3: Ongoing reviews found during preliminary searches

| Psychometric | EIH     | Author<br>(Year)              | SR  | N studies | Design studies                                                                                                                         | Type of<br>exercise       | Population                                    | Years of<br>included<br>searches | Language<br>limit | Databases                                                                                                                                                                                                                                                         |
|--------------|---------|-------------------------------|-----|-----------|----------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------------------------------------|----------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No           | Unclear | RB Rodriguez<br>et al. (2021) | Yes |           | RCT                                                                                                                                    | Aerobic<br>exercise       | Patients with<br>musculoskeletal pain         |                                  | Not reported      | PubMed, PEDro, EBSCO, WOS                                                                                                                                                                                                                                         |
| No           | Yes     | Lemley<br>et al. (2018)       | Yes |           | Randomized controlled<br>trials, cohort, case control,<br>case series, case reports,<br>quasi-experimental designs,<br>clinical trials | Retrowalking              | Adults with lower extremity<br>osteoarthritis |                                  | English           | Academic Search Premier,<br>MEDLINE Complete, CINAHL,<br>ScienceDirect, ClinicalKey,<br>ProQuest, PubMed                                                                                                                                                          |
| No           | Unclear | Kuitan<br>et al. (2019)       | Yes |           | Observational studies                                                                                                                  | Physical activity         | Adults with spinal pain                       |                                  | English           | MEDLINE (OVID interface),<br>EMBASE (OVID interface),<br>CINAHL (EBSCO interface),<br>Web of Science, PubMed and<br>Google Scholar, Grey<br>literature, encompassing<br>dissertation abstracts and<br>Ethos, OpenGrey, ZETOC and<br>British National bibliography |
| No           | Yes     | Rio<br>et al. (2018)          | Yes |           | All                                                                                                                                    | Isometric<br>exercise     | Healthy human                                 |                                  | English           | MEDLINE via Ovid, Web of<br>Science, EMBASE, Scopus and<br>CINAHL                                                                                                                                                                                                 |
| No           | Yes     | Senarath<br>et al. (2021)     | Yes |           | RCT, observational studies                                                                                                             | Exercise for<br>neck pain | Adults with neck pain                         |                                  | English           | PEDro, MEDLINE, EMBASE,<br>CINAHL, SPORTDiscus, AMED<br>through Ovid                                                                                                                                                                                              |
| Yes          | No      | Alqarni<br>et al. (2016)      | Yes |           | Cross-sectional, cohort<br>studies                                                                                                     | No exercise               | Adults with<br>musculoskeletal pain           |                                  | English           | CINAHL, ScienceDirect,<br>MEDLINE, PubMed, Scopus,<br>PsycINFO, Web of Knowledge                                                                                                                                                                                  |

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Table S3: *Continued*

| Psychometric | EIH | Author<br>(Year)         | SR  | N studies | Design studies                                                                                                                   | Type of<br>exercise        | Population                                                                                     | Years of<br>included<br>searches | Language<br>limit | Databases                                                                                  |
|--------------|-----|--------------------------|-----|-----------|----------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------------------------------------------------------------------------------------------|----------------------------------|-------------------|--------------------------------------------------------------------------------------------|
| No           | Yes | Cayrol<br>et al. (2021)  | Yes |           | Observational studies                                                                                                            | Single bout of<br>exercise | Adults (18 or older) with<br>chronic pain-related<br>myofascial<br>temporomandibular disorders | From 1992                        | Not limited       | MEDLINE/PubMed, EMBASE<br>(including the "MEDLINE<br>search"), Scopus, CINAHL,<br>PsycINFO |
| No           | Yes | Deere<br>et al. (2020)   | Yes |           | RCT, non-randomized<br>pre-post                                                                                                  | Exercise<br>training       | Adults(>40y) with loer<br>extremity OA)                                                        | From 2000                        | English           | PubMed, Scopus, Web of<br>Science                                                          |
| No           | No  | Delavy<br>et al. (2019)  | Yes |           | Experimental design, full-<br>text report. Parallel arm<br>(individual- or cluster-<br>designed) randomised<br>controlled trials | Exercise<br>training alone | Adults(>18y)                                                                                   |                                  | Not limited       | MEDLINE, CINAHL,<br>SPORTDiscus, EMBASE,<br>psycINFO, CENTRAL                              |
| No           | Yes | Trinder<br>et al. (2017) | Yes |           | All but observational<br>studies & pre_post without<br>comparison                                                                | Isometric<br>exercise      | People with local msk pain                                                                     |                                  | English           | MEDLINE, Scopus, CINAHL and<br>AMED via the EBSCOhost<br>interface                         |

## S2 Completed PRISMA 2020 item checklist

| Section and Topic             | Item # | Checklist item                                                                                                                                                                                                                                                                                      | Location where item is reported |
|-------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| <b>TITLE</b>                  |        |                                                                                                                                                                                                                                                                                                     |                                 |
| Title                         | 1      | Identify the report as a systematic review                                                                                                                                                                                                                                                          | P1                              |
| <b>ABSTRACT</b>               |        |                                                                                                                                                                                                                                                                                                     |                                 |
| Abstract                      | 2      | See the PRISMA 2020 for Abstracts checklist                                                                                                                                                                                                                                                         | P2                              |
| <b>INTRODUCTION</b>           |        |                                                                                                                                                                                                                                                                                                     |                                 |
| Rationale                     | 3      | Describe the rationale for the review in the context of existing knowledge                                                                                                                                                                                                                          | P3-4                            |
| Objectives                    | 4      | Provide an explicit statement of the objective(s) or question(s) the review addresses                                                                                                                                                                                                               | P4                              |
| <b>METHODS</b>                |        |                                                                                                                                                                                                                                                                                                     |                                 |
| Eligibility criteria          | 5      | Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses                                                                                                                                                                                          | P5-6                            |
| Information sources           | 6      | Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted                                                                                            | P6-7                            |
| Search strategy               | 7      | Present the full search strategies for all databases, registers and websites, including any filters and limits used                                                                                                                                                                                 | Appendix 3                      |
| Selection process             | 8      | Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process                     | P7                              |
| Data collection process       | 9      | Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process | P7                              |
| Data items                    | 10a    | List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect                        | P7-8 Appendix 4                 |
|                               | 10b    | List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information                                                                                         | P7-8 Appendix 4                 |
| Study risk of bias assessment | 11     | Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process                                    | P8-9 Appendix 6                 |
| Effect measures               | 12     | Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results                                                                                                                                                                  | NA                              |
| Synthesis methods             | 13a    | Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5))                                                                                 | NA                              |
|                               | 13b    | Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions                                                                                                                                                | P9-10                           |
|                               | 13c    | Describe any methods used to tabulate or visually display results of individual studies and syntheses                                                                                                                                                                                               | P9-10                           |
|                               | 13d    | Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to                                                                                                                                      | P9-10                           |

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|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
|                               | identify the presence and extent of statistical heterogeneity, and software package (s) used                                                                                                                                                                                            |                     |
|                               | 13e Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression)                                                                                                                                                 | NA                  |
|                               | 13f Describe any sensitivity analyses conducted to assess robustness of the synthesized results                                                                                                                                                                                         | NA                  |
| Reporting bias assessment     | 14 Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases)                                                                                                                                                               | NA                  |
| Certainty assessment          | 15 Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome                                                                                                                                                                                 | P9-10 Appendix 8    |
| <b>RESULTS</b>                |                                                                                                                                                                                                                                                                                         |                     |
| Study selection               | 16a Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram                                                                                         | P11                 |
|                               | 16b Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded                                                                                                                                                          | P11 Appendix 9      |
| Study characteristics         | 17 Cite each included study and present its characteristics                                                                                                                                                                                                                             | P11-17              |
| Risk of bias in studies       | 18 Present assessments of risk of bias for each included study                                                                                                                                                                                                                          | P18-19              |
| Results of individual studies | 19 For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots                                                      | P20-23              |
| Results of syntheses          | 20a For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies                                                                                                                                                                               | NA                  |
|                               | 20b Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect | NA                  |
|                               | 20c Present results of all investigations of possible causes of heterogeneity among study results                                                                                                                                                                                       | NA                  |
|                               | 20d Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results                                                                                                                                                                           | NA                  |
| Reporting biases              | 21 Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed                                                                                                                                                               | NA                  |
| Certainty of evidence         | 22 Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed                                                                                                                                                                                   | P 20, 23 Appendix 8 |
| <b>DISCUSSION</b>             |                                                                                                                                                                                                                                                                                         |                     |
| Discussion                    | 23a Provide a general interpretation of the results in the context of other evidence                                                                                                                                                                                                    | P24-25              |
|                               | 23b Discuss any limitations of the evidence included in the review                                                                                                                                                                                                                      | P25-26              |
|                               | 23c Discuss any limitations of the review processes used                                                                                                                                                                                                                                | P25-26              |
|                               | 23d Discuss implications of the results for practice, policy, and future research                                                                                                                                                                                                       | P27                 |
| <b>OTHER INFORMATION</b>      |                                                                                                                                                                                                                                                                                         |                     |
| Registration and protocol     | 24a Provide registration information for the review, including register name and registration number, or state that the review was not registered                                                                                                                                       | P2&P5               |
|                               | 24b Indicate where the review protocol can be accessed, or state that a protocol was not prepared                                                                                                                                                                                       | P5                  |
|                               | 24c Describe and explain any amendments to information provided at registration or in the protocol                                                                                                                                                                                      | P28                 |
| Support                       | 25 Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review                                                                                                                                                         | P28                 |
| Competing interests           | 26 Declare any competing interests of review authors                                                                                                                                                                                                                                    | P28                 |

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|------------------------------------------------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Availability of data, code and other materials | 27 | Report which of the following are publicly available and where they can be found: P6,7,11 Appendix 3, template data collection forms; data extracted from included studies; data used for 4, 5, 9 all analyses; analytic code; any other materials used in the review |
|------------------------------------------------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## S3 Search strategy

### 1) PUBMED

- Date of search: 16/02/2024
- Database searched from 1978 to February 2024
- Total results: 1106

PUBMED 16/02/2024

| Search | Domain                   | Query                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Hits    |
|--------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| #1     | Construct<br>Instruments | "Exercise"[MeSH Terms] OR "Circuit-Based Exercise"[MeSH Terms] OR "Exercise Test"[MeSH Terms] OR "Running"[MeSH Terms] OR "Isometric contraction"[MeSH Terms] OR "Walking"[MeSH Terms] OR "Exercise therapy"[MeSH Terms] OR "cycling"[Title/Abstract] OR "Exercise test*"[Title/Abstract] OR "Running"[Title/Abstract] OR "isometric contraction"[Title/Abstract] OR "exercise induced hypoalgesia"[Title/Abstract] OR "EIH"[Title/Abstract] OR "exercise induced analgesia"[Title/Abstract] OR "EIA"[Title/Abstract] OR "walk*"[Title/Abstract] OR "jogging"[Title/Abstract] OR "bicycle"[Title/Abstract] OR "bicycling"[Title/Abstract] OR "rowing"[Title/Abstract] OR "swim*"[Title/Abstract] OR "circuit training"[Title/Abstract] OR "bicycle exercise test*"[Title/Abstract] OR "kinesiotherapy"[Title/Abstract] OR "muscle isometric contraction"[Title/Abstract] OR "aerobic exercise"[Title/Abstract] OR "aerobic exercises"[Title/Abstract] OR "Exercise"[Title/Abstract] OR "Exercises"[Title/Abstract] OR "isometric exercise"[Title/Abstract] OR "isometric exercises"[Title/Abstract] OR "isotonic exercise"[Title/Abstract] OR "isotonic exercises"[Title/Abstract] OR "isokinetic exercise"[Title/Abstract] OR "isokinetic exercises"[Title/Abstract] OR "isodynamic exercise"[Title/Abstract] OR "isodynamic exercises"[Title/Abstract] OR "Circuit-Based Exercise"[Title/Abstract] OR "Circuit-Based Exercises"[Title/Abstract] OR "anaerobic exercise"[Title/Abstract] OR "anaerobic exercises"[Title/Abstract] OR "dynamic exercise"[Title/Abstract] OR "dynamic exercises"[Title/Abstract] OR "high intensity exercise"[Title/Abstract] OR "high intensity exercises"[Title/Abstract] OR "low intensity exercise"[Title/Abstract] OR "low intensity exercises"[Title/Abstract] OR "moderate intensity exercise"[Title/Abstract] OR "moderate intensity exercises"[Title/Abstract] OR "static exercise"[Title/Abstract] OR "static exercises"[Title/Abstract] OR "stretching exercise"[Title/Abstract] OR "stretching exercises"[Title/Abstract] OR "therapeutic exercise"[Title/Abstract] OR "therapeutic exercises"[Title/Abstract] | 814,485 |
| #2     | Construct<br>Instruments | "nociceptive stimulation"[Title/Abstract] OR "pressure pain threshold"[Title/Abstract] OR "pressure pain thresholds"[Title/Abstract] OR "pain pressure threshold"[Title/Abstract] OR "pain pressure thresholds"[Title/Abstract] OR "pain threshold"[Title/Abstract] OR "heat temporal summation"[Title/Abstract] OR "cold tolerance"[Title/Abstract] OR ("hydraul*"[Title/Abstract] AND ("algomet*"[Title/Abstract] OR "pain ratings"[Title/Abstract])) OR "nociceptive flexion reflex"[Title/Abstract] OR "electrical pain ratings"[Title/Abstract] OR "heat pain ratings"[Title/Abstract] OR "pressure pain ratings"[Title/Abstract] OR "cold pain ratings"[Title/Abstract] OR "heat discrimination"[Title/Abstract] OR "pain tolerance"[Title/Abstract] OR "pressure tolerance thresholds"[Title/Abstract] OR "pressure tolerance threshold"[Title/Abstract] OR "experimental pain"[Title/Abstract] OR "pain perception"[Title/Abstract] OR "electrical pain threshold"[Title/Abstract] OR "electrical pain thresholds"[Title/Abstract] OR "perception threshold"[Title/Abstract] OR "perception thresholds"[Title/Abstract] OR "pain thresholds"[Title/Abstract] OR "heat pain thresholds"[Title/Abstract] OR "pain threshold                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 99,760  |

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|----|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
|    |            | temperature"[Title/Abstract] OR "pain thresholds temperature"[Title/Abstract] OR "heat pain threshold"[Title/Abstract] OR "perceptive threshold"[Title/Abstract] OR "perceptive thresholds"[Title/Abstract] OR "sensory threshold"[Title/Abstract] OR "sensory thresholds"[Title/Abstract] OR "sense thresholds"[Title/Abstract] OR "nociception threshold"[Title/Abstract] OR "nociception thresholds"[Title/Abstract] OR "nociceptive threshold"[Title/Abstract] OR "nociceptive thresholds"[Title/Abstract] OR "nociceptive pressure threshold"[Title/Abstract] OR "nociceptive pressure thresholds"[Title/Abstract] OR "pressure nociceptive threshold"[Title/Abstract] OR "pressure nociceptive thresholds"[Title/Abstract] OR "endogenous pain modulation"[Title/Abstract] OR "temporal summation"[Title/Abstract] OR "pain modulation"[Title/Abstract] OR "nociceptive withdrawal reflex"[Title/Abstract] OR "pain tolerance threshold"[Title/Abstract] OR "pain tolerance thresholds"[Title/Abstract] OR "pain inhibition"[Title/Abstract] OR "pain inhibitory process"[Title/Abstract] OR "pain inhibitor"[Title/Abstract] OR "hypoalgesia"[Title/Abstract] OR "reduced pain sensitivity"[Title/Abstract] OR "hyposensitivity to pain"[Title/Abstract] OR "nociception"[Title/Abstract] OR "pain sensation"[Title/Abstract] OR "pain sensitivity"[Title/Abstract] OR "quantitative sensory testing"[Title/Abstract] OR "quantitative sensation testing"[Title/Abstract] OR "quantitative sensory test"[Title/Abstract] OR "Sensory Thresholds"[MeSH Terms] OR "Pain Threshold"[MeSH Terms] OR "Nociception"[MeSH Terms] OR "Pain Perception"[MeSH Terms]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           |
| #3 | Population | "Rat"[Title] OR "Rats"[Title] OR "Mouse"[Title] OR "Mice"[Title] OR "Horse"[Title] OR "Horses"[Title] OR "Gorilla"[Title] OR "Animal"[Title] OR "Animals"[Title] OR "manipulation"[Title] OR "anaphylaxis"[Title] OR "acupuncture"[Title] OR "pigeons"[Title] OR "asthma"[Title] OR "plant"[Title] OR "Deer"[Title] OR "children"[Title] OR "child"[Title] OR "heart disease"[Title] OR "coronary disease"[Title] OR "myocardial ischemia"[Title] OR "asthmatic"[Title] OR "rodent"[Title] OR "rodents"[Title] OR "Angina"[Title] OR "coronary artery disease"[Title] OR "paraplegics"[Title] OR "spinal cord lesion"[Title] OR "asthmatics"[Title] OR "chronic heart failure"[Title] OR "hypoxemia"[Title]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2,801,217 |
| #4 | Reliab     | "psychometrics"[MeSH] OR psychometr*[tiab] OR clinimetr*[tw] OR clinometr*[tw] OR "observer variation"[MeSH] OR "observer variation"[tiab] OR "reproducibility of results"[MeSH] OR reproducib*[tiab] OR "agreement"[Title/Abstract] OR "precision"[Title/Abstract] OR "imprecision"[Title/Abstract] OR "precise values"[Title/Abstract] OR "test-retest"[Title/Abstract] OR ("test"[Title/Abstract] AND "retest"[Title/Abstract]) OR ("reliab*" [Title/Abstract] AND ("test"[Title/Abstract] OR "retest"[Title/Abstract])) OR "stability"[Title/Abstract] OR "interrater"[Title/Abstract] OR "inter-rater"[Title/Abstract] OR "intrarater"[Title/Abstract] OR "intra-rater"[Title/Abstract] OR "intertester"[Title/Abstract] OR "inter-tester"[Title/Abstract] OR "intratester"[Title/Abstract] OR "intra-tester"[Title/Abstract] OR "interobserver"[Title/Abstract] OR "inter-observer"[Title/Abstract] OR "intraobserver"[Title/Abstract] OR "intra-observer"[Title/Abstract] OR "intertechician"[Title/Abstract] OR "inter-technician"[Title/Abstract] OR "intratechnician"[Title/Abstract] OR "intra-technician"[Title/Abstract] OR "interexaminer"[Title/Abstract] OR "inter-examiner"[Title/Abstract] OR "intraexaminer"[Title/Abstract] OR "intra-examiner"[Title/Abstract] OR "interassay"[Title/Abstract] OR "inter-assay"[Title/Abstract] OR "intraassay"[Title/Abstract] OR "intra-assay"[Title/Abstract] OR "interindividual"[Title/Abstract] OR "inter-individual"[Title/Abstract] OR "intraindividual"[Title/Abstract] OR "intra-individual"[Title/Abstract] OR "interparticipant"[Title/Abstract] OR "inter-participant"[Title/Abstract] OR "intraparticipant"[Title/Abstract] OR "intra-participant"[Title/Abstract] OR "kappa"[Title/Abstract] OR "kappas"[Title/Abstract] OR "kappas"[Title/Abstract] OR "repeatab*" [Title/Abstract] OR ("replicab*" [Title/Abstract] OR "repeated"[Title/Abstract]) AND ("measure"[Title/Abstract] OR "measures"[Title/Abstract] OR "findings"[Title/Abstract] OR "result"[Title/Abstract] OR "results"[Title/Abstract] OR "test"[Title/Abstract] OR "tests"[Title/Abstract])) OR "generaliza*" [Title/Abstract] OR "generalisa*" [Title/Abstract] OR "concordance"[Title/Abstract] OR ("intraclass"[Title/Abstract] AND "correlation*" [Title/Abstract]) OR "discriminative"[Title/Abstract] OR "known group"[Title/Abstract] OR "factor analysis"[Title/Abstract] OR "factor analyses"[Title/Abstract] OR "dimensionality"[Title/Abstract] OR "subscale*" [Title/Abstract] OR "multitrait scaling analysis"[Title/Abstract] OR "multitrait | 4,173,736 |

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|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
|    | scaling analyses"[Title/Abstract] OR "item discriminant"[Title/Abstract] OR "interscale correlation"[Title/Abstract] OR "interscale correlations"[Title/Abstract] OR ("error"[Title/Abstract] OR "errors"[Title/Abstract]) AND ("measure*[Title/Abstract] OR "correlat*[Title/Abstract] OR "evaluat*[Title/Abstract] OR "accuracy"[Title/Abstract] OR "accurate"[Title/Abstract] OR "precision"[Title/Abstract] OR "mean"[Title/Abstract])) OR "individual variability"[Title/Abstract] OR "variability analysis"[Title/Abstract] OR ("uncertainty"[Title/Abstract] AND ("measurement"[Title/Abstract] OR "measuring"[Title/Abstract])) OR "standard error of measurement"[Title/Abstract] OR "sensitivity"[Title/Abstract] OR "responsive*[Title/Abstract] OR ("small*[Title/Abstract] AND ("real"[Title/Abstract] OR "detectable"[Title/Abstract]) AND ("change"[Title/Abstract] OR "difference"[Title/Abstract])) OR "meaningful change"[Title/Abstract] OR "minimal important change"[Title/Abstract] OR "minimal important difference"[Title/Abstract] OR "minimally important change"[Title/Abstract] OR "minimally important difference"[Title/Abstract] OR "minimal detectable change"[Title/Abstract] OR "minimal detectable difference"[Title/Abstract] OR "minimally detectable change"[Title/Abstract] OR "minimally detectable difference"[Title/Abstract] OR "minimal real difference"[Title/Abstract] OR "ceiling effect"[Title/Abstract] OR "floor effect"[Title/Abstract] OR "g theory"[Title/Abstract] OR "generalizability theory"[Title/Abstract] OR "generalisability theory"[Title/Abstract] OR "equivalence"[Title/Abstract] |       |
| #5 | #1 AND #2 AND #4 NOT #3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1,106 |

## 2) EMBASE

- Date of search: 15/02/2024
- Database searched from 1974 to February 2024
- Total results: 1,339

| EMBASE: 15/02/2024 |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           |
|--------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Search             | Domain                   | Query                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Hits      |
| #1                 | Construct<br>Instruments | 1. exp leg exercise/ or exp aquatic exercise/ or exp isotonic exercise/ or exp stretching exercise/ or exp anaerobic exercise/ or exp low intensity exercise/ or exp aerobic exercise/ or exp isometric exercise/ or exp treadmill exercise/ or exp dynamic exercise/ or exp exercise/ or exp "squatting (exercise)"/ or exp static exercise/ or exp open kinetic chain exercise/ or exp arm exercise/ or exp muscle exercise/ or exp isokinetic exercise/ or exercise.mp. or exp moderate intensity exercise/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 647,379   |
|                    |                          | 2. (cycling or exercise test* or running or isometric contraction or exercise induced hypoalgesia or eih or exercise induced analgesia or eia or walk* or jogging or bicycle or bicycling or rowing or swim* or circuit training or bicycle exercise test* or kinesiotherapy or muscle isometric contraction or aerobic exercise or aerobic exercises or exercise or exercises or isometric exercise or isometric exercises or isotonic exercise or isotonic exercises or isokinetic exercise or isokinetic exercises or isodynamic exercise or isodynamic exercises or circuit-cased exercise or circuit-based exercises or anaerobic exercise or anaerobic exercises or dynamic exercise or dynamic exercises or high intensity exercise or high intensity exercises or low intensity exercise or low intensity exercises or moderate intensity exercise or moderate intensity exercises or static exercise or static exercises or stretching exercise or stretching exercises or therapeutic exercise or therapeutic exercises).ab,ti. | 866,216   |
|                    |                          | 1 or 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1,041,442 |
| #2                 | Construct<br>Instruments | 3 pain threshold.mp. or exp pain threshold/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 26,358    |
|                    |                          | 4 exp heat pain threshold/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 960       |
|                    |                          | 5 exp nociception/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 89,741    |
|                    |                          | 6 exp nociceptive stimulation/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 7,311     |

(Continued)

|    |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |
|----|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
|    |            | 7 (nociceptive stimulation or pressure pain threshold or pressure pain thresholds or pain pressure threshold or pain pressure thresholds or pain threshold or heat temporal summation or cold tolerance or (hydraul* and (algotest* or pain ratings)) or nociceptive flexion reflex or electrical pain ratings or heat pain ratings or pressure pain ratings or cold pain ratings or heat discrimination or pain tolerance or pressure tolerance thresholds or pressure tolerance threshold or experimental pain or pain perception or electrical pain threshold or electrical pain thresholds or perception threshold or perception thresholds or pain thresholds or heat pain thresholds or pain threshold temperature or pain thresholds temperature or heat pain threshold or perceptive threshold or perceptive thresholds or sensory threshold or sensory thresholds or sense thresholds or nociception threshold or nociception thresholds or nociceptive threshold or nociceptive thresholds or nociceptive pressure threshold or nociceptive pressure thresholds or pressure nociceptive threshold or pressure nociceptive thresholds or endogenous pain modulation or temporal summation or pain modulation or nociceptive withdrawal reflex or pain tolerance threshold or pain tolerance thresholds or pain inhibition or pain inhibitory process or pain inhibitor or hypoalgesia or reduced pain sensitivity or hyposensitivity to pain or nociception or pain sensation or pain sensitivity or quantitative sensory testing or quantitative sensation testing or quantitative sensory test).ab,ti.                                                                                                                                                                                                                                                                                                                                                                                                                                             | 62,006    |
|    |            | 19 3 or 4 or 5 or 6 or 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 113,083   |
| #3 | Population | (rat or rats or mouse or mice or horse or horses or gorilla or animal or animals or manipulation or anaphylaxis or acupuncture or pigeons or asthma or plant or deer or children or child or heart disease or coronary disease or myocardial ischemia or asthmatic or rodent or rodents or angina or coronary artery disease or paraplegics or spinal cord lesion or asthmatics or chronic heart failure or hypoxemia).ti.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 3,132,888 |
| #4 | Reliab     | 10 exp observer variation/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 21,102    |
|    |            | 11 exp reproducibility/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 265,438   |
|    |            | 12 exp test retest reliability/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 24545     |
|    |            | 13 exp intrarater reliability/ or exp interrater reliability/ or exp reliability/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 243105    |
|    |            | 14 exp minimum detectable change/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1,135     |
|    |            | 15 exp correlation coefficient/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 117,454   |
|    |            | 16 exp minimal clinically important difference/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 4,848     |
|    |            | 17 (equivalence or psychometrics or psychometr* or clinimetr* or clinometr* or observer variation or reproducib* or agreement or precision or imprecision or precise values or test-retest or stability or interrater or inter-rater or intrarater or intra-rater or intertester or inter-tester or intratester or intra-tester or interobserver or inter-observer or intraobserver or intra-observer or intertechnician or inter-technician or intratechnician or intra-technician or interexaminer or inter-examiner or intraexaminer or intra-examiner or interassay or inter-assay or intraassay or intra-assay or interindividual or inter-individual or intraindividual or intra-individual or interparticipant or inter-participant or intraparticipant or intra-participant or kappa or kappas or repeatab* or generaliza* or generalisa* or concordance or discriminative or known group or factor analysis or factor analyses or dimensionality or subscale* or multitrait scaling analysis or multitrait scaling analyses or item discriminant or interscale correlation or interscale correlations or individual variability or variability analysis or standard error of measurement or sensitiv* or responsive* or meaningful change or minimal important change or minimal important difference or minimally important change or minimally important difference or minimal detectable change or minimal detectable difference or minimally detectable change or minimally detectable difference or minimal real difference or ceiling effect or floor effect or g theory or generalizability theory or generalisability theory or (reliab* and (test or retest)) or ((replicab* or repeated) and (measure or measures or findings or result or results or test or tests)) or (intraclass and correlation*) or ((error or errors) and (measure* or correlat* or evaluat* or accuracy or accurate or precision or mean)) or (uncertainty and (measurement or measuring)) or (small* and (real or detectable) and (change or difference))).ab,ti. | 4,842,515 |
|    |            | 20 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 5,136,999 |
| #5 |            | #1 AND #2 AND #4 NOT #3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1,339     |

## 3) SCOPUS

- Date of search: 16/02/2024
- Database searched from 1966 to February 2024
- Total results: 1509

SCOPUS: 16/02/2024

| Search | Domain                   | Query                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Hits       |
|--------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| #1     | Construct<br>Instruments | TITLE-ABS-KEY("cycling" OR "exercise test*" OR "running" OR {isometric contraction} OR "exercise induced hypoalgesia" OR {EIH} OR "exercise induced analgesia" OR {EIA} OR "walk*" OR "jogging" OR "bicycle" OR "bicycling" OR "rowing" OR "swim*" OR {circuit training} OR "bicycle exercise test*" OR {kinesiotherapy} OR {muscle isometric contraction} OR {aerobic exercise} OR {aerobic exercises} OR {exercise} OR {exercises} OR {isometric exercise} OR {isometric exercises} OR {isotonic exercise} OR {isotonic exercises} OR {isokinetic exercise} OR {isokinetic exercises} OR {isodynamic exercise} OR {isodynamic exercises} OR "circuit-based exercise" OR "circuit-based exercises" OR {anaerobic exercise} OR {anaerobic exercises} OR {dynamic exercise} OR {dynamic exercises} OR {high intensity exercise} OR {high intensity exercises} OR {low intensity exercise} OR {low intensity exercises} OR {moderate intensity exercise} OR {moderate intensity exercises} OR {static exercise} OR {static exercises} OR {stretching exercise} OR {stretching exercises} OR {therapeutic exercise} OR {therapeutic exercises})                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1,904,667  |
| #2     | Construct<br>Instruments | TITLE-ABS-KEY({nociceptive stimulation} OR {pressure pain threshold} OR {pressure pain thresholds} OR {pain pressure threshold} OR {pain pressure thresholds} OR {pain threshold} OR {heat temporal summation} OR {cold tolerance} OR ("hydraul*" AND ("algomet*" OR {pain ratings})) OR {nociceptive flexion reflex} OR {electrical pain ratings} OR {heat pain ratings} OR {pressure pain ratings} OR {cold pain ratings} OR {heat discrimination} OR {pain tolerance} OR {pressure tolerance thresholds} OR {pressure tolerance threshold} OR {experimental pain} OR {pain perception} OR {electrical pain threshold} OR {electrical pain thresholds} OR {perception threshold} OR {perception thresholds} OR {pain thresholds} OR {heat pain thresholds} OR {pain threshold temperature} OR {pain thresholds temperature} OR {heat pain threshold} OR {perceptive threshold} OR {perceptive thresholds} OR {sensory threshold} OR {sensory thresholds} OR {sense thresholds} OR {nociception threshold} OR {nociception thresholds} OR {nociceptive threshold} OR {nociceptive thresholds} OR {nociceptive pressure threshold} OR {nociceptive pressure thresholds} OR {pressure nociceptive threshold} OR {pressure nociceptive thresholds} OR {endogenous pain modulation} OR {temporal summation} OR {pain modulation} OR {nociceptive withdrawal reflex} OR {pain tolerance threshold} OR {pain tolerance thresholds} OR {pain inhibition} OR {pain inhibitory process} OR {pain inhibitor} OR "hypoalgesia" OR {reduced pain sensitivity} OR {hyposensitivity to pain} OR "nociception" OR {pain sensation} OR {pain sensitivity} OR {quantitative sensory testing} OR {quantitative sensation testing} OR {quantitative sensory test}) | 118,796    |
| #3     | Population               | TITLE("rat" OR "rats" OR "mouse" OR "mice" OR "horse" OR "horses" OR "gorilla" OR "animal" OR "animals" OR "manipulation" OR "anaphylaxis" OR "acupuncture" OR "pigeons" OR "asthma" OR "plant" OR "deer" OR "children" OR "child" OR {heart disease} OR {coronary disease} OR {myocardial ischemia} OR "asthmatic" OR "rodent" OR "rodents" OR "angina" OR {coronary artery disease} OR "paraplegics" OR {spinal cord lesion} OR "asthmatics" OR {chronic heart failure} OR "hypoxemia")                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 4,023,412  |
| #4     | Reliab                   | TITLE-ABS-KEY("equivalence" OR "psychometrics" OR "psychometr*" OR "clinimetr*" OR "clinometr*" OR {observer variation} OR "reproducib*" OR "agreement" OR "precision" OR "imprecision" OR "precise values" OR {test-retest} OR "stability" OR "interrater" OR {inter-rater} OR "intrarater" OR {intra-rater} OR "intertester" OR {inter-tester} OR "intratester" OR {intra-tester} OR "interobserver" OR {inter-observer} OR "intraobserver" OR {intra-observer} OR "intertechnician" OR {inter-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 12,399,519 |

(Continued)

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|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
|    | <p>technician} OR "intratechnician" OR {intra-technician} OR "interexaminer" OR "inter-examiner" OR "intraexaminer" OR "intra-examiner" OR "interassay" OR "inter-assay" OR "intraassay" OR {intra-assay} OR "interindividual" OR {inter-individual} OR "intraindividual" OR {intra-individual} OR "interparticipant" OR {inter-participant} OR "intraparticipant" OR {intra-participant} OR "kappa" OR "kappas" OR {kappas} OR "repeatab*" OR "generaliza*" OR "generalisa*" OR "concordance" OR "discriminative" OR {known group} OR {factor analysis} OR {factor analyses} OR "dimensionality" OR "subscale*" OR {multitrait scaling analysis} OR {multitrait scaling analyses} OR {item discriminant} OR {interscale correlation} OR {interscale correlations} OR {individual variability} OR {variability analysis} OR {standard error of measurement} OR "sensitiv*" OR "responsive*" OR {meaningful change} OR {minimal important change} OR {minimal important difference} OR {minimally important change} OR {minimally important difference} OR {minimal detectable change} OR {minimal detectable difference} OR {minimally detectable change} OR {minimally detectable difference} OR {minimal real difference} OR {ceiling effect} OR {floor effect} OR {g theory} OR {generalizability theory} OR {generalisability theory} OR ("reliab*" AND ("test" OR "retest")) OR (("replicab*" OR "repeated") AND ("measure" OR "measures" OR "findings" OR "result" OR "results" OR "test" OR "tests")) OR ("intraclass" AND "correlation*") OR (("error" OR "errors") AND ("measure*" OR "correlat*" OR "evaluat*" OR "accuracy" OR "accurate" OR "precision" OR "mean")) OR ("uncertainty" AND ("measurement" OR "measuring")) OR ("small*" AND ("real" OR "detectable") AND ("change" OR "difference"))</p> |       |
| #5 | #1 AND #2 AND #4 AND NOT #3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1,509 |

#### 4) CINAHL Complete

- Date of search: 16/02/2024
- Database searched from 1983 to February 2024
- Total results: 572

CINAHL: 16/02/2024

| Search | Domain                   | Query                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Hits    |
|--------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| #1     | Construct<br>Instruments | <p>( (MH "Exercise+") OR (MH "Therapeutic Exercise+") OR (MH "Exercise Test+") OR (MH "Aerobic Exercises+") OR (MH "Running+") OR (MH "Walking+") OR (MM "Isokinetic Exercises") OR (MM "Isometric Exercises") OR (MM "Isotonic Exercises") OR (MM "Isometric Contraction") ) OR TI ("cycling" OR "Exercise test*" OR "Running" OR "isometric contraction" OR "exercise induced hypoalgesia" OR "EIH" OR "exercise induced analgesia" OR "EIA" OR "walk*" OR "jogging" OR "bicycle" OR "bicycling" OR "rowing" OR "swim*" OR "circuit training" OR "bicycle exercise test*" OR "kinesiotherapy" OR "muscle isometric contraction" OR "aerobic exercise" OR "aerobic exercises" OR "Exercise" OR "Exercises" OR "isometric exercise" OR "isometric exercises" OR "isotonic exercise" OR "isotonic exercises" OR "isokinetic exercise" OR "isokinetic exercises" OR "isodynamic exercise" OR "isodynamic exercises" OR "Circuit-Based Exercise" OR "Circuit-Based Exercises" OR "anaerobic exercise" OR "anaerobic exercises" OR "dynamic exercise" OR "dynamic exercises" OR "high intensity exercise" OR "high intensity exercises" OR "low intensity exercise" OR "low intensity exercises" OR "moderate intensity exercise" OR "moderate intensity exercises" OR "static exercise" OR "static exercises" OR "stretching exercise" OR "stretching exercises" OR "therapeutic exercise" OR "therapeutic exercises") OR AB ("cycling" OR "Exercise test*" OR "Running" OR "isometric contraction" OR "exercise induced hypoalgesia" OR "EIH" OR "exercise induced analgesia" OR "EIA" OR "walk*" OR "jogging" OR "bicycle" OR "bicycling" OR "rowing" OR "swim*" OR "circuit training" OR "bicycle exercise test*" OR "kinesiotherapy" OR "muscle isometric contraction" OR "aerobic exercise" OR "aerobic exercises" OR "Exercise" OR "Exercises" OR "isometric exercise" OR "isometric exercises" OR "isotonic exercise" OR</p> | 298,624 |

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|----|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
|    |                       | "isotonic exercises" OR "isokinetic exercise" OR "isokinetic exercises" OR "isodynamic exercise" OR "isodynamic exercises" OR "Circuit-Based Exercise" OR "Circuit-Based Exercises" OR "anaerobic exercise" OR "anaerobic exercises" OR "dynamic exercise" OR "dynamic exercises" OR "high intensity exercise" OR "high intensity exercises" OR "low intensity exercise" OR "low intensity exercises" OR "moderate intensity exercise" OR "moderate intensity exercises" OR "static exercise" OR "static exercises" OR "stretching exercise" OR "stretching exercises" OR "therapeutic exercise" OR "therapeutic exercises")                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |         |
| #2 | Construct Instruments | (MM "Pain Threshold") OR TI ( "nociceptive stimulation" OR "pressure pain threshold" OR "pressure pain thresholds" OR "pain pressure threshold" OR "pain pressure thresholds" OR "pain threshold" OR "heat temporal summation" OR "cold tolerance" OR ("hydraul*" AND ("algomet*" OR "pain ratings")) OR "nociceptive flexion reflex" OR "electrical pain ratings" OR "heat pain ratings" OR "pressure pain ratings" OR "cold pain ratings" OR "heat discrimination" OR "pain tolerance" OR "pressure tolerance thresholds" OR "pressure tolerance threshold" OR "experimental pain" OR "pain perception" OR "electrical pain threshold" OR "electrical pain thresholds" OR "perception threshold" OR "perception thresholds" OR "pain thresholds" OR "heat pain thresholds" OR "pain threshold temperature" OR "pain thresholds temperature" OR "heat pain threshold" OR "perceptive threshold" OR "perceptive thresholds" OR "sensory threshold" OR "sensory thresholds" OR "sense thresholds" OR "nociception threshold" OR "nociception thresholds" OR "nociceptive threshold" OR "nociceptive thresholds" OR "nociceptive pressure threshold" OR "nociceptive pressure thresholds" OR "pressure nociceptive threshold" OR "pressure nociceptive thresholds" OR "endogenous pain modulation" OR "temporal summation" OR "pain modulation" OR "nociceptive withdrawal reflex" OR "pain tolerance threshold" OR "pain tolerance thresholds" OR "pain inhibition" OR "pain inhibitory process" OR "pain inhibitor" OR "hypoalgesia" OR "reduced pain sensitivity" OR "hyposensitivity to pain" OR "nociception" OR "pain sensation" OR "pain sensitivity" OR "quantitative sensory testing" OR "quantitative sensation testing" OR "quantitative sensory test" ) OR AB ( "nociceptive stimulation" OR "pressure pain threshold" OR "pressure pain thresholds" OR "pain pressure threshold" OR "pain pressure thresholds" OR "pain threshold" OR "heat temporal summation" OR "cold tolerance" OR ("hydraul*" AND ("algomet*" OR "pain ratings")) OR "nociceptive flexion reflex" OR "electrical pain ratings" OR "heat pain ratings" OR "pressure pain ratings" OR "cold pain ratings" OR "heat discrimination" OR "pain tolerance" OR "pressure tolerance thresholds" OR "pressure tolerance threshold" OR "experimental pain" OR "pain perception" OR "electrical pain threshold" OR "electrical pain thresholds" OR "perception threshold" OR "perception thresholds" OR "pain thresholds" OR "heat pain thresholds" OR "pain threshold temperature" OR "pain thresholds temperature" OR "heat pain threshold" OR "perceptive threshold" OR "perceptive thresholds" OR "sensory threshold" OR "sensory thresholds" OR "sense thresholds" OR "nociception threshold" OR "nociception thresholds" OR "nociceptive threshold" OR "nociceptive thresholds" OR "nociceptive pressure threshold" OR "nociceptive pressure thresholds" OR "pressure nociceptive threshold" OR "pressure nociceptive thresholds" OR "endogenous pain modulation" OR "temporal summation" OR "pain modulation" OR "nociceptive withdrawal reflex" OR "pain tolerance threshold" OR "pain tolerance thresholds" OR "pain inhibition" OR "pain inhibitory process" OR "pain inhibitor" OR "hypoalgesia" OR "reduced pain sensitivity" OR "hyposensitivity to pain" OR "nociception" OR "pain sensation" OR "pain sensitivity" OR "quantitative sensory testing" OR "quantitative sensation testing" OR "quantitative sensory test" ) | 13,621  |
| #3 | Population            | TI ("rat" OR "rats" OR "mouse" OR "mice" OR "horse" OR "horses" OR "gorilla" OR "animal" OR "animals" OR "manipulation" OR "anaphylaxis" OR "acupuncture" OR "pigeons" OR "asthma" OR "plant" OR "deer" OR "children" OR "child" OR "heart disease" OR "coronary disease" OR "myocardial ischemia" OR "asthmatic" OR "rodent" OR "rodents" OR "angina" OR "coronary artery disease" OR "paraplegics" OR "spinal cord lesion" OR "asthmatics" OR "chronic heart failure" OR "hypoxemia") OR TI ("rat" OR "rats" OR "mouse" OR "mice" OR "horse" OR "horses" OR "gorilla" OR "animal" OR "animals" OR "manipulation" OR "anaphylaxis" OR "acupuncture" OR "pigeons" OR "asthma" OR "plant" OR "deer" OR "children" OR "child" OR "heart disease" OR "coronary disease" OR "myocardial ischemia" OR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 460,209 |

(Continued)

|    |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |           |
|----|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| #4 | Reliab | <p>"asthmatic" OR "rodent" OR "rodents" OR "angina" OR "coronary artery disease" OR "paraplegics" OR "spinal cord lesion" OR "asthmatics" OR "chronic heart failure" OR "hypoxemia")</p> <p>( (MM "Psychometrics") OR (MH "Reliability+") OR (MH "Stability+") OR (MM "Test-Retest Reliability") OR (MH "Equivalence+") OR (MM "Interrater Reliability") OR (MM "Intrarater Reliability") OR (MM "Precision") OR (MH "Measurement Error+") OR (MH "Reproducibility of Results") ) OR TI ("equivalence" OR "psychometrics" OR "psychometr*" OR "clinimetr*" OR "clinometr*" OR "observer variation" OR "reproducib*" OR "agreement" OR "precision" OR "imprecision" OR "precise values" OR "test-retest" OR "stability" OR "interrater" OR "inter-rater" OR "intrarater" OR "intra-rater" OR "intertester" OR "inter-tester" OR "intratester" OR "intra-tester" OR "interobserver" OR "inter-observer" OR "intraobserver" OR "intra-observer" OR "intertechnician" OR "inter-technician" OR "intratechnician" OR "intra-technician" OR "interexaminer" OR "inter-examiner" OR "intraexaminer" OR "intra-examiner" OR "interassay" OR "inter-assay" OR "intraassay" OR "intra-assay" OR "interindividual" OR "inter-individual" OR "intraindividual" OR "intra-individual" OR "interparticipant" OR "inter-participant" OR "intraparticipant" OR "intra-participant" OR "kappa" OR "kappas" OR "repeatab*" OR "generaliza*" OR "generalisa*" OR "concordance" OR "discriminative" OR "known group" OR "factor analysis" OR "factor analyses" OR "dimensionality" OR "subscale*" OR "multitrait scaling analysis" OR "multitrait scaling analyses" OR "item discriminant" OR "interscale correlation" OR "interscale correlations" OR "individual variability" OR "variability analysis" OR "standard error of measurement" OR "sensitiv*" OR "responsive*" OR "meaningful change" OR "minimal important change" OR "minimal important difference" OR "minimally important change" OR "minimally important difference" OR "minimal detectable change" OR "minimal detectable difference" OR "minimally detectable change" OR "minimally detectable difference" OR "minimal real difference" OR "ceiling effect" OR "floor effect" OR "g theory" OR "generalizability theory" OR "generalisability theory" OR ("reliab*" AND ("test" OR "retest")) OR ("replicab*" OR "repeated") AND ("measure" OR "measures" OR "findings" OR "result" OR "results" OR "test" OR "tests")) OR ("intraclass" AND "correlation*") OR ("error" OR "errors") AND ("measure*" OR "correlat*" OR "evaluat*" OR "accuracy" OR "accurate" OR "precision" OR "mean")) OR ("uncertainty" AND ("measurement" OR "measuring")) OR ("small*" AND ("real" OR "detectable") AND ("change" OR "difference")) ) OR AB ( "equivalence" OR "psychometrics" OR "psychometr*" OR "clinimetr*" OR "clinometr*" OR "observer variation" OR "reproducib*" OR "agreement" OR "precision" OR "imprecision" OR "precise values" OR "test-retest" OR "stability" OR "interrater" OR "inter-rater" OR "intrarater" OR "intra-rater" OR "intertester" OR "inter-tester" OR "intratester" OR "intra-tester" OR "interobserver" OR "inter-observer" OR "intraobserver" OR "intra-observer" OR "intertechnician" OR "inter-technician" OR "intratechnician" OR "intra-technician" OR "interexaminer" OR "inter-examiner" OR "intraexaminer" OR "intra-examiner" OR "interassay" OR "inter-assay" OR "intraassay" OR "intra-assay" OR "interindividual" OR "inter-individual" OR "intraindividual" OR "intra-individual" OR "interparticipant" OR "inter-participant" OR "intraparticipant" OR "intra-participant" OR "kappa" OR "kappas" OR "repeatab*" OR "generaliza*" OR "generalisa*" OR "concordance" OR "discriminative" OR "known group" OR "factor analysis" OR "factor analyses" OR "dimensionality" OR "subscale*" OR "multitrait scaling analysis" OR "multitrait scaling analyses" OR "item discriminant" OR "interscale correlation" OR "interscale correlations" OR "individual variability" OR "variability analysis" OR "standard error of measurement" OR "sensitiv*" OR "responsive*" OR "meaningful change" OR "minimal important change" OR "minimal important difference" OR "minimally important change" OR "minimally important difference" OR "minimal detectable change" OR "minimal detectable difference" OR "minimally detectable change" OR "minimally detectable difference" OR "minimal real difference" OR "ceiling effect" OR "floor effect" OR "g theory" OR "generalizability theory" OR "generalisability theory" OR ("reliab*" AND ("test" OR "retest")) OR ("replicab*" OR "repeated") AND ("measure" OR "measures" OR "findings" OR "result" OR "results" OR "test" OR "tests")) OR ("intraclass" AND "correlation*") OR ("error" OR "errors") AND ("measure*" OR "correlat*" OR "evaluat*" OR "accuracy" OR "accurate" OR "precision" OR "mean")) OR ("uncertainty" AND ("measurement" OR "measuring")) OR ("small*" AND ("real" OR "detectable") AND ("change" OR "difference")) )</p> | 1,439,006 |
| #5 |        | #1 AND #2 AND #4 NOT #3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 572       |

## 5) PSYCINFO

- Date of search: 16/02/2024
- Database searched from 1932 to February 2024
- Total results: 236

PSYCINFO: 16/02/2024

| Search | Domain                   | Query                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Hits    |
|--------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| #1     | Construct<br>Instruments | (MJMAINSUBJECT.EXACT("Aerobic Exercise") OR MJMAINSUBJECT.EXACT("Exercise") OR MJMAINSUBJECT.EXACT("Walking")) OR ab("cycling" OR "Exercise test*" OR "Running" OR "isometric contraction" OR "exercise induced hypoalgesia" OR "EIH" OR "exercise induced analgesia" OR "EIA" OR "walk*" OR "jogging" OR "bicycle" OR "bicycling" OR "rowing" OR "swim*" OR "circuit training" OR "bicycle exercise test*" OR "kinesiotherapy" OR "muscle isometric contraction" OR "aerobic exercise" OR "aerobic exercises" OR "Exercise" OR "Exercises" OR "isometric exercise" OR "isometric exercises" OR "isotonic exercise" OR "isotonic exercises" OR "isokinetic exercise" OR "isokinetic exercises" OR "isodynamic exercise" OR "isodynamic exercises" OR "Circuit-Based Exercise" OR "Circuit-Based Exercises" OR "anaerobic exercise" OR "anaerobic exercises" OR "dynamic exercise" OR "dynamic exercises" OR "high intensity exercise" OR "high intensity exercises" OR "low intensity exercise" OR "low intensity exercises" OR "moderate intensity exercise" OR "moderate intensity exercises" OR "static exercise" OR "static exercises" OR "stretching exercise" OR "stretching exercises" OR "therapeutic exercise" OR "therapeutic exercises") OR ti("cycling" OR "Exercise test*" OR "Running" OR "isometric contraction" OR "exercise induced hypoalgesia" OR "EIH" OR "exercise induced analgesia" OR "EIA" OR "walk*" OR "jogging" OR "bicycle" OR "bicycling" OR "rowing" OR "swim*" OR "circuit training" OR "bicycle exercise test*" OR "kinesiotherapy" OR "muscle isometric contraction" OR "aerobic exercise" OR "aerobic exercises" OR "Exercise" OR "Exercises" OR "isometric exercise" OR "isometric exercises" OR "isotonic exercise" OR "isotonic exercises" OR "isokinetic exercise" OR "isokinetic exercises" OR "isodynamic exercise" OR "isodynamic exercises" OR "Circuit-Based Exercise" OR "Circuit-Based Exercises" OR "anaerobic exercise" OR "anaerobic exercises" OR "dynamic exercise" OR "dynamic exercises" OR "high intensity exercise" OR "high intensity exercises" OR "low intensity exercise" OR "low intensity exercises" OR "moderate intensity exercise" OR "moderate intensity exercises" OR "static exercise" OR "static exercises" OR "stretching exercise" OR "stretching exercises" OR "therapeutic exercise" OR "therapeutic exercises") | 133,216 |
| #2     | Construct<br>Instruments | (MJMAINSUBJECT.EXACT("Pain Thresholds") OR MJMAINSUBJECT.EXACT("Pain Perception")) OR ab("nociceptive stimulation" OR "pressure pain threshold" OR "pressure pain thresholds" OR "pain pressure threshold" OR "pain pressure thresholds" OR "pain threshold" OR "heat temporal summation" OR "cold tolerance" OR ("hydraul*" AND ("algomet*" OR "pain ratings"))) OR "nociceptive flexion reflex" OR "electrical pain ratings" OR "heat pain ratings" OR "pressure pain ratings" OR "cold pain ratings" OR "heat discrimination" OR "pain tolerance" OR "pressure tolerance thresholds" OR "pressure tolerance threshold" OR "experimental pain" OR "pain perception" OR "electrical pain threshold" OR "electrical pain thresholds" OR "perception threshold" OR "perception thresholds" OR "pain thresholds" OR "heat pain thresholds" OR "pain threshold temperature" OR "pain thresholds temperature" OR "heat pain threshold" OR "perceptive threshold" OR "perceptive thresholds" OR "sensory threshold" OR "sensory thresholds" OR "sense thresholds" OR "nociception threshold" OR "nociception thresholds" OR "nociceptive threshold" OR "nociceptive thresholds" OR "nociceptive pressure threshold" OR "nociceptive pressure thresholds" OR "pressure nociceptive threshold" OR "pressure nociceptive thresholds" OR "endogenous pain modulation" OR "temporal summation" OR "pain modulation" OR "nociceptive withdrawal reflex" OR "pain tolerance threshold" OR "pain tolerance thresholds" OR "pain inhibition" OR "pain inhibitory process" OR "pain inhibitor" OR "hypoalgesia" OR "reduced pain sensitivity" OR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 20,293  |

(Continued)

|    |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |         |
|----|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
|    |            | "hyposensitivity to pain" OR "nociception" OR "pain sensation" OR "pain sensitivity" OR "quantitative sensory testing" OR "quantitative sensation testing" OR "quantitative sensory test") OR ti("nociceptive stimulation" OR "pressure pain threshold" OR "pressure pain thresholds" OR "pain pressure threshold" OR "pain pressure thresholds" OR "pain threshold" OR "heat temporal summation" OR "cold tolerance" OR ("hydraul*" AND ("algomet*" OR "pain ratings")) OR "nociceptive flexion reflex" OR "electrical pain ratings" OR "heat pain ratings" OR "pressure pain ratings" OR "cold pain ratings" OR "heat discrimination" OR "pain tolerance" OR "pressure tolerance thresholds" OR "pressure tolerance threshold" OR "experimental pain" OR "pain perception" OR "electrical pain threshold" OR "electrical pain thresholds" OR "perception threshold" OR "perception thresholds" OR "pain thresholds" OR "heat pain thresholds" OR "pain threshold temperature" OR "pain thresholds temperature" OR "heat pain threshold" OR "perceptive threshold" OR "perceptive thresholds" OR "sensory threshold" OR "sensory thresholds" OR "sense thresholds" OR "nociception threshold" OR "nociception thresholds" OR "nociceptive threshold" OR "nociceptive thresholds" OR "nociceptive pressure threshold" OR "nociceptive pressure thresholds" OR "pressure nociceptive threshold" OR "pressure nociceptive thresholds" OR "endogenous pain modulation" OR "temporal summation" OR "pain modulation" OR "nociceptive withdrawal reflex" OR "pain tolerance threshold" OR "pain tolerance thresholds" OR "pain inhibition" OR "pain inhibitory process" OR "pain inhibitor" OR "hypoalgesia" OR "reduced pain sensitivity" OR "hyposensitivity to pain" OR "nociception" OR "pain sensation" OR "pain sensitivity" OR "quantitative sensory testing" OR "quantitative sensation testing" OR "quantitative sensory test")                                                                                                                                                                                                                                                                                                                                                                                                                                           |         |
| #3 | Population | ti("rat" OR "rats" OR "mouse" OR "mice" OR "horse" OR "horses" OR "gorilla" OR "animal" OR "animals" OR "manipulation" OR "anaphylaxis" OR "acupuncture" OR "pigeons" OR "asthma" OR "plant" OR "deer" OR "children" OR "child" OR "heart disease" OR "coronary disease" OR "myocardial ischemia" OR "asthmatic" OR "rodent" OR "rodents" OR "angina" OR "coronary artery disease" OR "paraplegics" OR "spinal cord lesion" OR "asthmatics" OR "chronic heart failure" OR "hypoxemia") OR ti("rat" OR "rats" OR "mouse" OR "mice" OR "horse" OR "horses" OR "gorilla" OR "animal" OR "animals" OR "manipulation" OR "anaphylaxis" OR "acupuncture" OR "pigeons" OR "asthma" OR "plant" OR "deer" OR "children" OR "child" OR "heart disease" OR "coronary disease" OR "myocardial ischemia" OR "asthmatic" OR "rodent" OR "rodents" OR "angina" OR "coronary artery disease" OR "paraplegics" OR "spinal cord lesion" OR "asthmatics" OR "chronic heart failure" OR "hypoxemia")                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 496,430 |
| #4 | Reliab     | (MAINSUBJECT.EXACT.EXPLODE("Test-Retest Reliability")) OR MJMAINSUBJECT.EXACT ("Psychometrics") OR MAINSUBJECT.EXACT.EXPLODE("Test Responsiveness")) OR ab("equivalence" OR "psychometrics" OR "psychometr*" OR "clinimetr*" OR "clinometr*" OR "observer variation" OR "reproducib*" OR "agreement" OR "precision" OR "imprecision" OR "precise values" OR "test-retest" OR "stability" OR "interrater" OR "inter-rater" OR "intrarater" OR "intra-rater" OR "intertester" OR "intertester" OR "intratester" OR "intra-tester" OR "interobserver" OR "inter-observer" OR "intraobserver" OR "intra-observer" OR "intertechnician" OR "inter-technician" OR "intratechnician" OR "intra-technician" OR "interexaminer" OR "inter-examiner" OR "intraexaminer" OR "intra-examiner" OR "interassay" OR "inter-assay" OR "intraassay" OR "intra-assay" OR "interindividual" OR "inter-individual" OR "intraindividual" OR "intra-individual" OR "interparticipant" OR "inter-participant" OR "intraparticipant" OR "intra-participant" OR "kappa" OR "kappas" OR "repeatab*" OR "generaliza*" OR "generalisa*" OR "concordance" OR "discriminative" OR "known group" OR "factor analysis" OR "factor analyses" OR "dimensionality" OR "subscale*" OR "multitrait scaling analysis" OR "multitrait scaling analyses" OR "item discriminant" OR "interscale correlation" OR "interscale correlations" OR "individual variability" OR "variability analysis" OR "standard error of measurement" OR "sensitiv*" OR "responsive*" OR "meaningful change" OR "minimal important change" OR "minimal important difference" OR "minimally important change" OR "minimally important difference" OR "minimal detectable change" OR "minimal detectable difference" OR "minimally detectable change" OR "minimally detectable difference" OR "minimal real difference" OR "ceiling effect" OR "floor effect" OR "g theory" OR "generalizability theory" OR "generalisability theory" OR ("reliab*" AND ("test" OR "retest")) OR ("replicab*" OR "repeated") AND ("measure" OR "measures" OR "findings" OR "result" OR "results" OR "test" OR "tests")) OR ("intraclass" AND "correlation*") OR ("error" OR "errors") AND ("measure*" OR "correlat*" OR "evaluat*" OR "accuracy" OR "accurate" OR "precision" OR "mean")) OR ("uncertainty" AND ("measurement" OR "measuring")) OR ("small" | 687,955 |

(Continued)

AND ("real" OR "detectable") AND ("change" OR "difference")) OR ti("equivalence" OR "psychometrics" OR "psychometr\*" OR "clinimetr\*" OR "clinometr\*" OR "observer variation" OR "reproducib\*" OR "agreement" OR "precision" OR "imprecision" OR "precise values" OR "test-retest" OR "stability" OR "interrater" OR "inter-rater" OR "intrarater" OR "intra-rater" OR "intertester" OR "inter-tester" OR "intratester" OR "intra-tester" OR "interobserver" OR "inter-observer" OR "intraobserver" OR "intra-observer" OR "intertechnician" OR "inter-technician" OR "intratechnician" OR "intra-technician" OR "interexaminer" OR "inter-examiner" OR "intraexaminer" OR "intra-examiner" OR "interassay" OR "inter-assay" OR "intraassay" OR "intra-assay" OR "interindividual" OR "inter-individual" OR "intraindividual" OR "intra-individual" OR "interparticipant" OR "inter-participant" OR "intraparticipant" OR "intra-participant" OR "kappa" OR "kappas" OR "repeatab\*" OR "generaliza\*" OR "generalisa\*" OR "concordance" OR "discriminative" OR "known group" OR "factor analysis" OR "factor analyses" OR "dimensionality" OR "subscale\*" OR "multitrait scaling analysis" OR "multitrait scaling analyses" OR "item discriminant" OR "interscale correlation" OR "interscale correlations" OR "individual variability" OR "variability analysis" OR "standard error of measurement" OR "sensitivity" OR "responsive\*" OR "meaningful change" OR "minimal important change" OR "minimal important difference" OR "minimally important change" OR "minimally important difference" OR "minimal detectable change" OR "minimal detectable difference" OR "minimally detectable change" OR "minimally detectable difference" OR "minimal real difference" OR "ceiling effect" OR "floor effect" OR "g theory" OR "generalizability theory" OR "generalisability theory" OR ("reliab\*" AND ("test" OR "retest")) OR ("replicab\*" OR "repeated") AND ("measure" OR "measures" OR "findings" OR "result" OR "results" OR "test" OR "tests")) OR ("intraclass" AND "correlation\*") OR ("error" OR "errors") AND ("measure\*" OR "correlat\*" OR "evaluat\*" OR "accuracy" OR "accurate" OR "precision" OR "mean")) OR ("uncertainty" AND ("measurement" OR "measuring")) OR ("small\*" AND ("real" OR "detectable") AND ("change" OR "difference"))

#5

#1 AND #2 AND #4 NOT #3

236

## 6) Manual searches

### Google scholar

- Date of search: 27<sup>th</sup> of March 2022, 04<sup>th</sup> of September 2023, and 20<sup>th</sup> of February 2024
- Terms: ("exercise-induced hypoalgesia" OR "exercise-induced analgesia") AND ("reliability" OR "measurement error")
- Pages: 1–10
- Total results: 0

### References of included studies

- Date: 18th of March 2022

| Author<br>(Year)  | Study title                                                                                                                                        | Source | Date       | Number of<br>references | Number of<br>new reports |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------|------------|-------------------------|--------------------------|
| Gomolka<br>(2019) | Assessing Endogenous Pain Inhibition: Test–Retest Reliability of Exercise-Induced Hypoalgesia in Local and Remote Body Parts After Aerobic Cycling | Scopus | 2022-03-18 | 52                      | 0                        |
| Vaegter<br>(2019) | Hypoalgesia after bicycling at lactate threshold is reliable between sessions                                                                      | Scopus | 2022-03-18 | 34                      | 0                        |
| Vaegter<br>(2019) | Exercise-Induced Hypoalgesia After Isometric Wall Squat Exercise: A Test-Retest Reliability Study                                                  | Scopus | 2022-03-18 | 34                      | 0                        |
| Vaegter<br>(2018) | Test-retest reliability of exercise-induced hypoalgesia after aerobic exercise                                                                     | Scopus | 2022-03-18 | 40                      | 0                        |
| Hviid<br>(2019)   | Walking increases pain tolerance in humans: an experimental cross-over study                                                                       | Scopus | 2022-03-18 | 39                      | 0                        |

## S4 Data extraction form

Table S4 presents the code book of the data extraction form. It describes all the variables that were collected.

**Table S4:** Code book of the data extraction form

| Extracted variables        | Description                                                                                                                                                                                                                                              | Expected information                                                                                                                 | In case of missing information |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| <b>Article information</b> |                                                                                                                                                                                                                                                          |                                                                                                                                      |                                |
| email_first_author         | Write the mail of the first author.                                                                                                                                                                                                                      | Per article                                                                                                                          | Not reported                   |
| study_title                | Write the study title in English.                                                                                                                                                                                                                        | Per article                                                                                                                          | Not reported                   |
| journal_publication        | Write the full name of the journal where the article is published.                                                                                                                                                                                       | Per article                                                                                                                          | Not reported                   |
| year_publication           | Write year of publication. Should follow: "published in/ the:"                                                                                                                                                                                           | Per article                                                                                                                          | Not reported                   |
| country_study              | Select the country where the study was done.                                                                                                                                                                                                             | Denmark, Brazil, Belgium, Canada, China, Germany, India, Iran, Italy, Japan, Korea, Netherlands, Sweden, Switzerland, UK, USA, Other | Other                          |
| country_study_other        | If the country name was not in the drop down list, write the name of the country where the study was conducted. The first letter should be in capital case. (e.g., Belgium). If the country was already selected in the previous point then leave blank. | Per article                                                                                                                          | Not reported                   |
| language                   | Select the language of the study.                                                                                                                                                                                                                        | English, German, Portuguese, Spanish, French, Other                                                                                  | Other                          |
| language_other             | If the language was not found in the drop down menu, write the name of the language used to write the article. The first letter should be in capital case. (e.g., English). If the language was already selected in the previous point then leave blank. | Per article                                                                                                                          | Not reported                   |
| funding                    | Select the source of funding of the study.                                                                                                                                                                                                               | Academic Foundation, Government, Industry, No Funding, Other, Unclear                                                                | Other                          |
| funding_other              | Write the funding source with first letter in capital case if it was not in the drop down list.                                                                                                                                                          | Per article                                                                                                                          | Not reported                   |
| trial_registration         |                                                                                                                                                                                                                                                          |                                                                                                                                      | Not reported                   |

Table S4: Continued

| Extracted variables               | Description                                                                                                                                                          | Expected information                                                                                                                                 | In case of missing information |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| trial_registration_location       | Select among options . If not a trial, select "Not Applicable".<br>Select among options for where the trial was registered. If not a trial, select "Not Applicable". | Yes, No, Not Applicable, Unclear,<br>Not reported<br>ClinicalTrial.gov, Other, Not Applicable, Unclear                                               | Other                          |
| trial_registration_location_other | Write the trial registration location with first letter in capital case if it was not in the drop down list.                                                         | Per article                                                                                                                                          | Not reported                   |
| ethical_approval                  | Select among options regarding the state of the ethical approval. The authors should whether ethical approval was obtained for their study.                          | Yes, No, Not Reported, Unclear                                                                                                                       | Not reported                   |
| <b>Study information</b>          |                                                                                                                                                                      |                                                                                                                                                      |                                |
| study_design                      | Select among options.                                                                                                                                                | Cross-over study, Parallel study, Cross-sectional study, Retrospective study, Case-control study, Randomized controlled trial, Clinical trial, Other | Other                          |
| study_setting                     | Select among options.                                                                                                                                                | At Patients Home, Hospital, Private Clinic, Rehab Centre, Multicentre Governmental Institute, Other, Not applicable, Unclear                         | Other                          |
| study_setting_other               | Describe study setting starting with a capital letter.                                                                                                               | Per article                                                                                                                                          | Not reported                   |
| sample_n                          | Insert the total size sample. It should be a number. E.g., 40.                                                                                                       | Per article                                                                                                                                          | Not reported                   |
| sample_age                        | Insert the sample age. It should be a number. E.g., 40.                                                                                                              | Per article                                                                                                                                          | Not reported                   |
| sample_age_sd                     | Insert the sample age sd. It should be a number. E.g., 40                                                                                                            | Per article                                                                                                                                          | Not reported                   |
| sample_sex                        | Select among options.                                                                                                                                                | Males, Females, Mixed                                                                                                                                | Not reported                   |
| sample_sex_n_female_male          | If sample is gender mixed then state the ratio of females/males. It should be expressed as, for example, 3/10.                                                       | Per article                                                                                                                                          | Not reported                   |
| sample_BMI                        | Insert the sample BMI. It should be a number. E.g., 40.                                                                                                              | Per article                                                                                                                                          | Not reported                   |
| sample_BMI_sd                     | Insert the sample age sd. It should be a number. E.g., 40                                                                                                            | Per article                                                                                                                                          | Not reported                   |

(Continued)

Table S4: *Continued*

| Extracted variables         | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Expected information                                                                                                  | In case of missing information |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|--------------------------------|
| sample_condition            | Select among options.                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Healthy, Low back pain, Neck pain, Shoulder pain, Knee pain, Knee oestoarthritis, Hip pain, Hip osteoarthritis, Other | Other                          |
| sample_condition_additional | Write sample condition starting with a capital letter if not found in the drop-down. If it was found in the previous drop-down, write "Not applicable".                                                                                                                                                                                                                                                                                                                                       | Per article                                                                                                           | Not reported OR Not applicable |
| diagnosis_tool_diagnosis    | Describe diagnosis tool for condition described above. Start with a capital letter. If healthy, state "Not applicable".                                                                                                                                                                                                                                                                                                                                                                       | Per article                                                                                                           | Not reported                   |
| target_population           | Descirbe target population. E.g., adults with low back pain                                                                                                                                                                                                                                                                                                                                                                                                                                   | Per article                                                                                                           | Not reported                   |
| outcomes_n                  | State the number of outcomes. Only "general outcomes" should be accounted for. For example if pressure pain threshold is used at two different sites, one should only count pressure pain threshold. It should be a number e.g., 3                                                                                                                                                                                                                                                            | Per article                                                                                                           | Not reported                   |
| outcomes_list               | List the outcomes (see previous point). Start each name with a capital letter and separate them with a coma.                                                                                                                                                                                                                                                                                                                                                                                  | Per article                                                                                                           | Not reported                   |
| outcomes_main               | List the main outcomes. Main outcome are identified according to the following decision rule: 1) According to the authors (e.g., "our primary outcomes are...") 2) Used to estimate sample size 3) Based on the order of the results section. For example if the authors sate that A is their primary outcome but report it only last in the results, we should consider A as primary outcome; conversely, the first outcome—B—reported in the results will be selected if the authors do not | Per article                                                                                                           | Not reported                   |

(Continued)

Table S4: Continued

| Extracted variables         | Description                                                                                                                                                                                | Expected information                                                                   | In case of missing information   |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------|
|                             | explicitly separate outcomes and don't report sample size calculation. Start each name with a capital letter and separate them with a coma. E.g., Pressure pain threshold, Pain intensity. |                                                                                        |                                  |
| outcomes_main_assessor      | identify the profile main assessor of the outcomes. E.g., therapist, therapis with X years of clinical experience.                                                                         | Per article                                                                            | Not reported                     |
| sampling_method             | Select among options.                                                                                                                                                                      | Random sample, Convenience sample, Cluster sample, Purposive sample, Unclear, Other    | Other                            |
| sampling_method_other       | If the sampling method was not found in the drop down list then write it with first letter in caps. If it was found in the previous drop-down, write "Not applicable".                     | Per article                                                                            | Not reported OR Not applicable   |
| sample_size_calculation     | Select among options wether the authors perfomed an apriori sample size calculation.                                                                                                       | Yes, No, Unclear, Not reported                                                         | Not reported                     |
| sample_size_adequate        | Does the size of the recruited sample matches the a priori calculation ? Select among options.                                                                                             | Yes, No, Unclear, No prior sample size calculation                                     | No prior sample size calculation |
| recruitment_period          | State the recruitment period as described in the article.                                                                                                                                  | Per article                                                                            | Not reported                     |
| eligibility_in              | Write the inclusion criteria for study participation. Use the following format: 1) First letter is capital , 2) First letter is capital. E.g., 1) Adults 2) Healthy                        | Per article                                                                            | Not reported                     |
| eligibility_out             | Write the exclusion criteria for study participation. Use the following format: 1) First letter is capital , 2) First letter is capital. E.g., 1) Adults 2) Healthy                        | Per article                                                                            | Not reported                     |
| <b>Exercise information</b> |                                                                                                                                                                                            |                                                                                        |                                  |
| exercise_mode               | Select among options. See here for:exercise defintions                                                                                                                                     | Aerobic, Anaerobic-Submax, Anaerobic-EE, Anaerobic-HIE, Anaerobic-EIE, Resistance-CRT, | Not reported                     |

(Continued)

Table S4: *Continued*

| Extracted variables                    | Description                                                                                                                                                                                                                                                                                                | Expected information                                                                                                           | In case of missing information |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
|                                        |                                                                                                                                                                                                                                                                                                            | Resistance-Concentric, Resistance-DCER, Resistance-Eccentric, Resistance-Isometric, Resistance-Isokinetic, Other, Not reported |                                |
| exercise_type                          | Describe exercise type starting with a capital letter. Examples: Cycling, Walking, Running. In case of isodynamic or isometric exercise, enter the name of the movement (e.g., Shoulder abduction).                                                                                                        | Per article                                                                                                                    | Not reported                   |
| exercise_duration                      | Enter the duration of the exercise as a number. E.g., 30                                                                                                                                                                                                                                                   | Per article                                                                                                                    | Not reported                   |
| exercise_duration_units                | Select the units of the number stated above.                                                                                                                                                                                                                                                               | sec, min, hours, Not reported                                                                                                  | Not reported                   |
| exercise_intensity                     | Describe the exercise intensity. Numeric values are preferred. Hence, if an article states 30% VO <sub>2</sub> max, 30 should be entered. Otherwise, non-numeric values can be entered, e.g., Maximal Intensity. If exercise does not require that intensity is prespecified, state: No intensity control. | Per article                                                                                                                    | Not reported                   |
| exercise_intensity_determination       | Select among options how exercise intensity was targeted.                                                                                                                                                                                                                                                  | Maximal exercise test, Sub-maximal exercise test, Age-based formula, EMG Normalization (MVC), Other, No intensity control      | Other                          |
| exercise_intensity_determination_other | If exercise intensity determination method was not found in the drop-down list then describe it starting with a capital letter. If it was found in the previous drop-down, write "Not applicable".                                                                                                         | Per article                                                                                                                    | Not reported OR Not applicable |
| exercise_location                      | Select among options.                                                                                                                                                                                                                                                                                      | Laboratory, Outside, Not reported, Other                                                                                       | Not reported                   |
| exercise_supervisor                    | Insert information regarding who supervised the exercise. If reported the following should be extracted:                                                                                                                                                                                                   | Per article                                                                                                                    | Not reported                   |

(Continued)

Table S4: Continued

| Extracted variables    | Description                                                                                                                                                                                                                                                                                                                                     | Expected information                                                                                                                                                                                                  | In case of missing information               |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| exercise_support       | profession, number of years of experience, training. E.g., Physical therapist with 5 years of clinical experience trained to apply...<br>Select among options to define whether verbal support was given while the participants exercised. Thus, were the participants motivated or encouraged by the assessor/supervisor during the exercise ? | Yes, No, Not reported, Unclear                                                                                                                                                                                        | Not reported                                 |
| warm_up                | Select among options.                                                                                                                                                                                                                                                                                                                           | Yes, No, Unclear, Not reported                                                                                                                                                                                        | Not reported                                 |
| warm_up_mode           | Select among options. See here for: exercise definitions                                                                                                                                                                                                                                                                                        | Aerobic, Anaerobic-Submax, Anaerobic-EE, Anaerobic-HIE, Anaerobic-EIE, Resistance-CRT, Resistance-Concentric, Resistance-DCER, Resistance-Eccentric, Resistance-Isometric, Resistance-Isokinetic, Other, Not reported | Not reported or Not applicable if no warm-up |
| warm_up_type           | Describe warm-up exercise type starting with a capital letter.<br>Examples: Cycling, Walking, Running. In cas of isodynamic or isometric exercise, enter the name of the movement (e.g., Shoulder abduction).                                                                                                                                   | Per article                                                                                                                                                                                                           | Not reported or Not applicable if no warm-up |
| warm_up_intensity      | Describe the exercise intensity. Numeric value are preferred. Hence, if an article states 30% VO2max, 30 should be entered. Otherwise, non-numeric values can be entered, e.g., Maximal Intensity.                                                                                                                                              | Per article                                                                                                                                                                                                           | Not reported or Not applicable if no warm-up |
| warm_up_duration       | Enter the duration of the exercise as a number. E.g., 30                                                                                                                                                                                                                                                                                        | Per article                                                                                                                                                                                                           | Not reported or Not applicable if no warm-up |
| warm_up_duration_units | Select the units of the number stated above.                                                                                                                                                                                                                                                                                                    | sec, min, hours, Not reported, Not applicable                                                                                                                                                                         | Not reported or Not applicable if no warm-up |
| control_mode           | Select among options.                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                       |                                              |

(Continued)

Table S4: *Continued*

| Extracted variables    | Description                                                                                                                                                                                                                                                                    | Expected information                                                                      | In case of missing information               |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|----------------------------------------------|
|                        |                                                                                                                                                                                                                                                                                | Aerobic, Isodynamic, Isometric, Isokinetic, Not an exercise, Not reported, Not applicable | Not reported or Not applicable if no control |
| control_type           | Describe control type starting with a capital letter. Examples: Rest in sitting position, Cycling                                                                                                                                                                              | Per article                                                                               | Not reported or Not applicable if no control |
| control_duration       | Enter the duration of the control intervention as a number. E.g., 30                                                                                                                                                                                                           | Per article                                                                               | Not reported or Not applicable if no control |
| control_duration_units | Select the units of the number stated above.                                                                                                                                                                                                                                   | sec, min, hours, Not applicable                                                           | Not reported or Not applicable if no control |
| control_intensity      | Describe the control intensity. Only applicable if control is an exercise intervention. Otherwise, state "Not Applicable".                                                                                                                                                     | Per article                                                                               | Not reported or Not applicable if no control |
| control_location       | Select among options.                                                                                                                                                                                                                                                          | Laboratory, Outside, Not reported, Other                                                  | Not reported                                 |
| control_interval       | State the time interval between the control condition and the exercise condition. It should be a numeric value. Only applicable if a cross-over design was used. Otherwise, state "Not Applicable".                                                                            | Per article                                                                               | Not reported                                 |
| equipment_exercise     | Describe the equipment used in the exercise protocol. State it in the following fashion: Equipment type_1 (brand_1); Equipment type_2 (brand_2);... For example, Cycle ergometer(Monark,v20,USA); Cardiofrequencemeter(Polar,USA)                                              | Per article                                                                               | Not reported                                 |
| exercise_prep          | Describe preparatory actions that were conducted before the exercise. For example, a test session to determine the intensity for the upcoming exercise sessions or calibration of the material. Use the following form: Prep1;Prep2... E.g., Submaximal exercise test (lactate | Per article                                                                               | Not reported                                 |

(Continued)

Table S4: Continued

| Extracted variables                | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Expected information                                                                                                                                                                  | In case of missing information |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| <b>Test modalities information</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                       |                                |
| stimu_type                         | threshold determination); Cycle ergometer calibration.<br>Select among options.                                                                                                                                                                                                                                                                                                                                                                                            | Mechanical, Ischaemic, Thermal, Chemical, Electrical                                                                                                                                  | Not reported                   |
| test_modality                      | Enter the abbreviated form of test modalities used. Use only upper cases. E.g., PPT, HPT                                                                                                                                                                                                                                                                                                                                                                                   | Per article                                                                                                                                                                           | Not reported                   |
| test_modality_location             | Select among options to describe the location of application of the test modality.                                                                                                                                                                                                                                                                                                                                                                                         | Quadriceps, Hand, Lower back, Forearm, Elbow, Deltoid, Upper trapezius, Calf, Other                                                                                                   | Not reported                   |
| test_modality_location_other       | Describe shortly the test modality location if it was not found in the drop-down menu above; the first letter should be in uppercase. E.g., Calf                                                                                                                                                                                                                                                                                                                           | Per article                                                                                                                                                                           | Not reported                   |
| test_modality_full_name            | Enter, the full name of the test modalities used. The first letter should be in uppercase. E.g., Pain pressue threshold.                                                                                                                                                                                                                                                                                                                                                   | Per article                                                                                                                                                                           | Not reported                   |
| eih_session1                       | Select among options to determine whether exercise-induced hypoalgesia was manifested. This should be based on the results and discussion sections of the article.                                                                                                                                                                                                                                                                                                         | Yes, No, Not reported, Unclear                                                                                                                                                        | Not reported                   |
| eih_session_1_computation          | Select whether eih was computed from absolute or relative change . Relative change is computed using a proportion e.g., 10% increase of PPT; absolute change is computed using "raw" values e.g., 100 kPa increase. In the case of, for instance, EIH from relative change was reported, specify whether the authors also tried to compute absolute change (and perhaps did not find EIH) or only assessed EIH from relative change. The same applies for absolute change. | Relative change, Absolute change, Absolute change (relative change not computed), Relative change (absolute change not computed), Relative and absolute change, Not reported, Unclear | Not reported                   |
| eih_session2                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Yes, No, Not reported, Unclear                                                                                                                                                        | Not reported                   |

(Continued)

Table S4: *Continued*

| Extracted variables            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Expected information                                                                                                                                                                  | In case of missing information                                           |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| eih_session_2_computation      | Select among options to determine whether exercise-induced hypoalgesia was manifested. This should be based on the results and discussion sections of the article.<br>Select whether eih was computed from absolute or relative change . Relative change is computed using a proportion e.g., 10% increase of PPT; absolute change is computed using "raw" values e.g., 100 kPa increase. In the case of, for instance, EIH from relative change was reported, specify whether the authors also tried to compute absolute change (and perhaps did not find EIH) or only assessed EIH from relative change. The same applies for absolute change. | Relative change, Absolute change, Absolute change (relative change not computed), Relative change (absolute change not computed), Relative and absolute change, Not reported, Unclear | Not reported                                                             |
| instruments_brand              | State the brand of the instrument(s) used for the test modality                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Per article                                                                                                                                                                           | Not reported                                                             |
| instruments_description        | Describe the instruments used for the test modality.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Per article                                                                                                                                                                           | Not reported                                                             |
| test_modality_n_measurement    | Select among options. A numeric value should be selected to report the number of test for each test modality. E.g., PPT was measured 3 times at the quadriceps.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1,2,3,4,5, Not Applicable, Not reported                                                                                                                                               | Not reported                                                             |
| test_modality_rate             | Enter a numeric value to define the rate of application of the test modality. If the test modality doesn't require a rate of application then state: "Not applicable".                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Per article                                                                                                                                                                           | Not reported                                                             |
| test_modality_break            | If several measurement of each test modality were conducted, then insert the inter-measurement interval of the same test modality as a numeric value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Per article                                                                                                                                                                           | Not reported or Not applicable if only one measurement per test modality |
| test_modality_between_interval |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Per article                                                                                                                                                                           |                                                                          |

*(Continued)*

Table S4: Continued

| Extracted variables                 | Description                                                                                                                                                                                                                                 | Expected information                                    | In case of missing information                            |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------|
|                                     | If several test modalities have been applied, then insert the inter-measurement interval of the different test modalities as a numeric value.                                                                                               |                                                         | Not reported or Not applicable if only one test modality. |
| test_modality_subject_position      | Select among options to define the subject position while test modality was assessed.                                                                                                                                                       | Sitting, Prone, Supine, Standing, Not reported, Unclear | Not reported                                              |
| test_modality_description           | Insert here a summary of the test modality procedure. Elements from previous cells can be repeated. Specify, when possible, the identity of the assessor. In parenthesis, state (position; rate; n measurement/site; interval; sites order) | Per article                                             | Not reported                                              |
| rater_description                   | Insert information regarding rater. If reported the following should be extracted: profession, number of years of experience, training. E.g., Physical therapist with 5 years of clinical experience trained to apply...                    | Per article                                             | Not reported                                              |
| instructions_prep                   | Insert informations regarding the instructions provided to the before the experiment subjects. E.g., subjects were asked to refrain from physical activity on the day of experiment.                                                        | Per article                                             | Not reported                                              |
| adherence_instructions              | State whether the participants adhered to the instructions and how this was verified. Select among options.                                                                                                                                 | Yes, No, Unclear, Not reported                          | Not reported                                              |
| adherence_instructions_verification | If "yes" was selected above, select how this was assessed. E.g., verbal verification on the day of participation.                                                                                                                           | Per article                                             | Not applicable or Not reported                            |
| familiarization                     | Select among options whether a familiarization session was conducted. Familiarization relates to physically experimenting the procedures.                                                                                                   | Yes, No, Not reported                                   | Not reported                                              |

(Continued)

Table S4: *Continued*

| Extracted variables                                       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Expected information  | In case of missing information                 |
|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------------|
| familiarization_details                                   | If a familiarization session was conducted, describe the part of the procedures to which it applied. For example if the subjects were familiarized with the PPT, state "Test modality" (starting with a capital letter). If the subjects were familiarized with different parts of the exercise, list them with a "," as separator. For example, if the subjects realized a exercise test on a cycle ergometer and were familiarized with the test modalities prior to the sessions used to assess reliability, state "Cycle ergometer, Test modality". If the subjects were familiarized with the entire procedure, state "EIH procedure". If the previous point was "no", then state "Not applicable". | Per article           | Not applicable or Not reported                 |
| explanation_explicit                                      | Select among options whether an explanation regarding the exercise and/or test modality was given to the subjects.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Yes, No, Not reported | Not reported                                   |
| test_mod_prep                                             | Describe preparatory actions for experimental pain assessment that are not covered by previous items. Use the following form: Prep1;Prep2... E.g., Calibration of algomter or rater training. If not reported, state not reported.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Per article           | Not reported                                   |
| assessor_blinding_outcome description                     | If applicable, describe how blinding of the assessor was ensured.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Per article           | Not reported or Not applicable if no blinding. |
| control_other                                             | Describe any other from of control reported in the study. If several were included, then state them while using "," as separator.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Per article           | Not reported                                   |
| <b>Information regarding exercise and test modalities</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                       |                                                |
| procedures_prep                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | /                     | /                                              |

(Continued)

Table S4: Continued

| Extracted variables                                           | Description                                                                                                                                                                                                                                                                                                              | Expected information                           | In case of missing information |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|--------------------------------|
| <b>Test modalities information</b>                            |                                                                                                                                                                                                                                                                                                                          |                                                |                                |
| equipment_test_mod                                            | These cells are only present in database_2. They will auto-complete. Ignore while extracting.                                                                                                                                                                                                                            | /                                              | /                              |
| adherence_instructions                                        | These cells are only present in database_2. They will auto-complete. Ignore while extracting.                                                                                                                                                                                                                            | /                                              | /                              |
| <b>EIH determination methods</b>                              |                                                                                                                                                                                                                                                                                                                          |                                                |                                |
| eih_data_processing_storage                                   | This item relates to "All actions undertaken on the raw data to store it in a usable (electronic) form for later data manipulation (such as score assignment or statistical analysis)". Describe thus how the acquired data were stored and by who. E.g., PPT values stored in a computer under the guidance of rater 1. | Per article                                    | Not reported                   |
| eih_score                                                     | Describe here how eih was scored. For example, Relative (insert formula used) and absolute change (insert fomrmula used)                                                                                                                                                                                                 | Per article                                    | Not reported                   |
| data_analysis_used                                            | Describe the statistical approach to assessing exercise-induced hypoalgesia. NOT RELIABILITY at this stage.                                                                                                                                                                                                              | Per article                                    | Not reported                   |
| significance_level                                            | Select the significance level that was set (alpha).                                                                                                                                                                                                                                                                      | 0.05, 0.01, Not reported                       | Not reported                   |
| baseline_data_analyze_each_group                              | Was all the baseline data analyzed in each group ? If cross-over design, select "Not applicable".                                                                                                                                                                                                                        | Yes, No, Not applicable, Unclear, Not reported | Not reported                   |
| <b>Information regarding reliability or measurement error</b> |                                                                                                                                                                                                                                                                                                                          |                                                |                                |
| rater_roles_description                                       | Summarize the role(s) of the rater(s) according to the article. The information extracted above can be repated.                                                                                                                                                                                                          | Per article                                    | Not reported                   |
| repeated_component                                            |                                                                                                                                                                                                                                                                                                                          | Per article                                    | Not reported                   |

(Continued)

Table S4: *Continued*

| Extracted variables              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                | Expected information                                                                                        | In case of missing information |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------|
|                                  | Describe the component of the procedure(s) that will be repeated.<br>The whole procedure can be repeated (i.e., equipment preparation, data collection, data storage and score assignment) on all occasions or for all raters or only a part of it (e.g., score assignment).<br>A priori, in studies examining exercise-induced hypoalgesia, the whole procedure should be repeated. State also the focus of interest (e.g., scoring EIH). |                                                                                                             |                                |
| variation_components_time        | Select among options whether the occasion is varied across measurement. Typically in a test-retest or intrarater reliability study, this should be the case, select then "yes".                                                                                                                                                                                                                                                            | Yes, No, Unclear, Not reported                                                                              | Not reported                   |
| variation_components_rater       | Select among options whether the rater component is varied across measurement. In a interrater study, it should be the case. Select then "yes".                                                                                                                                                                                                                                                                                            | Yes, No, Unclear, Not reported                                                                              | Not reported                   |
| variation_components_instruments | Select among options whether the instrument(s) are varied between measurements. For example, if a intrarater study uses algometer A on occasion 1 and algometer B on occasion 2 then select "yes".                                                                                                                                                                                                                                         | Yes, No, Unclear, Not reported                                                                              | Not reported                   |
| variation_components             | Summarize the components being varied using the information extracted above. E.g., Occasion ( $n = 2$ , intrarater reliability); Rater ( $n = 3$ , interrater reliability).                                                                                                                                                                                                                                                                | Per article                                                                                                 | Not reported                   |
| Stat_continuous_scores_reliab    | Select among options the test statistic used to assess reliability of continuous outcomes. If no continuous outcome was assessed then select "Not applicable"                                                                                                                                                                                                                                                                              | ICC, Pearson correlation coefficient, Spearman correlation coefficient, Other, Not reported, Not applicable | Not reported                   |

(Continued)

Table S4: Continued

| Extracted variables                    | Description                                                                                                                                                                                    | Expected information                                                       | In case of missing information |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|--------------------------------|
| Stat_ordinal_scores_reliab             | Select among options the test statistic used to assess reliability of ordinal outcomes. If no ordinal outcome was assessed then select "Not applicable"                                        | ICC, Weighted kappa, Unweighted kappa, Other, Not applicable, Not reported | Not reported                   |
| Stat_dichotomous_scores_reliab         | Select among options the test statistic used to assess reliability of dichotomous or nominal outcomes. If no dichotomous or nominal outcome was assessed then select "Not applicable"          | ICC, Weighted kappa, Unweighted kappa, Other, Not applicable, Not reported | Not reported                   |
| <b>Risk of bias assessment</b>         |                                                                                                                                                                                                |                                                                            |                                |
| stability_patient                      | R & M (1) Were the patients stable in the time between the repeated measurements on the construct to be measured? Select among options according to: COSMIN RoB tool                           | very good, adequate, doubtful, inadequate, NA                              | Leave blank                    |
| stability_patient_justif               | Justify previous item.                                                                                                                                                                         | Per article                                                                | Leave blank                    |
| time_interval                          | R & M (2) Was the time between the measurements appropriate? Select among options according to: COSMIN RoB tool                                                                                | very good, doubtful, inadequate, NA                                        | Leave blank                    |
| time_interval_justif                   | Justify previous item based on the article. Ideally, provide page number or article quote.                                                                                                     | Per article                                                                | Leave blank                    |
| similar_measurements_conditions        | R & M (3) Were the measurement conditions similar for the measurements - except for the condition being evaluated as a source of variation? Select among options according to: COSMIN RoB tool | Very good, adequate, doubtful, inadequate, NA                              | Leave blank                    |
| similar_measurements_conditions_justif | Justify previous item based on the article. Ideally, provide page number or article quote.                                                                                                     | Per article                                                                | Leave blank                    |
| measurements_administration            | R & M (4) Did the professional(s) administer the measurement without knowledge of scores or values of other repeated measurement(s) in the same                                                | Very good, adequate, doubtful, inadequate                                  | Leave blank                    |

(Continued)

Table S4: *Continued*

| Extracted variables                  | Description                                                                                                                                                                                                                                                                                                            | Expected information                      | In case of missing information |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|--------------------------------|
| measurements_administration_justif   | patients? Select among options according to: COSMIN RoB tool<br>Justify previous item based one the article. Ideally, provide page number or article quote.                                                                                                                                                            | Per article                               | Leave blank                    |
| score_assignements                   | R & M (5) Did the professional(s) assign scores or determine values without knowledge of the scores or values of other repeated measurement(s) in the same patients? Select among options according to: COSMIN RoB tool<br>Justify previous item based one the article. Ideally, provide page number or article quote. | Very good, adequate, doubtful, inadequate | Leave blank                    |
| score_assignements_justif            | Justify previous item based one the article. Ideally, provide page number or article quote.                                                                                                                                                                                                                            | Per article                               | Leave blank                    |
| other_flaws                          | R & M (6) Were there any other important flaws in the design or statistical methods of the study? Select among options according to: COSMIN RoB tool                                                                                                                                                                   | Very good, doubtful, inadequate           | Leave blank                    |
| other_flaws_justif                   | Justify previous item based one the article. Ideally, provide page number or article quote.                                                                                                                                                                                                                            | Per article                               | Leave blank                    |
| stat_continuous_scores_reliab        | R (7) For continuous scores: was an intraclass correlation coefficient (ICC) calculated? Select among options according to: COSMIN RoB tool                                                                                                                                                                            | Very good, adequate, doubtful, NA         | Leave blank                    |
| stat_continuous_scores_reliab_justif | Justify previous item based one the article. Ideally, provide page number or article quote.                                                                                                                                                                                                                            | Per article                               | Leave blank                    |
| stat_ordinal_scores_reliab           | R (8) For ordinal scores: was a (weighted) kappa calculated? Select among options according to: COSMIN RoB tool                                                                                                                                                                                                        | Very good, adequate, NA                   | Leave blank                    |
| stat_ordinal_scores_reliab_justif    |                                                                                                                                                                                                                                                                                                                        | Per article                               | Leave blank                    |

(Continued)

Table S4: Continued

| Extracted variables                           | Description                                                                                                                                                                                                                                                           | Expected information                          | In case of missing information |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|--------------------------------|
| stat_dichotomous_scores_reliab                | Justify previous item based one the article. Ideally, provide page number or article quote.<br>R (9) For dichotomous/nominal scores: was Kappa calculated for each category against the other categories combined? Select among options according to: COSMIN RoB tool | Very good                                     | Leave blank                    |
| stat_dichotomous_scores_reliab_justif         | Justify previous item based one the article. Ideally, provide page number or article quote.                                                                                                                                                                           | Per article                                   | Leave blank                    |
| stat_continuous_scores_reliab                 | M (7) For continuous scores: was the Standard Error of Measurement (SEM), Smallest Detectable Change (SDC), Limits of Agreement (LoA) or Coefficient of Variation (CV) calculated? Select among options according to: COSMIN RoB tool                                 | Very good, adequate, doubtful, inadequate, NA | Leave blank                    |
| stat_continuous_scores_reliab_justif          | Justify previous item based one the article. Ideally, provide page number or article quote.                                                                                                                                                                           | Per article                                   | Leave blank                    |
| stat_dichotomous_ordinal_scores_reliab        | M (8) For dichotomous/nominal/ordinal scores: Was the percentage specific (e.g. positive and negative) agreement calculated? Select among options according to: COSMIN RoB tool                                                                                       | Very good, adequate, NA                       | Leave blank                    |
| stat_dichotomous_ordinal_scores_reliab_justif | Justify previous item based one the article. Ideally, provide page number or article quote.                                                                                                                                                                           | Per article                                   | Leave blank                    |
| final_rating                                  | At the end of the R & M risk of bias assessment, provide an overall score using the worst-score counts method (i.e., the overall score is determined by the lowest value upon all preceeding score). For example, if a study is rated "very                           | Very good, adequate, doubtful, inadequate, NA | Leave blank                    |

(Continued)

Table S4: *Continued*

| Extracted variables           | Description                                                                                                                                                                       | Expected information  | In case of missing information |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------------|
|                               | good" everywhere but the R_3 component is rated "doubtful", then the final rating will be "doubtful". For more information, see the COSMIN long button (in the reliability part). |                       |                                |
| <b>Quantitative data</b>      |                                                                                                                                                                                   |                       |                                |
| mean_pré_session1             | Insert the mean value of the test modality pre-exercise in session 1.                                                                                                             | Per article           | Not reported OR Not applicable |
| sd_pré_session1               | Insert the standard deviation value of the test modality pre-exercise in session 1.                                                                                               | Per article           | Not reported OR Not applicable |
| units_pré_session1            | Specify the units of the above mentioned values.                                                                                                                                  | Per article           | Not reported OR Not applicable |
| mean_absolute_change_session1 | Insert the mean absolute change (i.e., expressed in the units of the test modality) of the test modality after exercise in session 1.                                             | Per article           | Not reported OR Not applicable |
| sd_absolute_change_session1   | Insert the standard deviation of absolute change of the test modality after exercise in session 1.                                                                                | Per article           | Not reported OR Not applicable |
| mean_relative_change_session1 | Insert the mean relative change (i.e., expressed as decimal or percent) of the test modality after exercise in session 1. Express it in percent. E.g, 14.5                        | Per article           | Not reported OR Not applicable |
| sd_relative_change_session1   | Insert the standard deviation of relative change of the test modality after exercise in session 1. Express it in percent. E.g, 14.5                                               | Per article           | Not reported OR Not applicable |
| eih_session1                  | Was there eih in session 1 ? This cell value will be copied from the eih_procedures sheet.                                                                                        | Don't insert anything | Don't insert anything          |
| mean_pré_session2             | Insert the mean value of the test modality pre-exercise in session 2.                                                                                                             | Per article           | Not reported OR Not applicable |
| sd_pré_session2               | Insert the standard deviation value of the test modality pre-exercise in session 2.                                                                                               | Per article           | Not reported OR Not applicable |

(Continued)

Table S4: Continued

| Extracted variables           | Description                                                                                                                                               | Expected information  | In case of missing information |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------------|
| units_pré_session2            | Specify the units of the above mentioned values.                                                                                                          | Per article           | Not reported OR Not applicable |
| mean_absolute_change_session2 | Insert the mean absolute change of the test modality after exercise in session 2.                                                                         | Per article           | Not reported OR Not applicable |
| sd_absolute_change_session2   | Insert the standard deviation of absolute change (i.e., expressed in the units of the test modality) of the test modality after exercise in session 2.    | Per article           | Not reported OR Not applicable |
| mean_relative_change_session2 | Insert the mean relative change(i.e., expressed as decimal or percent) of the test modality after exercise in session 2. Express it in percent. E.g, 14.5 | Per article           | Not reported OR Not applicable |
| sd_relative_change_session2   | Insert the standard deviation of relative change of the test modality after exercise in session 2. Express it in percent. E.g, 14.5                       | Per article           | Not reported OR Not applicable |
| eih_session2                  | Was there eih in session 2 ? This cell value will be copied from the eih_procedures sheet.                                                                | Don't insert anything | Don't insert anything          |
| ICC_absolute_change           | Insert the value of the ICC computed for absolute change. It should be between 0 and 1.                                                                   | Per article           | Not reported OR Not applicable |
| ICC_absolute_change_CI_low    | Insert the value of the lower bound of the confidence interval of ICC computed for absolute change.                                                       | Per article           | Not reported OR Not applicable |
| ICC_absolute_change_CI_high   | Insert the value of the upper bound of the confidence interval of ICC computed for absolute change.                                                       | Per article           | Not reported OR Not applicable |
| ICC_relative_change           | Insert the value of the ICC computed for relative change. It should be between 0 and 1.                                                                   | Per article           | Not reported OR Not applicable |
| ICC_relative_change_CI_low    | Insert the value of the lower bound of the ICC computed for relative change.                                                                              | Per article           | Not reported OR Not applicable |
| ICC_relative_change_CI_high   |                                                                                                                                                           | Per article           |                                |

(Continued)

Table S4: *Continued*

| Extracted variables                    | Description                                                                                                                | Expected information | In case of missing information |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------------|
|                                        | Insert the value of the upper bound of the ICC computed for relative change.                                               |                      | Not reported OR Not applicable |
| SEM_absolute_change                    | Insert the value of the SEM (Standard Error of Measurement) computed for absolute change.                                  | Per article          | Not reported OR Not applicable |
| SEM_relative_change                    | Insert the value of the SEM (Standard Error of Measurement) computed for relative change.                                  | Per article          | Not reported OR Not applicable |
| r_absolute_change                      | Insert the value of the Pearson correlation coefficient computed for the absolute change.                                  | Per article          | Not reported OR Not applicable |
| r_absolute_change_CI_low               | Insert the value of the lower bound of the confidence interval of the Pearson correlation coefficient for absolute change. | Per article          | Not reported OR Not applicable |
| r_absolute_change_CI_high              | Insert the value of the upper bound of the confidence interval of the Pearson correlation coefficient for absolute change. | Per article          | Not reported OR Not applicable |
| r_relative_change                      | Insert the value of the Pearson correlation coefficient computed for the relative change.                                  | Per article          | Not reported OR Not applicable |
| r_relative_change_CI_low               | Insert the value of the lower bound of the confidence interval of the Pearson correlation coefficient for relative change. | Per article          | Not reported OR Not applicable |
| r_relative_change_CI_high              | Insert the value of the upper bound of the confidence interval of the Pearson correlation coefficient for relative change. | Per article          | Not reported OR Not applicable |
| kappa_EIH_resp_between_sessions        | Report the value of the kappa coefficient calculated from the agreement between EIH responders in session 1 vs session 2.  | Per article          | Not reported OR Not applicable |
| kappa_EIH_resp_between_sessions_CI_low | Insert the value of the lower bound of the confidence interval of the                                                      | Per article          | Not reported OR Not applicable |

(Continued)

Table S4: *Continued*

| Extracted variables                     | Description                                                                                                                                                                        | Expected information | In case of missing information |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------------|
|                                         | kappa value determined in previous point.                                                                                                                                          |                      |                                |
| kappa_EIH_resp_between_sessions_CI_high | Insert the value of the lower bound of the confidence interval of the kappa value determined in previous point.                                                                    | Per article          | Not reported OR Not applicable |
| EIH_resp_session1_2                     | If applicable (i.e., EIH was dichotomized in two categories) , state the number of EIH responder (as defined in the study) in session 1 AND in session 2. Enter a numeric value.   | Per article          | Not applicable or Not reported |
| EIH_non_resp_session1_2                 | If applicable(i.e., EIH was dichotomized in two categories) , state the number of EIH non responder(as defined in the study) in session 1 AND in session 2. Enter a numeric value. | Per article          | Not applicable or Not reported |
| EIH_resp_session1                       | If applicable(i.e., EIH was dichotomized in two categories) , state the number of EIH responder (as defined in the study) in session 1 only. Enter a numeric value.                | Per article          | Not applicable or Not reported |
| EIH_resp_session2                       | If applicable(i.e., EIH was dichotomized in two categories) , state the number of EIH responder (as defined in the study) in session 2 only. Enter a numeric value.                | Per article          | Not applicable or Not reported |

## S5 Correspondence with the authors

The questions asked to the authors and the status of their answers are provided in Table S5. The authors were all contacted on the 4th of May 2022, at the end of the data collection process.

**Table S5:** Correspondence with the authors

| <b>Hviid (2019), Walking increases pain tolerance in humans: an experimental cross-over study</b>                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Question</b>                                                                                                                                                                         | <b>Answer</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Where did the study take place?                                                                                                                                                         | Laboratory at the Pain Center at Odense University Hospital, Odense, Denmark                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Who supervised the exercise?                                                                                                                                                            | Experienced Physio                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Who assessed the pressure pain threshold (PPT), cuff pressure pain threshold (CPPT), and cuff pressure tolerance threshold (CPTT), and what was his/her background and training status? | Experienced Physio. Manual PPT and cuff algometry assessments were trained and supervised by experienced assessor several times over a 3 weeks period prior to the study. Instructions given to subjects were standardized                                                                                                                                                                                                                                                                               |
| What was the order and the time interval between each test different modality (e.g., PPT and CPPT)?                                                                                     | The order was first PPT assessment at the quad, first PPT assessment at the trap, second PPT assessment at the quad, second PPT assessment at the trap. Then cPPT (threshold) and cPTT (tolerance) was determined (same test).                                                                                                                                                                                                                                                                           |
| What was the time interval between the PPT (i.e., between each repeated PPT assessment)?                                                                                                | For PPTs at least 20 sec between repeated assessments at the same site.                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Was the adherence to the instructions (e.g., to refrain from physical activity on the dayss of participation) checked?                                                                  | YES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| How and by who were the data (PPT, CPTT, CPPT) processed and stored?                                                                                                                    | PPT, cPPT and cPTT data was initially documented on a physical datasheet (one sheet per session). Cuff data were also stored on cpar/nocitech system PC. After sessions data were entered into an Excel spreadsheet and stored on secure server at Odense University Hospital                                                                                                                                                                                                                            |
| The ICC 3.1 that was used implies that the reliability results that were found cannot be generalized to other raters, could you elaborate on the reasons of this choice?                | We chose the ICC 3.1 with Two-way mixed, single measures, consistency because: Two-way mixed: a fixed number of raters were used and each subject was measured by the fixed raters. Single measure: even though more than one measure at each site was taken we used the average of a single rater Consistency: The repeated measurements of two sessions were performed by the same rater, so we decided that systematic errors of the rater were canceled and only the random residual error was kept. |
| What was the formula of the ICC: consistency or agreement?                                                                                                                              | Consistency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| You classified subjects in EIH responder and non-responders. EIH was thus dichotomized. Could you elaborate on the reasons of this choice?                                              | This was done to enable us to expore the agreement in the classification of EIH responses within a subject across the two sessions. We used Intraclass correlation coefficients to investigate the ability of                                                                                                                                                                                                                                                                                            |

(Continued)

Table S5: Continued

| <b>Hviid (2019), Walking increases pain tolerance in humans: an experimental cross-over study</b>                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Question</b>                                                                                                                                           | <b>Answer</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                                                                                                           | EIH responses to differentiate values between subjects across the two sessions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| You determined the within session standard error of measurement (SEM) of the PPT, CPTT, and CPPT. Why did not you also compute the SEM of the EIH itself? | The reason for calculation of the PPT, cPPT and cPTT SEM was to be able to classify subjects into EIH-responder and non-responders to determine absolute reliability. We did not consider calculating SEM for EIH in this study.                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Vaegter (2019), Exercise-Induced Hypoalgesia After Isometric Wall Squat Exercise: A Test-Retest Reliability Study</b>                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Question</b>                                                                                                                                           | <b>Answer</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Were other medications than pain killers considered in the exclusion criteria?                                                                            | NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Where did the study take place?                                                                                                                           | Department of Physiotherapy, University College North Denmark, Aalborg, Denmark                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| What were the inclusion criteria?                                                                                                                         | Pain-free women and men with adequate Danish language skills                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| What was the recruitment period?                                                                                                                          | February 1st 2017 - May 1st 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Who supervised the exercise?                                                                                                                              | Physio student in final year of education                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Were the participants motivated during the exercise?                                                                                                      | Subjects were encouraged to complete the entire 3 min of the wall squat every 30 secs with standardized phrases; "Keep up the good work" or "You are doing well"                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Who assessed the pressure pain threshold and what was his/her background and training status?                                                             | Physio student in final year of education. PPT assessments were trained and supervised by experienced assessor several times over a 3 weeks period prior to the study.                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Were the subjects blinded to the study hypothesis?                                                                                                        | In the subject information handed out prior to consent, subjects were given the following information: Physical activity and exercise are frequently used as treatment, but more knowledge about the effect of physical activity is needed to optimize the effect. Based on the hypothesis that physical activity and exercise lead to a change in the perception of pain, we have carried out a number of research projects exploring the effect of physical activity on the pain sensitivity. Whether a potential change in pain sensitivity is similar over repeated days of physical activity is unknown. |
| Was the examiner blinded to the score of the subjects?                                                                                                    | NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Was the adherence to the instructions (e.g., to refrain from physical activity on the days of participation) checked?                                     | YES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| How long lasted each testing session?                                                                                                                     | Approximately 30 min                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| How and by who was the data (PPT) processed and stored?                                                                                                   | PPT data was initially documented on a physical datasheet (one sheet per session). After sessions data were entered into an Excel spreadsheet and stored on secure server at Odense University Hospital                                                                                                                                                                                                                                                                                                                                                                                                       |

(Continued)

Table S5: *Continued*

| <b>Hviid (2019), Walking increases pain tolerance in humans: an experimental cross-over study</b>                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Question</b>                                                                                                                                                                                                                                                                                                  | <b>Answer</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Could you confirm that only one rater (PPT) was involved?                                                                                                                                                                                                                                                        | The same rater assessed PPTs in both sessions.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| What was the the order of sites in the PPT assessments?                                                                                                                                                                                                                                                          | The order was first PPT assessment at the quad, first PPT assessment at the trap, second PPT assessment at the quad, second PPT assessment at the trap.                                                                                                                                                                                                                                                                                                                                                  |
| The ICC 3.1 that was used implies that the reliability results that were found cannot be generalized to other raters, could you elaborate on the reasons of this choice?                                                                                                                                         | We chose the ICC 3.1 with Two-way mixed, single measures, consistency because: Two-way mixed: a fixed number of raters were used and each subject was measured by the fixed raters. Single measure: even though more than one measure at each site was taken we used the average of a single rater Consistency: The repeated measurements of two sessions were performed by the same rater, so we decided that systematic errors of the rater were canceled and only the random residual error was kept. |
| The standard error of measurement (SEM) was reported as the square root of the mean square error term (MSE) of the ANOVA-RM. There are two possibilities of SEM, consistency and agreement, depending on whether variance due to bias was included in the MSE or not. Could you state the formula that was used? | The method for calculating SEM was based on the paper Quantifying Test-Retest Reliability Using The Intraclass Correlation Coefficient and The SEM by Weir JP published in J Strength and Conditioning Research 2005, 19(1):231-240. We used the formula: SEM = square root of the mean square error (type III sum of squares in error for WithinSubject effects divided by df for error in WithinSubject effect) from the ANOVA table                                                                   |
| You classified subjects in EIH responder and non-responders. EIH was thus dichotomized. Could you elaborate on the reasons of this choice?                                                                                                                                                                       | This was done to enable us to explore the agreement in the classification of EIH responses within a subject across the two sessions. We used Intraclass correlation coefficients to investigate the ability of EIH responses to differentiate values between subjects across the two sessions                                                                                                                                                                                                            |
| <b>Vaegter (2019), Hypoalgesia after bicycling at lactate threshold is reliable between sessions.</b>                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Question</b>                                                                                                                                                                                                                                                                                                  | <b>Answer</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Were other medications than pain killers considered in the exclusion criteria?                                                                                                                                                                                                                                   | NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| What were the inclusion criteria?                                                                                                                                                                                                                                                                                | Pain-free women and men with adequate Danish language skills                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| What was the recruitment period?                                                                                                                                                                                                                                                                                 | Sept 25 2017 - 15. nov 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Who supervised the exercise in sessions 2 and 3?                                                                                                                                                                                                                                                                 | Physio student in final year of education                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Were the participants motivated during the exercise in sessions 2 and 3?                                                                                                                                                                                                                                         | Subjects were encouraged to complete the entire 15 min of the bicycling exercise session 2 and 3 every 2 mins with standardized phrases; "Keep up the good work" or "You are doing well"                                                                                                                                                                                                                                                                                                                 |
| Where did the study take place?                                                                                                                                                                                                                                                                                  | Laboratory at the Pain Center at Odense University Hospital, Odense, Denmark                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Were the people who did not finish the study similar in terms of characteristics to the people staying in the study?                                                                                                                                                                                             | 3 included subjects did not finish the study due to scheduling conflicts. We did not explore whether they were different from the 34 subjects that completed all 3 sessions.                                                                                                                                                                                                                                                                                                                             |

(Continued)

Table S5: Continued

| <b>Hviid (2019), Walking increases pain tolerance in humans: an experimental cross-over study</b>                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Question</b>                                                                                                                                                          | <b>Answer</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Who assessed the pressure pain threshold and what was his/her background and training status?                                                                            | Physio student in final year of education. PPT assessments were trained and supervised by experienced assessor several times over a 3 weeks period prior to the study.                                                                                                                                                                                                                                                                                                                                   |
| Was the adherence to the instructions (e.g., to refrain from physical activity on the days of participation) checked?                                                    | YES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Was the examiner blinded to the score of the subjects in some ways?                                                                                                      | NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Could you confirm that only one rater (PPT) was involved?                                                                                                                | The same rater assessed PPTs in the same subject in sessions 2 and 3.                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| How and by who were the data (PPT) processed and stored?                                                                                                                 | PPT data was initially documented on a physical datasheet (one sheet per session). After sessions data were entered into an Excel spreadsheet and stored on secure server at Odense University Hospital                                                                                                                                                                                                                                                                                                  |
| The ICC 3.1 that was used implies that the reliability results that were found cannot be generalized to other raters, could you elaborate on the reasons of this choice? | We chose the ICC 3.1 with Two-way mixed, single measures, consistency because: Two-way mixed: a fixed number of raters were used and each subject was measured by the fixed raters. Single measure: even though more than one measure at each site was taken we used the average of a single rater Consistency: The repeated measurements of two sessions were performed by the same rater, so we decided that systematic errors of the rater were canceled and only the random residual error was kept. |
| You classified subjects in EIH responder and non-responders. EIH was thus dichotomized. Could you elaborate on the reasons of this choice?                               | This was done to enable us to explore the agreement in the classification of EIH responses within a subject across the two sessions. We used Intraclass correlation coefficients to investigate the ability of EIH responses to differentiate values between subjects across the two sessions.                                                                                                                                                                                                           |
| You determined the within session standard error of measurement (SEM) of the pressure pain threshold. Why did not you also compute the SEM of the EIH itself?            | The reason for calculation of the PPT SEM was to be able to classify subjects into EIH-responder and non-responders to determine absolute reliability. We did not consider calculating SEM for EIH in this study.                                                                                                                                                                                                                                                                                        |
| How long lasted each session                                                                                                                                             | Session 2 and session 3 lasted approx. 45 min                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Did you also compute ICC for EIH determined as relative change (and not only absolute change)? If so, what were the results?                                             | No, we did not.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| What was the standard deviation of the relative change (EIH) for each site (quadriceps and upper trapezius) on each session?                                             | I just calculated standard deviation for relative change in PPT (EIH):<br>Session 2 Quadriceps: 18.1 Trapezius: 13.9 Session 3 Quadriceps: 18.5 Trapezius: 10.4                                                                                                                                                                                                                                                                                                                                          |
| <b>Vaegter (2018), Test-Retest Reliability of Exercise-Induced Hypoalgesia After Aerobic Exercise</b>                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Question</b>                                                                                                                                                          | <b>Answer</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Were other medications than pain killers considered in the exclusion criteria?                                                                                           | NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| What were the inclusion criteria?                                                                                                                                        | Pain-free women and men with adequate Danish language skills                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| What was the recruitment period?                                                                                                                                         | February 1st 2017 - April 5 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

(Continued)

Table S5: *Continued*

| Hviid (2019), Walking increases pain tolerance in humans: an experimental cross-over study                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Question                                                                                                                                                                                                                                                                                                         | Answer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Where did the study take place?                                                                                                                                                                                                                                                                                  | Laboratory at the Pain Center at Odense University Hospital, Odense, Denmark                                                                                                                                                                                                                                                                                                                                                                                                                             |
| What was the time interval between the rest and exercise condition?                                                                                                                                                                                                                                              | 15 min                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Were the participants motivated during the exercise?                                                                                                                                                                                                                                                             | Subjects were encouraged to complete the entire 15 min of the bicycling exercise session 1 and 2 every 2 mins with standardized phrases; “Keep up the good work” or “You are doing well”                                                                                                                                                                                                                                                                                                                 |
| Was the adherence to the instructions (e.g., to refrain from physical activity on the day of participation) checked?                                                                                                                                                                                             | YES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Who assessed the pressure pain threshold (PPT) and what was his/her background and training status?                                                                                                                                                                                                              | Physio student in final year of education. PPT assessments were trained and supervised by experienced assessor several times over a 3 weeks period prior to the study.                                                                                                                                                                                                                                                                                                                                   |
| Could you confirm that only one rater (PPT) was involved?                                                                                                                                                                                                                                                        | The same rater assessed PPTs in the same subject in sessions 1 and 2.                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| What was the time interval between the PPT (i.e., between each repeated PPT assessment)?                                                                                                                                                                                                                         | at least 20 sec between repeated assessments at the same site.                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| What was the the order of sites in the PPT assessments?                                                                                                                                                                                                                                                          | The order was first PPT assessment at the quad, first PPT assessment at the trap, second PPT assessment at the quad, second PPT assessment at the trap.                                                                                                                                                                                                                                                                                                                                                  |
| How and by who were the data (PPT) processed and stored?                                                                                                                                                                                                                                                         | PPT data was initially documented on a physical datasheet (one sheet per session). After sessions data were entered into an Excel spreadsheet and stored on secure server at Odense University Hospital                                                                                                                                                                                                                                                                                                  |
| The ICC 3.1 that was used implies that the reliability results that were found cannot be generalized to other raters, could you elaborate on the reasons of this choice?                                                                                                                                         | We chose the ICC 3.1 with Two-way mixed, single measures, consistency because: Two-way mixed: a fixed number of raters were used and each subject was measured by the fixed raters. Single measure: even though more than one measure at each site was taken we used the average of a single rater Consistency: The repeated measurements of two sessions were performed by the same rater, so we decided that systematic errors of the rater were canceled and only the random residual error was kept. |
| You classified subjects in EIH responder and non-responders. EIH was thus dichotomized. Could you elaborate on the reasons of this choice?                                                                                                                                                                       | This was done to enable us to explore the agreement in the classification of EIH responses within a subject across the two sessions. We used Intraclass correlation coefficients to investigate the ability of EIH responses to differentiate values between subjects across the two sessions.                                                                                                                                                                                                           |
| The standard error of measurement (SEM) was reported as the square root of the mean square error term (MSE) of the ANOVA-RM. There are two possibilities of SEM, consistency and agreement, depending on whether variance due to bias was included in the MSE or not. Could you state the formula that was used? | The method for calculating SEM was based on the paper Quantifying Test-Retest Reliability Using The Intraclass Correlation Coefficient and The SEM by Weir JP published in J Strength and Conditioning Research 2005, 19(1):231-240. We used the formula: SEM = square root of the mean square error (type III sum of squares in error for WithinSubject effects divided by df for error in WithinSubject effect) from the ANOVA table                                                                   |

*(Continued)*

Table S5: *Continued*

| <b>Hviid (2019), Walking increases pain tolerance in humans: an experimental cross-over study</b>                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Question</b>                                                                                                                                                                                                                                                                                                  | <b>Answer</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| How long lasted each session?                                                                                                                                                                                                                                                                                    | Approximately 60 min                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Gomolka (2019), Assessing Endogenous Pain Inhibition: Test–Retest Reliability of Exercise-Induced Hypoalgesia in Local and Remote Body Parts After Aerobic Cycling</b>                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Question</b>                                                                                                                                                                                                                                                                                                  | <b>Answer</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Were other medications than analgesics and corticosteroids considered in the exclusion criteria?                                                                                                                                                                                                                 | No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| What was the recruitment period?                                                                                                                                                                                                                                                                                 | November 2016 - March 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Where did the study take place?                                                                                                                                                                                                                                                                                  | Ruhr University of Bochum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| How and by who was the data (PPT) processed and stored (i.e., after that SG assessed the pressure pain threshold, who stored this data )?                                                                                                                                                                        | During PPT assessment, PPT values were manually recorded by SG, who transferred them into an SPSS file after the experiment. Data were processed by SG and CT, and securely stored within the Department of Medical Psychology and Medical Sociology of the Ruhr University Bochum                                                                                                                                                                                                                                                                                                                                                                    |
| The ICC 3.1 that was used implies that the reliability results that were found cannot be generalized to other raters, could you elaborate on the reasons of this choice?                                                                                                                                         | With having investigated a rather homogeneous sample in terms of age and health status, we were interested in how close the absolute and percent change scores were. When choosing the ICC, we followed Koo & Li (2016): "In addition, absolute agreement definition should always be chosen for both test-retest and intrarater reliability studies because measurements would be meaningless if there is no agreement between repeated measurements." Koo, T. K., & Li, M. Y. (2016). A guideline of selecting and reporting intraclass correlation coefficients for reliability research. <i>Journal of chiropractic medicine</i> , 15(2), 155–163 |
| The standard error of measurement (SEM) was reported as the square root of the mean square error term (MSE) of the ANOVA-RM. There are two possibilities of SEM, consistency and agreement, depending on whether variance due to bias was included in the MSE or not. Could you state the formula that was used? | Variance due to bias was not included in the MSE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

## S6 COSMIN Risk of Bias tool

The following figures, from Mokkink et al. [1], display the standards and rating system for reliability and measurement error of the COSMIN RoB tool

## Standards for studies on reliability

| Design requirements |                                                                                                                                                            | very good               | adequate                                                      | doubtful                              | inadequate             | NA |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|---------------------------------------------------------------|---------------------------------------|------------------------|----|
| 1                   | Were patients stable in the time between the repeated measurements on the construct to be measured?                                                        | Yes (evidence provided) | Reasons to assume standard was met                            | Unclear                               | No (evidence provided) | Na |
| 2                   | Was the time interval between the repeated measurements appropriate?                                                                                       | Yes                     |                                                               | Doubtful, OR time interval not stated | No                     | Na |
| 3                   | Were the measurement conditions similar for the repeated measurements – except for the condition being evaluated as a source of variation?                 | Yes (evidence provided) | Reasons to assume standard was met, OR change was unavoidable | Unclear                               | No (evidence provided) | Na |
| 4                   | Did the professional(s) administer the measurement without knowledge of scores or values of other repeated measurement(s) in the same patients?            | Yes (evidence provided) | Reasons to assume standard was met                            | Unclear                               | No (evidence provided) |    |
| 5                   | Did the professional(s) assign scores or determine values without knowledge of the scores or values of other repeated measurement(s) in the same patients? | Yes (evidence provided) | Reasons to assume standard was met                            | Unclear                               | No (evidence provided) |    |
| 6                   | Were there any other important flaws in the design or statistical methods of the study?                                                                    | No                      |                                                               | Minor methodological flaws            | Yes                    |    |

| Statistical methods                                                                                             | very good                                                                                       | adequate                                                                                                                                                                                                                                                  | doubtful                                                                                                                                                                                                                                   | inadequate |
|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 7 For continuous scores: was an intraclass correlation coefficient (ICC) calculated?                            | ICC calculated; the model or formula was described, and matches study design and the data       | ICC calculated but model or formula was not described or does not optimally match the study design<br>OR<br>Pearson or Spearman correlation coefficient calculated WITH evidence provided that no systematic difference between measurements has occurred | Pearson or Spearman correlation coefficient calculated WITHOUT evidence provided that no systematic difference between measurements has occurred<br>OR WITH evidence provided that systematic difference between measurements has occurred |            |
| 8 For ordinal scores: was a (weighted) kappa calculated?                                                        | Kappa calculated; the weighting scheme was described, and matches the study design and the data | Kappa calculated, but weighting scheme not described or does not optimally match the study design                                                                                                                                                         |                                                                                                                                                                                                                                            |            |
| 9 For dichotomous/nominal scores: was Kappa calculated for each category against the other categories combined? | Kappa calculated for each category against the other categories combined                        |                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                            |            |

## Standards for studies on measurement error

| Design requirements |                                                                                                                                                            | very good               | adequate                                                      | doubtful                              | inadequate             | NA |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|---------------------------------------------------------------|---------------------------------------|------------------------|----|
| 1                   | Were patients stable in the time between the repeated measurements on the construct to be measured?                                                        | Yes (evidence provided) | Reasons to assume standard was met                            | Unclear                               | No (evidence provided) | Na |
| 2                   | Was the time interval between the repeated measurements appropriate?                                                                                       | Yes                     |                                                               | Doubtful, OR time interval not stated | No                     | Na |
| 3                   | Were the measurement conditions similar for the repeated measurements – except for the condition being evaluated as a source of variation?                 | Yes (evidence provided) | Reasons to assume standard was met, OR change was unavoidable | Unclear                               | No (evidence provided) | Na |
| 4                   | Did the professional(s) administer the measurement without knowledge of scores or values of other repeated measurement(s) in the same patients?            | Yes (evidence provided) | Reasons to assume standard was met                            | Unclear                               | No (evidence provided) |    |
| 5                   | Did the professional(s) assign scores or determine values without knowledge of the scores or values of other repeated measurement(s) in the same patients? | Yes (evidence provided) | Reasons to assume standard was met                            | Unclear                               | No (evidence provided) |    |
| 6                   | Were there any other important flaws in the design or statistical methods of the study?                                                                    | No                      |                                                               | Minor methodological flaws            | Yes                    |    |

| Statistical methods |                                                                                                                                                                              | very good                                                                                                                                             | adequate                                                                                                                                                                                                           | doubtful                                                                                                                                                                                       | inadequate                                                                    |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| 7                   | For continuous scores: was the Standard Error of Measurement (SEM), Smallest Detectable Change (SDC), Limits of Agreement (LoA) or Coefficient of Variation (CV) calculated? | SEM, SDC, LoA or CV calculated; the model or formula for the SEM/SDC is described; it matches the reviewer constructed research question and the data | SEM, SDC, LoA or CV calculated, but the model or formula is not described or does not optimally match the reviewer constructed research question* and evidence provided that no systematic difference has occurred | SEM <sub>consistency</sub> SDC <sub>consistency</sub> or LoA or CV calculated, without knowledge about systematic difference or with evidence provided that systematic difference has occurred | SEM calculated based on Cronbach's alpha, or using SD from another population |
| 8                   | For dichotomous/nominal/ordinal scores: Was the percentage specific (e.g. positive and negative) agreement calculated?                                                       | % specific agreement calculated                                                                                                                       | % agreement calculated                                                                                                                                                                                             |                                                                                                                                                                                                |                                                                               |

## S7 COMSIN criteria for good reliability

The COMSIN initiative proposes to rate each individual result based on the following criteria [1]:

- “+”: Sufficient
- “?”: Indeterminate
- “-”: Insufficient

M(C)IC stand for *Minimal (Clinical) Important Change*; It is defined by the COSMIN initiative as: “the smallest change in score in the construct to be measured which patients perceive as important” [2].

|                   |   |                                                                                           |
|-------------------|---|-------------------------------------------------------------------------------------------|
| Reliability       | + | ICC or (weighted) Kappa $\geq 0.70$                                                       |
|                   | ? | ICC or (weighted) Kappa not reported                                                      |
|                   | - | ICC or (weighted) Kappa $< 0.70$                                                          |
| Measurement error | + | SDC or LoA or $CV \cdot \sqrt{2} \cdot 1.96 < M(C)IC^1$ ; % specific agreement $> 80\%^2$ |
|                   | ? | MIC not defined                                                                           |
|                   | - | SDC or LoA or $CV \cdot \sqrt{2} \cdot 1.96 > M(C)IC^1$ ; % specific agreement $< 80\%^2$ |

<sup>1</sup> the  $M(C)IC$  value may come from another study. <sup>2</sup> Sometimes a higher percentage is more appropriate; when substantiated, this could be appropriate, too.

## S8 COSMIN modified GRADE approach

The following elements, cited from Prinsen *et al.* [3] complete the information regarding the modified GRADE approach that was presented in the methods section. Table S6 summarizes the results of the modified GRADE approach for each study.

The modified GRADE approach defines 4 quality levels, which are summarized in the following figure (from Prinsen *et al.* [3]).

| Quality level | Definition                                                                                                                                                                                                                       |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| High          | We are very confident that the true measurement property lies close to that of the estimate* of the measurement property                                                                                                         |
| Moderate      | We are moderately confident in the measurement property estimate: the true measurement property is likely to be close to the estimate of the measurement property, but there is a possibility that it is substantially different |
| Low           | Our confidence in the measurement property estimate is limited: the true measurement property may be substantially different from the estimate of the measurement property                                                       |
| Very low      | We have very little confidence in the measurement property estimate: the true measurement property is likely to be substantially different from the estimate of the measurement property                                         |

\* Estimate of the measurement property refers to the pooled or summarized result of the measurement property of a PROM.

These definitions were adapted from the GRADE approach (20)

These quality levels are defined according to four constructs: Risk of Bias (RoB), Inconsistency, Imprecision, and Indirectness. They are detailed below.

### 1. Risk of Bias (RoB)

The COSMIN group suggests downgrading the quality of evidence by one to three levels proportionally to the RoB – one level, "serious RoB"; two levels, "very Serious RoB"; three levels, "extremely serious RoB". The table below summarizes the criteria used to determine the level of RoB. In the case of our systematic review, all included studies were considered to have a doubtful RoB. Thus, a "serious RoB" was assigned, downgrading the quality by one level (Table S6).

| Risk of bias      | Downgrading for Risk of Bias                                                                                  |
|-------------------|---------------------------------------------------------------------------------------------------------------|
| No                | There are multiple studies of at least adequate quality, or there is one study of very good quality available |
| Serious           | There are multiple studies of doubtful quality available, or there is only one study of adequate quality      |
| Very serious      | There are multiple studies of inadequate quality, or there is only one study of doubtful quality available    |
| Extremely serious | There is only one study of inadequate quality available                                                       |

## 2. Inconsistency

Inconsistency relates to the presence of both sufficient and insufficient results in the quantitative or qualitative data summary (*i.e.*, results deemed sufficient or insufficient account for less than 75% of all ratings). The COSMIN group suggests to first explore potential causes of inconsistency by determining whether it arises from an inadequate grouping of studies (*i.e.*, the variability in the results is explained by differences in the study population, methodology, or RoB). In the case where no explanation can be found, they suggest downgrading the quality of evidence with one or two levels based on whether the review team considers it as serious (1 level) or very serious (2 levels), according to the specific context of the included studies. In the case of our systematic review, we could not summarize data from the included studies and considered inconsistency to be non-applicable (Table S6).

## 3. Imprecision

Imprecision is linked with the sample size of the included studies. The COSMIN group recommends downgrading the quality of evidence by one or two levels when the total sample size of the data summary is respectively below 100 or 50. In our review, we could not summarize data from the included studies and none of them had a sample size above 50. We thus downgraded the quality of evidence by two levels for each study (Table S6).

## 4. Indirectness

Indirectness relates to the similarity in the population or construct of interest between the summarized studies and the review. The COSMIN group suggests that this assessment is context dependent and leaves to the research team the decision to consider it as serious or very serious, downgrading the evidence by respectively one or two levels. In our review, each of the included studies were deemed to appropriately match with the targeted construct of interest—reliability or measurement error—and population—pain-free adults or adults with MSK pain. We thus did not downgrade the quality of evidence for indirectness (Table S6).

The following figure [3] summarizes how these constructs are used to GRADE the quality of evidence.

| Quality of evidence | Lower if             |
|---------------------|----------------------|
| High                | Risk of bias         |
| Moderate            | -1 Serious           |
| Low                 | -2 Very serious      |
| Very low            | -3 Extremely serious |
|                     | Inconsistency        |
|                     | -1 Serious           |
|                     | -2 Very serious      |
|                     | Imprecision          |
|                     | -1 total n=50-100    |
|                     | -2 total n<50        |
|                     | Indirectness         |
|                     | -1 Serious           |
|                     | -2 Very serious      |

n=sample size

**Table S6:** Results of the modified GRADE approach for each study

| Author (Year)   | GRADE factors        |                        |                       |                      |                            |
|-----------------|----------------------|------------------------|-----------------------|----------------------|----------------------------|
|                 | Imprecision (levels) | Inconsistency (levels) | Indirectness (levels) | Reliability (levels) | Measurement error (levels) |
| Gomolka (2019)  | Yes(2)               | NA                     | No(0)                 | doubtful(1)          | doubtful(1)                |
| Hviid (2019)    | Yes(2)               | NA                     | No(0)                 | doubtful(1)          | NA                         |
| Vaegter (2019a) | Yes(2)               | NA                     | No(0)                 | doubtful(1)          | NA                         |
| Vaegter (2018)  | Yes(2)               | NA                     | No(0)                 | doubtful(1)          | doubtful(1)                |
| Vaegter (2019b) | Yes(2)               | NA                     | No(0)                 | doubtful(1)          | doubtful(1)                |

NA, Not applicable. Rating: Rating of the reliability value according to the COMSIN criteria, Grade: Grading of the quality of the evidence according to the modified GRADE approach from COSMIN, GRADE factors: Factors used to grade the evidence, Levels: number of downgraded levels

## S9 Reasons for exclusion of reports

We excluded 53 reports after reading their texts in full; only the conference report was found for two reports. Table S7 presents the reasons for exclusion of each of them.

**Table S7:** Excluded reports after full text reading

| Author (Year)    | Title                                                                                                                                       | Journal (Volume, Issue, Pages, DOI)                                                                                                                                | Reason for exclusion |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| Adrian (2015)    | Physical activity, pain responses to heat stimuli, and conditioned pain modulation in postmenopausal women                                  | Menopause (22, 8, 816–825, 10.1097/GME.0000000000000398)                                                                                                           | not EIH nor reliab   |
| Alappattu (2011) | Stability of behavioral estimates of activity-dependent modulation of pain                                                                  | Journal of Pain Research (4, 151–157, 10.2147/JPR.S18105)                                                                                                          | not EIH              |
| Cabido (2014)    | Acute effect of constant torque and angle stretching on range of motion, muscle passive properties, and stretch discomfort percept          | Journal of Strength and Conditioning Research (28, 4, 1050–1057, 10.1519/JSC.0000000000000241)                                                                     | not EIH nor reliab   |
| Choi (2013)      | The effects of stability exercises on shoulder pain and function of middle-aged women                                                       | Journal of Physical Therapy Science (25, 2, 155–158, 10.1589/jpts.25.155)                                                                                          | not EIH nor reliab   |
| Cowley (2018)    | Influence of remote pain on movement control and muscle endurance during repetitive movements                                               | Experimental Brain Research (236, 8, 2309–2319, 10.1007/s00221-018-5303-6)                                                                                         | not EIH nor reliab   |
| Dannecker (2015) | Inducing a Blind Spot: Blinding Data Collectors in an Investigation of Experimental Pain                                                    | Pain Medicine (United States) (16, 6, 1145–1154, 10.1111/pme.12706)                                                                                                | not EIH nor reliab   |
| Dawson (2012)    | Assessment of proprioceptive allodynia after tooth-clenching exercises                                                                      | J Orofac Pain (26, 1, 39–48)                                                                                                                                       | not reliab           |
| Droste (1991)    | Physical exercise, endogenous opiates and pain regulation                                                                                   | Der Schmerz (5, 3, 138–147, 10.1007/BF02528099)                                                                                                                    | not reliab           |
| Duncan (2013)    | Acute caffeine ingestion enhances strength performance and reduces perceived exertion and muscle pain perception during resistance exercise | European journal of sport science (13, 4, 392–399, 10.1080/17461391.2011.635811)                                                                                   | not EIH nor reliab   |
| Eberhard (2018)  | Quantitative sensory response of the SCM muscle on sustained low level activation simulating co-contractions during bruxing                 | Arch Oral Biol (86, 87–93, 10.1016/j.archoralbio.2017.09.030)                                                                                                      | not reliab           |
| Fisher (2010)    | Carotid baroreflex control of arterial blood pressure at rest and during dynamic exercise in aging humans                                   | American Journal of Physiology - Regulatory Integrative and Comparative Physiology (299, 5, R1241–R1247, 10.1152/ajpregu.00462.2010)                               | not EIH nor reliab   |
| Friedman (1993)  | The effect of epidural anaesthesia with 1% lidocaine on the pressor response to dynamic exercise in man                                     | The Journal of Physiology (470, 1, 681–691, 10.1113/jphysiol.1993.sp019882)                                                                                        | not reliab           |
| Fuller (1993)    | A test of exercise analgesia using signal detection theory and a within-subjects design                                                     | Perceptual and motor skills (76, 3, Pt 2, 1,299–1,310, <a href="http://dx.doi.org/10.2466/pms.1993.76.3c.1299">http://dx.doi.org/10.2466/pms.1993.76.3c.1299</a> ) | not reliab           |

(Continued)

Table S7: Continued

| Author (Year)         | Title                                                                                                                                                 | Journal (Volume, Issue, Pages, DOI)                                                               | Reason for exclusion |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|----------------------|
| Gagnon (2012)         | Does sex have an independent effect on thermoeffector responses during exercise in the heat?                                                          | Journal of Physiology (590, 23, 5,963–5,973, 10.1113/jphysiol.2012.240739)                        | review               |
| Geisler (2019)        | An fMRI study on runner's high and exercise-induced hypoalgesia after a 2-h-run in trained non-elite male athletes                                    | Sport Sciences for Health (NA, 10.1007/s11332-019-00592-8)                                        | not reliab           |
| Geisler (2020)        | An fMRI study on runner's high and exercise-induced hypoalgesia after a 2-h-run in trained non-elite male athletes                                    | Sport Sciences for Health (16, 1, 159–167, 10.1007/s11332-019-00592-8)                            | not reliab           |
| Graven-Nielsen (2013) | The interaction of musculoskeletal pain and physical activity: Human studies                                                                          | Routledge Handbook of Physical Activity and Mental Health (NA, 359–371, 10.4324/9780203132678-39) | review               |
| Hansen (2022)         | Hypoalgesia after exercises with painful vs. non-painful muscles in healthy subjects - a randomized cross-over study                                  | Scand J Pain (22, 3, 614–621, 10.1515/sjpain-2021-0161)                                           | not reliab           |
| Harden (2012)         | Home-Based Aerobic Conditioning for Management of Symptoms of Fibromyalgia: A Pilot Study                                                             | Pain Medicine (United States) (13, 6, 835–842, 10.1111/j.1526-4637.2012.01384.x)                  | not EIH nor reliab   |
| Hoffman (2004)        | Intensity and duration threshold for aerobic exercise-induced analgesia to pressure pain                                                              | Archives of Physical Medicine and Rehabilitation (85, 7, 1,183–1,187, 10.1016/j.apmr.2003.09.010) | not reliab           |
| Hollmann (2000)       | Brain, psyche and physical activity                                                                                                                   | Orthopade (29, 11, 948–956, 10.1007/s001320050547)                                                | review               |
| Hudson (2008)         | Effects of caffeine and aspirin on light resistance training performance, perceived exertion, and pain perception                                     | Journal of Strength and Conditioning Research (22, 6, 1,950–1,957, 10.1519/JSC.0b013e31818219cb)  | not EIH nor reliab   |
| Hughes (2020)         | The effect of blood flow restriction exercise on exercise-induced hypoalgesia and endogenous opioid and endocannabinoid mechanisms of pain modulation | Journal of Applied Physiology (128, 4, 914–924, 10.1152/JAPPLPHYSIOL.00768.2019)                  | not reliab           |
| Janal (1996)          | Pain sensitivity, exercise and stoicism                                                                                                               | Journal of the Royal Society of Medicine (89, 7, 376–381, 10.1177/014107689608900706)             | review               |
| Janal (1985)          | Pain sensitivity, mood, and plasma endocrine levels in man following long-distance running: Effects of naloxone                                       | (NA, 1374, )                                                                                      | not reliab           |
| Jang (2020)           | The effects of acute resistance exercise intensity on pain perception and muscle mechanical properties of taekwondo athletes                          | Exercise Science (29, 3, 281–290, 10.15857/ksep.2020.29.3.281)                                    | not reliab           |
| Kaluga (2006)         | A comparative analysis of changes in tactile sensitivity in men and women practicing selected sports                                                  | Human Movement (7, 2, 153–161)                                                                    | not EIH nor reliab   |
| Kashima (2009)        |                                                                                                                                                       | Oral Science International (6, 1, 55–61, 10.11277/osi.6.55)                                       | not reliab           |

(Continued)

Table S7: *Continued*

| Author (Year)        | Title                                                                                                                                        | Journal (Volume, Issue, Pages, DOI)                                                                                                                               | Reason for exclusion |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
|                      | Mouth-opening Exercises Produce a Decrease in Pain Perception in Patients with Disk Displacement with Reduction                              |                                                                                                                                                                   |                      |
| Katz-Betzalel (2022) | Aerobic Upper-Limb Exercise-Induced Hypoalgesia: Does It Work?                                                                               | Applied Sciences (Switzerland) (12, 22, 10.3390/app122211391)                                                                                                     | not reliab           |
| Ketola (2012)        | Constant, cycling, hot and cold thermal environments: Strong effects on mean viability but not on genetic estimates                          | Journal of Evolutionary Biology (25, 6, 1,209–1,215, 10.1111/j.1420-9101.2012.02513.x)                                                                            | not humans           |
| Kiyatkin (1990)      | Endogenous opiate mechanisms in regulation of pain sensitivity and behavioral reactivity at aversive states of different nature              | Izvestiya Akademii Nauk SSSR - Seriya Biologicheskaya (NA, 5, 778–781)                                                                                            | not humans           |
| Kuithan (2020)       | Exercise induced hypoalgesia: stability of measures with functional lumbar spine resistance training                                         | Physiotherapy (United Kingdom) (107, e49–e50, 10.1016/j.physio.2020.03.068)                                                                                       | conference paper     |
| Larbig (1994)        | EEG correlates of pain control                                                                                                               | EEG-EMG Zeitschrift fur Elektroenzephalographie Elektromyographie und Verwandte Gebiete (25, 2, 151–160, )                                                        | not EIH nor reliab   |
| Lau (2015)           | Changes in electrical pain threshold of fascia and muscle after initial and secondary bouts of elbow flexor eccentric exercise               | European journal of applied physiology (115, 5, 959–968, 10.1007/s00421-014-3077-5)                                                                               | not EIH nor reliab   |
| Lee (2022)           | Association of conditioned pain modulation with exercise-induced hypoalgesia in knee osteoarthritis                                          | Osteoarthritis and Cartilage (30, Supplement 1, S383, <a href="https://dx.doi.org/10.1016/j.joca.2022.02.515">https://dx.doi.org/10.1016/j.joca.2022.02.515</a> ) | conference paper     |
| Lewis (2018)         | The Effect of Group Size and Synchrony on Pain Threshold Changes                                                                             | Small Group Research (49, 6, 723-738, 10.1177/1046496418765678)                                                                                                   | not reliab           |
| Mahalakshmi (2020)   | Possible neuroprotective mechanisms of physical exercise in neurodegeneration                                                                | International Journal of Molecular Sciences (21, 16, 1–17, 10.3390/ijms21165895)                                                                                  | review               |
| McLoughlin (2011)    | The relationship between physical activity and brain responses to pain in fibromyalgia                                                       | Journal of Pain (12, 6, 640–651, 10.1016/j.jpain.2010.12.004)                                                                                                     | not EIH nor reliab   |
| Meeus (2010)         | Reduced pressure pain thresholds in response to exercise in chronic fatigue syndrome but not in chronic low back pain: an experimental study | Journal of Rehabilitation Medicine (Stiftelsen Rehabiliteringsinformation) (42, 9, 884–890, 10.2340/16501977-0595)                                                | not reliab           |
| Motl (2002)          | Low intensity pain reported during elicitation of the H-reflex: No effects of trait anxiety and high intensity cycling exercise              | Brain Research (951, 1, 53–58, 10.1016/S0006-8993(02)03134-7)                                                                                                     | not reliab           |
| Muller (2011)        | Pain and thermal sensation in the cold: the effect of interval versus continuous exercise                                                    | Eur J Appl Physiol (111, 6, 979–87, 10.1007/s00421-010-1726-x)                                                                                                    | not EIH              |
| Newcomb (2009)       | The influence of a preferred versus a prescribed exercise session on pain in women with fibromyalgia                                         | Journal of Pain (10, 4, S16, 10.1016/j.jpain.2009.01.070)                                                                                                         | not reliab           |

(Continued)

Table S7: Continued

| Author (Year)    | Title                                                                                                                                                   | Journal (Volume, Issue, Pages, DOI)                                                                                                                               | Reason for exclusion |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| Niwa (2022)      | Effects of Exercise-Induced Hypoalgesia at Different Aerobic Exercise Intensities in Healthy Young Adults                                               | Journal of Pain Research (15, 3615–3624, <a href="https://dx.doi.org/10.2147/JPR.S384306">https://dx.doi.org/10.2147/JPR.S384306</a> )                            | not reliab           |
| O’Leary (2017)   | High but not moderate-intensity endurance training increases pain tolerance: a randomised trial                                                         | European journal of applied physiology (117, 11, 2201–2210, 10.1007/s00421-017-3708-8)                                                                            | not reliab           |
| O’Neill (2019)   | Acute sensory and motor response to 45-s heavy isometric holds for the plantar flexors in patients with Achilles tendinopathy                           | Knee Surgery, Sports Traumatology, Arthroscopy (27, 9, 2765–2773, 10.1007/s00167-018-5050-z)                                                                      | not reliab           |
| Rainville (2004) | The influence of intense exercise-based physical therapy program on back pain anticipated before and induced by physical activities                     | Spine Journal (4, 2, 176–183, 10.1016/j.spinee.2003.08.031)                                                                                                       | not EIH nor reliab   |
| Sajedi (2016)    | The evaluation of the aerobic exercise effects on pain tolerance                                                                                        | Sport Science (9, 7–11, )                                                                                                                                         | not EIH nor reliab   |
| Smith (1966)     | An experimental pain method sensitive to morphine in man: the submaximum effort tourniquet technique                                                    | Journal of Pharmacology and Experimental Therapeutics (154, 2, 324–332, )                                                                                         | not EIH nor reliab   |
| Tcheang (2005)   | Systematic distortions of perceptual stability investigated using immersive virtual reality                                                             | Vision Research (45, 16, 2177–2189, 10.1016/j.visres.2005.02.006)                                                                                                 | not EIH nor reliab   |
| Titze (2016)     | Physical activity and musculoskeletal pain: A focus review within the MiSpEx research group                                                             | Schmerz (30, 5, 421–428, 10.1007/s00482-016-0152-3)                                                                                                               | review               |
| Vaegter (2017)   | Exercise increases pressure pain tolerance but not pressure and heat pain thresholds in healthy young men                                               | European Journal of Pain (21, 1, 73–81, 10.1002/ejp.901)                                                                                                          | not reliab           |
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