Supplementary File S5

Complete Item-Level Joanna Briggs Institute Critical Appraisals of the Included Studies

Design-specific Joanna Briggs Institute (JBI) critical appraisal tools were applied to all 42 included publications. The tables below report the item-level judgments recorded in the completed appraisal forms. For items assessed separately across several outcomes or results, one consolidated item-level judgment is shown when the recorded judgment was consistent across all applicable outcomes/results.

Response categories: Y, Yes; N, No; U, Unclear; NA, Not applicable. All studies were retained for inclusion.

Quasi-experimental studies

Item key

Item	JBI appraisal question
Q1	Is it clear in the study what is the cause and what is the effect?
Q2	Was there a control group?
Q3	Were participants included in any comparisons similar?
Q4	Were participants included in any comparisons receiving similar treatment/care, other than the exposure or intervention of interest?
Q5	Were there multiple measurements of the outcome, both before and after the intervention/exposure?
Q6	Were the outcomes of participants included in any comparisons measured in the same way?
Q7	Were outcomes measured in a reliable way?
Q8	Was follow-up complete and, if not, were differences between groups in terms of follow-up adequately described and analyzed?
Q9	Was appropriate statistical analysis used?

Item-level judgments

Study	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Overall
Brinkmann et al., 2021	Y	N	Y	Y	Y	Y	Y	Y	Y	Include
Hua et al., 2021	Y	N	Y	Y	Y	Y	Y	Y	Y	Include
Karaküçük et al., 2021	Y	N	Y	Y	Y	Y	Y	Y	Y	Include
Krobot Čutura et al., 2026	Y	N	Y	Y	Y	Y	Y	Y	Y	Include
Vieversytė-Dvylienė et al., 2026	Y	N	Y	Y	Y	Y	Y	Y	Y	Include
Żmijewska et al., 2024	Y	N	Y	Y	Y	Y	Y	Y	Y	Include
Jiang et al., 2025	Y	N	Y	Y	Y	Y	Y	Y	Y	Include
Hoover et al., 2026	Y	N	Y	Y	Y	Y	Y	Y	Y	Include
Wefelnberg et al., 2026	Y	Y	Y	U	Y	Y	Y	Y	Y	Include
Wan et al., 2025	Y	N	Y	Y	Y	Y	Y	Y	Y	Include
Petersen et al., 2022	Y	N	Y	Y	Y	Y	Y	Y	Y	Include
Jiang et al., 2023	Y	Y	Y	Y	Y	Y	Y	Y	Y	Include
Nie et al., 2022	Y	Y	Y	Y	Y	Y	Y	Y	Y	Include
Li et al., 2021	Y	Y	Y	Y	Y	Y	Y	Y	Y	Include
Zhang et al., 2021	Y	Y	Y	Y	Y	Y	Y	Y	Y	Include

Drachmann et al., 2023	Y	N	Y	Y	Y	Y	Y	Y	Y	Include
Liang et al., 2024	Y	N	Y	Y	Y	Y	Y	Y	Y	Include
Ikemura et al., 2022	Y	N	Y	Y	Y	Y	Y	U	Y	Include
Mauget-Faÿsse et al., 2021	Y	N	Y	Y	Y	Y	Y	Y	Y	Include
Bek & Jeppesen, 2021	Y	N	Y	Y	Y	Y	Y	Y	Y	Include
Ben Aoun et al., 2025	Y	N	Y	Y	Y	Y	Y	Y	Y	Include

Analytical cross-sectional studies

Item key

Item	JBI appraisal question
Q1	Were the criteria for inclusion in the sample clearly defined?
Q2	Were objective, standard criteria used for measurement of the condition?
Q3	Was the exposure measured in a valid and reliable way?
Q4	Were the outcomes measured in a valid and reliable way?
Q5	Were confounding factors identified?
Q6	Were strategies to deal with confounding factors stated?
Q7	Was appropriate statistical analysis used?
Q8	Were the study subjects and the setting described in detail?

Item-level judgments

Study	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Overall
Cui et al., 2023	Y	Y	Y	Y	Y	Y	Y	Y	Include
Köchli et al., 2021	Y	NA	U	Y	Y	Y	Y	Y	Include
Triantafyllou et al., 2022	Y	Y	Y	Y	Y	Y	Y	Y	Include
Luo et al., 2026	Y	Y	Y	Y	Y	Y	Y	Y	Include
Fang et al., 2021	Y	Y	Y	Y	Y	Y	Y	Y	Include
Uğurlu & İçel, 2021	Y	Y	Y	Y	Y	N	Y	Y	Include
Liang et al., 2025	Y	Y	Y	Y	Y	Y	Y	Y	Include

Cohort studies

Item key

Item	JBI appraisal question
Q1	Were the two groups similar and recruited from the same population?
Q2	Were the exposures measured similarly to assign people to both exposed and unexposed groups?
Q3	Was the exposure measured in a valid and reliable way?
Q4	Were confounding factors identified?
Q5	Were strategies to deal with confounding factors stated?
Q6	Were the groups/participants free of the outcome at the start of the study (or at the moment of exposure)?
Q7	Were the outcomes measured in a valid and reliable way?
Q8	Was the follow-up time reported and sufficient to be long enough for outcomes to occur?
Q9	Was follow-up complete, and if not, were the reasons for loss to follow-up described and explored?
Q10	Were strategies to address incomplete follow-up utilized?
Q11	Was appropriate statistical analysis used?

Item-level judgments

Study	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Overall
Hauser et al., 2023	**Y**	**Y**	**Y**	**Y**	**Y**	**N**	**Y**	**Y**	**N**	**N**	**Y**	Include
Xiang et al., 2025	**Y**	**Y**	**U**	**Y**	**Y**	**Y**	**Y**	**Y**	**N**	**N**	**Y**	Include
Ludyga et al., 2023	**Y**	**Y**	**Y**	**Y**	**Y**	**N**	**Y**	**Y**	**N**	**N**	**Y**	Include
Alten et al., 2021	**Y**	**Y**	**Y**	**Y**	**U**	**Y**	**Y**	**Y**	**Y**	**NA**	**Y**	Include

Randomized controlled trials

Item key

Item	JBI appraisal question
Q1	Was true randomization used for assignment of participants to treatment groups?
Q2	Was allocation to treatment groups concealed?
Q3	Were treatment groups similar at baseline?
Q4	Were participants blind to treatment assignment?
Q5	Were those delivering treatment blind to treatment assignment?
Q6	Were treatment groups treated identically other than the intervention of interest?
Q7	Were outcome assessors blind to treatment assignment?
Q8	Were outcomes measured in the same way for treatment groups?
Q9	Were outcomes measured in a reliable way?
Q10	Was follow-up complete and, if not, were differences between groups in follow-up adequately described and analyzed?
Q11	Were participants analyzed in the groups to which they were randomized?
Q12	Was appropriate statistical analysis used?
Q13	Was the trial design appropriate, and were deviations from the standard RCT design accounted for in conduct and analysis?

Item-level judgments

Study	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Overall
Goeder et al., 2024	Y	Y	Y	N	N	Y	Y	Y	Y	Y	U	Y	Y	Include
Müller et al., 2024 (RCT component)	Y	U	Y	N	N	Y	Y	Y	Y	Y	U	Y	Y	Include
Saloň et al., 2025	Y	U	Y	N	N	Y	Y	Y	Y	N	N	Y	Y	Include
Simms et al., 2024 (Study 1)	U	U	Y	N	N	Y	U	Y	Y	Y	U	N	U*	Include
Simms et al., 2024 (Study 2)	U	U	Y	N	N	Y	U	U	Y	Y	U	N	Y	Include
Streese et al., 2023	Y	U	Y	N	N	Y	U	Y	Y	Y	U	Y	Y	Include
Twerenbold et al., 2023	Y	U	Y	N	N	Y	Y	Y	Y	Y	U	Y	Y	Include
Yu et al., 2025	Y	Y	Y	Y	N	Y	U	Y	Y	Y	Y	Y	Y	Include
Gameiro et al., 2025	Y	U	Y	N	N	Y	U	Y	Y	Y	U	Y	Y	Include
Zhou et al., 2025	Y	U	Y	N	N	Y	U	Y	Y	Y	U	Y	Y	Include

* In the completed appraisal form for Simms et al., 2024 (Study 1), Q13 contained explanatory text but no response box was marked; it is therefore presented as Unclear in this consolidated table.

Notes

- The item numbering follows the order used in the completed design-specific JBI appraisal forms supplied for this review.
- Outcome- and result-level subjudgments in the revised JBI tools remain documented in the completed individual appraisal forms; the matrices above provide consolidated item-level judgments for transparent supplementary reporting.
- No numerical quality score or exclusion threshold was applied. Appraisal findings were used to inform interpretation of the evidence and are summarized narratively in Supplementary Table S3.

• Müller et al., 2024 includes both a cross-sectional comparison and a randomized controlled intervention; the RCT matrix above appraises the randomized intervention component.