Appendices

Appendix 1: PRISMA-Checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	1
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	2-3
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	4
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	3
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	3-4
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	3, App. 3
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	App. 2
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	4-5, App. 3
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	4
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	4, Tab.1, Tab.2
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	4, App. 6
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	Tab. 2
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	N/A

Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	N/A
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	N/A
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	5, Fig. 1, App. 3
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	5-6, Tab. 1
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	7, Fig. 2, App. 6
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	6-7, Tab. 2
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	N/A
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	N/A
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	N/A
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	7-8
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	8-10
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	11
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	N/A

Appendix 2: Search Strategy

Cochrane Libary

#	**search terms**
1	(Health*:ti,ab) NEAR/2 (educat*:ti,ab OR knowledge*:ti,ab OR attitud*:ti,ab OR practice*:ti,ab OR aware*:ti,ab OR value*:ti,ab)
2	mindful*:ti,ab OR (mind NEXT ful*):ti,ab OR meditat*:ti,ab OR mind-body:ti,ab
3	((Health*:ti,ab) NEAR/2 (behaviour*:ti,ab OR behavior*:ti,ab OR lifestyle:ti,ab OR “life-style”:ti,ab OR promot*:ti,ab OR resource*:ti,ab OR benefit*:ti,ab))
4	#1 OR #2 OR #3
5	((manager*:ti,ab or supervisor*:ti,ab or leader*:ti,ab or foreman:ti,ab or foremen:ti,ab or director*:ti,ab or executive*:ti,ab or administrator*:ti,ab or coach*:ti,ab) NEAR/4 (training*:ti,ab or lecture*:ti,ab or workshop*:ti,ab or program*:ti,ab or teaching:ti,ab or intervention*:ti,ab or guidance*:ti,ab or education:ti,ab or schooling:ti,ab or coach*:ti,ab or tutor*:ti,ab or mentor*:ti,ab or counsel*:ti,ab))
6	#4 AND #5
7	(employee*:ti,ab NEAR/2 health:ti,ab) or ((employee*:ti,ab or job:ti,ab or work:ti,ab) NEAR/2 performance:ti,ab) or (work NEXT related NEXT stress*):ti,ab or (occupational NEXT stress*):ti,ab or "occupational health":ti,ab or (occupational NEXT disease*):ti,ab or (work-related NEXT disease*):ti,ab or (work-related NEXT disorder*):ti,ab or (work NEXT stress*):ti,ab or "job stress":ti,ab or "job satisfaction":ti,ab or absenteeism:ti,ab or (sick* NEXT leave*):ti,ab or (sick* NEXT absence*):ti,ab or (employee NEXT leave NEXT benefit*):ti,ab or ((stress:ti,ab or strain:ti,ab or wellbeing:ti,ab or "well-being":ti,ab or health:ti,ab or anxiet*:ti,ab or depress*:ti,ab or burnout:ti,ab or "burn-out":ti,ab or psychosocial:ti,ab) NEAR/4 (employee*:ti,ab or worker*:ti,ab or subordinate*:ti,ab or staff:ti,ab))
8	#6 AND #7

MEDLINE (via PubMed)

#	**search terms**
1	health knowledge, attitudes, practice[MeSH Terms] OR health education[MeSH Terms] OR "health educat*"[Title/Abstract] OR "health knowledge*"[Title/Abstract] OR "health attitud*"[Title/Abstract] OR "health practice*"[Title/Abstract] OR "health aware*"[Title/Abstract] OR "health value*"[Title/Abstract]
2	Mindfulness[MeSH Terms] OR Meditation[MeSH Terms] OR Mind-Body-Therapies[MeSH Terms] OR "mindful*"[Title/Abstract] OR "mind ful*"[Title/Abstract] OR "meditat*"[Title/Abstract] OR "mind-body"[Title/Abstract]
3	Health behavior[MeSh Terms] OR Healthy Lifestyle[MeSH Terms] OR Health Promotion[MeSH Terms] OR "health behaviour*"[Title/Abstract] OR "health behavior*"[Title/Abstract] OR "healthy lifestyle"[Title/Abstract] OR "healthy life-style"[Title/Abstract] OR "health promot*"[Title/Abstract] OR "health resource*"[Title/Abstract] OR "health benefit*"[Title/Abstract]
4	#1 OR #2 OR #3
5	(manager*[Title/Abstract] OR supervisor*[Title/Abstract] OR leader*[Title/Abstract] OR foreman[Title/Abstract] OR foremen[Title/Abstract] OR director*[Title/Abstract] OR executive*[Title/Abstract] OR administrator*[Title/Abstract] OR coach*[Title/Abstract]) AND (training*[Title/Abstract] OR lecture*[Title/Abstract] OR workshop*[Title/Abstract] OR program*[Title/Abstract] OR teaching[Title/Abstract] OR intervention*[Title/Abstract] OR guidance*[Title/Abstract] OR education[Title/Abstract] OR schooling[Title/Abstract] OR coach*[Title/Abstract] OR tutor*[Title/Abstract] OR mentor*[Title/Abstract] OR counsel*[Title/Abstract])
6	#4 AND #5
7	Work performance[MeSH Terms] OR Occupational stress[MeSH Terms] OR Occupational health[MeSH Terms] OR Occupational disease[MeSH Terms] OR Job satisfaction [MeSH Terms] OR Absenteeism[MeSH Terms] OR "employee health" [Title/Abstract] OR "employee performance"[Title/Abstract] or "work related stress*"[Title/Abstract] OR "occupational stress*"[Title/Abstract] OR "occupational health"[Title/Abstract] OR "occupational disease*"[Title/Abstract] OR "work-related disease*"[Title/Abstract] OR "work-related disorder*"[Title/Abstract] OR "work stress*"[Title/Abstract] OR "job stress"[Title/Abstract] OR "job satisfaction"[Title/Abstract] OR "Employee Absenteeism"[Title/Abstract] OR "sick* leave*"[Title/Abstract] OR "sick* absence*"[Title/Abstract] OR "employee leave benefit*"[Title/Abstract] OR stress[Title/Abstract] OR strain[Title/Abstract] OR wellbeing[Title/Abstract] OR "well-being"[Title/Abstract] OR health[Title/Abstract] OR anxiet*[Title/Abstract] OR depress*[Title/Abstract] OR burnout[Title/Abstract] OR "burn-out"[Title/Abstract] OR psychosocial[Title/Abstract] AND (employee*[Title/Abstract] OR worker*[Title/Abstract] OR subordinate*[Title/Abstract] OR staff[Title/Abstract])
8	#6 AND #7

PsycInfo (via EBSCOhost)

S	search terms
1	((DE "Health Education") OR (DE "Health Knowledge") OR (DE "Health Attitudes")) OR TI (((Health*) N2 (educat* OR knowledge* OR attitud* OR practice* OR aware* OR value*))) OR AB (((Health*) N2 (educat* OR knowledge* OR attitud* OR practice* OR aware* OR value*)))
2	(DE "Mindfulness") OR (DE "Mindfulness-Based Interventions") OR (DE "Meditation") OR (DE "Mind Body Therapy") OR TI ("mindful*" OR "mind ful*" OR "meditat*" OR "mind-body") OR AB ("mindful*" OR "mind ful*" OR "meditat*" OR "mind-body")
3	((DE "Health Behavior") OR (DE "Lifestyle") OR (DE "Health Promotion")) OR TI (((Health*) N2 (behaviour* OR behavior* OR lifestyle OR “life-style” OR promot* OR resource* OR benefit*))) OR AB (((Health*) N2 (behaviour* OR behavior* OR lifestyle OR “life-style” OR promot* OR resource* OR benefit*)))
4	S1 OR S2 OR S3
5	DE "Management Training" OR TI ((manager* or supervisor* or leader* or foreman or foremen or director* or executive* or administrator* or coach*) N4 (training* or lecture* or workshop* or program* or teaching or intervention* or guidance* or education or schooling or coach* or tutor* or mentor* or counsel*)) OR AB ((manager* or supervisor* or leader* or foreman or foremen or director* or executive* or administrator* or coach*) N4 (training* or lecture* or workshop* or program* or teaching or intervention* or guidance* or education or schooling or coach* or tutor* or mentor* or counsel*))
6	S4 AND S5
7	(((((((DE "Job Performance") OR (DE "Occupational Stress")) OR (DE "Compassion Fatigue")) OR (DE "Occupational Health")) OR (DE "Work Related Illnesses")) OR (DE "Job Satisfaction")) OR (DE "Employee Absenteeism")) OR TI (employee* N2 health) or ((employee* or job or work) N2 performance) or "work related stress*" or "occupational stress*" or "occupational health" or "occupational disease*" or "work-related disease*" or "work-related disorder*" or "work stress*" or "job stress" or "job satisfaction" or absenteeism or "sick* leave*" or "sick* absence*" or "employee leave benefit*" or ((stress or strain or wellbeing or "well-being" or health or anxiet* or depress* or burnout or "burn-out" or psychosocial) N4 (employee* or worker* or subordinate* or staff))) OR AB (employee* N2 health) or ((employee* or job or work) N2 performance) or "work related stress*" or "occupational stress*" or "occupational health" or "occupational disease*" or "work-related disease*" or "work-related disorder*" or "work stress*" or "job stress" or "job satisfaction" or absenteeism or "sick* leave*" or "sick* absence*" or "employee leave benefit*" or ((stress or strain or wellbeing or "well-being" or health or anxiet* or depress* or burnout or "burn-out" or psychosocial) N4 (employee* or worker* or subordinate* or staff)))
8	S6 AND S7

Web of Science Core Collection

#	**search terms**
1	TOPIC: (Health*) NEAR (educat* OR knowledge* OR attitud* OR practice* OR aware* OR value*)
2	TOPIC: ("mindful*" OR "mind ful*" OR "meditat*" OR "mind-body")
3	TOPIC: ((Health*) NEAR (behaviour* OR behavior* OR lifestyle OR “life-style” OR promot* OR resource* OR benefit*))
4	#1 OR #2 OR #3
5	TOPIC: ((manager* or supervisor* or leader* or foreman or foremen or director* or executive* or administrator* or coach*) NEAR (training* or lecture* or workshop* or program* or teaching or intervention* or guidance* or education or schooling or coach* or tutor* or mentor* or counsel*))
6	#4 AND #5
7	TOPIC: ((employee* NEAR health) or ((employee* or job or work) NEAR performance) or "work related stress*" or "occupational stress*" or "occupational health" or "occupational disease*" or "work-related disease*" or "work-related disorder*" or "work stress*" or "job stress" or "job satisfaction" or absenteeism or "sick* leave*" or "sick* absence*" or "employee leave benefit*" or ((stress or strain or wellbeing or "well-being" or health or anxiet* or depress* or burnout or "burn-out" or psychosocial) NEAR (employee* or worker* or subordinate* or staff)))
8	#6 AND #7

Appendix 3: Characteristics of excluded studies

Study	Reason for exclusion
Barling et al. 1996	Inappropiate intervention.
Biggs et al. 2014	Inappropiate intervention.
Dahinten et al. 2014	Inappropiate intervention.
Dimoff and Kelloway 2019	No relevant outcomes.
Dimoff et al. 2016	Outcomes not measured in employees.
DRKS00013635 2018	Trial only registered in WHO International Clinical Trials Registry Platform. Contact with responding author in Nov. 2020. At this point in time, article still in process.
Eklof Mats and Hagberg Mats 2006	Inappropiate intervention.
Gonzalez-Morales et al. 2018	Inappropiate intervention.
Gregersen et al. 2019	Only result report available. Contact with responding author in Nov. 2020. At this point in time, article still in review process.
Hammer et al. 2011	Inappropiate intervention.
Hammer et al. 2019a	Inappropiate intervention; no relevant outcomes.
Hammer et al. 2019b	Inappropiate intervention.
Ikegami et al. 2010	Control group added afterwards; Inappropiate intervention.
Kajiki et al. 2017	Intervention not exclusively for supervisors.
Ketelaar et al. 2017	Inappropiate intervention.
Kmiec 2010	Inappropiate intervention.
Kossek et al. 2019	Intervention for employees and supervisors, inappropriate intervention.
Odle-Dusseau et al. 2016	Inappropiate intervention, no control group.
Romanowska et al. 2011	Inappropiate intervention.
Torp 2008	Outcomes not measured only in employees.
Tsutsumi et al. 2005	Control group was added after intervention.

Appendix 4: Rating criteria and valuation basis for randomized controlled trials

Risk of bias was assessed by using the Revised Cochrane Tool for randomized trials (RoB 2), described in the Cochrane Handbook for Systematic Reviews of Interventions (Higgins et al. 2020). Following bias were added for cluster-randomized trails: (a) recruitment bias, (b) baseline imbalance, (c) loss of cluster, (d) incorrect statistical analysis, (e) comparability with individual randomized trials.

Cochrane risk-of-bias tool for randomized trials (RoB 2)		
Bias	***Signalling questions***	**Judgement**
Random sequence generation (selection bias)	*Was the allocation sequence random*?	**High risk:** No random element was used in generating the allocation sequence or the sequence is predictable. **Low risk:** Random component was used in the sequence generation process. **Unclear**: The only information about randomization methods is a statement that the study is randomized.
Allocation concealment (selection bias)	*Was the allocation sequence concealed until participants were enrolled and assigned to interventions?*	**High risk:** There is reason to suspect that the enrolling investigator or the participant had knowledge of the forthcoming allocation. **Low risk:** The trial used any form of remote or centrally administered method to allocate interventions to participants, where the process of allocation is controlled by an external unit or organization, independent of the enrolment personnel (e.g. independent central pharmacy, telephone or internet-based randomization service providers). **Unclear:** No information on allocation concealment.
Blinding of participants and personnel (performance bias) Only outcomes of employees (see document "study characteristics")	*Were participants aware of their assigned intervention during the trial?*	**High risk:** Participants were aware of their assigned intervention during the trail. **Low risk:** Participants were not aware of their assigned intervention during the trail. **Unclear**: No information.
Blinding of outcome assessment (detection bias) Only outcomes of employees (see document "study characteristics")	*Were outcome assessors aware of the intervention received by study participants?*	**High risk:** Outcome assessors were not blinded to intervention status, participant-reported outcome; knowledge of intervention status was likely to influence outcome assessment. **Low risk:** Outcome assessors were blinded to intervention status and it is unlikely to cause bias. **Unclear:** no information.

Incomplete outcome data (attrition bias) Only outcomes of employees (see document "study characteristics")	*Were data for this outcome available for all, or nearly all, participants randomized?*	**High risk:** High attrition rates, it is likely that missingness in the outcome depended on its true value. **Low risk:** Low attrition rates, it is unlikely that the result was biased by missing outcome data. **Unclear**: The trial report provides no information about the extent of missing outcome data.
Selective reporting (reporting bias)	*Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?*	**High risk:** Availability of unblinded outcome data to the trial investigators is not given. **Low risk:** Finalization of the analysis intentions must precede availability of unblinded outcome data to the trial investigators. **Unclear:** No study protocol available; unclear from the text.
cRCT: recruitment bias	Cochrane Handbook, Chapter 23.1.2	**High risk:** Participants decide to participate after randomization was done; randomization prior to recruitment; **Low risk:** Participants decide to participate before randomization was done; recruitment prior to randomization; supervisors and employees recruited at the same time. **Unclear:** Not specified in paper.
cRCT: baseline imbalance	*Did baseline differences between intervention groups suggest a problem with the randomization process?*	**High risk:** Imbalances are apparent. **Low risk**: No imbalances are apparent or if any observed imbalances are compatible with chance. **Unclear**: No useful baseline information available.
cRCT: loss of clusters	*Were data for this outcome available for all, or nearly all, participants randomized?*	**High risk**: Loss of cluster is therefore likely to have caused bias. **Low risk**: Loss of cluster is therefore unlikely to have caused bias. **Unclear**: No information.
cRCT: incorrect statistical analysis	Cochrane Handbook, Chapter 23.1.3	**High risk**: No adjustment for clustering of participants. **Low risk**: Adjustment for clustering of participants. **Unclear**: Not specified in the paper.
cRCT: comparability with RCTs	Cochrane Handbook, Chapter 23	**High risk:** Randomization ineffective. **Low risk:** Comparability is considered high, mostly when randomization is effective. **Unclear**: Unclear.
Overall risk of bias	RoB 2 Tool	**High risk:** The study is judged to be at high risk in at least one key domains. **Low risk:** The study is judged to be at low risk for all key domains. **Unclear:** The study is judged to raise some concerns in at least one key domain.

Appendix 5: Rating criteria and valuation basis of the risk of bias criteria for controlled before-after studies

Risk of bias was assessed by using the criteria developed by Cochrane Effective Practice and Organisation of Care (EPOC) (Cochrane Effective Practice and Organisation of Care 2017).

Cochrane Effective Practice and Organisation of Care (EPOC)		
Bias	***Signalling questions***	**Judgement**
Random sequence generation	*Was the allocation sequence adequately generated?*	**High risk**: Study design: Controlled before-after studies. **Low risk**: Random component in the sequence generation process is described. **Unclear**: Not specified in paper.
Allocation concealment	*Was the allocation adequately concealed?*	**High risk**: Study design: Controlled before-after studies **Low risk**: Unit of allocation was by institution, team or professional and allocation was performed on all units at the start of the study; or if the unit of allocation was by patient or episode of care and there was some form of centralized randomization scheme, an on-site computer system or sealed opaque envelopes were used. **Unclear**: Not specified in paper.
Baseline outcome measurements similar	*Were baseline outcome measurements similar?*	**High risk**: Baseline outcomes are not similar and are likely to influence outcome. **Low risk**: Baseline outcomes are similar and are not likely to influence outcome; no important differences were present across study groups. **Unclear**: Not specified in the paper
Baseline characteristics similar	*Were baseline characteristics similar?*	**High risk**: Baseline characteristics are not similar and are likely to influence outcome. **Low risk**: Baseline characteristics are similar and are not likely to influence outcome. **Unclear**: Unclear from the text.

Incomplete outcome data	*Were incomplete outcome data adequately addressed?*	**High risk**: Missing outcome data was likely to bias the results, no information about dropouts or study participants. **Low risk**: Missing outcome measures were unlikely to bias the results (e.g. the proportion of missing data was similar in the intervention and control groups or the proportion of missing data was less than the effect size i.e. unlikely to overturn the study result). **Unclear**: Not specified in the paper. Note: If "Unclear risk" or "High risk", but there is sufficient data in the paper to do an adjusted analysis (e.g. Baseline adjustment analysis or Intention to treat analysis) the criteria should be re scored as "Low risk".
Knowledge of the allocated interventions adequately prevented during the study	*Was knowledge of the allocated interventions adequately prevented during the study?*	**High risk**: Outcomes were not assessed blindly and could possible affect bias. **Low risk**: The authors state explicitly that the primary outcome variables were assessed blindly, or the outcomes objective, e.g. length of hospital stay. **Unclear**: Not specified in the paper.
Protection against contamination	*Was the study adequately protected against contamination?*	**High risk**: Allocation in only one community, institution or practice and it is likely that the control group received the intervention; **Low risk**: Allocation by community, institution or practice and it is unlikely that the control group received the intervention **Unclear**: Not specified in paper; communication between clusteres could have occurred.
Selective outcome reporting	*Was the study free from selective outcome reporting?*	**High risk:** Some important outcomes are subsequently omitted from the results. **Low risk:** Study protocol available, no evidence that outcomes were selectively reported (e.g. all relevant outcomes in the methods section are reported in the results section). **Unclear**: No study protocol, but all relevant outcomes in the methods section are reported in the results section.
Overall risk of bias judgement	*Based on RoB 2 Tool for (cluster)RCTs*	**High risk:** The study is judged to be at high risk in at least one key domains. **Low risk:** The study is judged to be at low risk for all key domains. **Unclear:** The study is judged to raise some concerns in at least one key domain.

Appendix 6: Risk of bias assessment of included studies

Angelo and Chambel 2013		
Bias	**Authors´ judgement**	**Support for judgement**
CBA: was the allocation sequence adequately generated	High risk	Judgement according to EPOC recommendations for CBAs.
CBA: was the allocation adequately concealed	High risk	Judgement according to EPOC recommendations for CBAs.
CBA: were baseline outcome measurements similar	Low risk	No significant differences (see Tab 1 in Angelo, 2013).
CBA: were baseline characteristics similar	Low risk	No significant differences between sociodemographic characteristics such as age and years of experience in the organization.
CBA: were incomplete outcome data adequately addressed	High risk	No information about dropouts or number of study participants in the beginning of the intervention.
CBA: was knowledge of the allocated interventions adequately prevented during the study	Unclear risk	No information about blinding of participants. Self-reported outcome.
CBA: was the study adequately protected against contamination	Low risk	Allocation was done by districts. Control group did not receive training.
CBA: was the study free from selective outcome reporting	Unclear risk	No study protocol available. But because all pre specified outcomes were reported, we consider bias to be low.

Barrech et al. 2018		
Bias	**Authors´ judgement**	**Support for judgement**
Random sequence generation (selection bias)	Unclear risk	The only information given is that supervisors were allocated randomly.
Allocation concealment (selection bias)	Unclear risk	No information.
Blinding of participants and personnel (performance bias)	Unclear risk	No information, if supervisors were allowed to tell whether they are in the intervention or control group.
Blinding of outcome assessment (detection bias)	Unclear risk	Self-reported outcome, unclear whether participants were blinded to their intervention status.
Incomplete outcome data (attrition bias)	High risk	Low return rates (randomized: 99 supervisors and 815 team members; analyzed: 24 supervisors and 79 team members). Supervisors named too high workload as main reason for discontinuing. Quote: “Third, since return rates were rather low, so were the sample sizes, which reduced the generalizability of our results.”
Selective reporting (reporting bias)	Unclear risk	No study protocol available. We consider bias to be high, because descriptive characteristics of the sample were only provided on team level, not on subordinates´ level. Also no data were reported on the effect of the intervention on subordinates´ level. Also no reporting about intervention effects of the control group.
cRCT: recruitment bias	High risk	Participants were randomized first and then decided whether they wanted to participate in the study.
cRCT: baseline imbalance	Low risk	No significant differences in relevant outcome measures (exhaustion tendency, anxiety, depression) at baseline.
cRCT: loss of clusters	High risk	Low return rates. 99 supervisors randomized; 24 supervisors analyzed; 13 supervisors from CG received training; only 4/47 supervisors allocated to CG were treated/analyzed as CG [quote] “to maximize statistical power”.
cRCT: incorrect statistical analysis	Unclear risk	Not specified in the paper.
cRCT: comparability with RCTs	High risk	Main problems occurred in randomization process.

Elo et al. 2014		
Bias	**Authors´ judgement**	**Support for judgement**
CBA: was the allocation sequence adequately generated	High risk	Judgement according to EPOC recommendations for CBAs.
CBA: was the allocation adequately concealed	High risk	Judgement according to EPOC recommendations for CBAs.
CBA: were baseline outcome measurements similar	Unclear risk	No information.
CBA: were baseline characteristics similar	High risk	Significant differences in balance characteristics were present. The intervention group consisted of more women and more participation days in the organizations stress management program.
CBA: were incomplete outcome data adequately addressed	High risk	No information about dropouts.
CBA: was knowledge of the allocated interventions adequately prevented during the study	Unclear risk	Not specified in paper whether study personnel or participants were blinded. Self-reported outcome.
CBA: was the study adequately protected against contamination	Unclear risk	Unclear from the text.
CBA: was the study free from selective outcome reporting	Unclear risk	No study protocol available. But because all pre specified outcomes were reported, we consider bias to be low.

Kawakami et al. 2006		
Bias	**Authors´ judgement**	**Support for judgement**
Random sequence generation (selection bias)	Low risk	Workplaces were randomly assigned using a random number table.
Allocation concealment (selection bias)	Unclear risk	No information.
Blinding of participants and personnel (performance bias)	Unclear risk	No information about blinding of participants or personnel.
Blinding of outcome assessment (detection bias)	Unclear risk	No information about blinding of supervisors or employees. Outcome measures were subjective and self-reported.
Incomplete outcome data (attrition bias)	Low risk	Quote: “Among these, 81 (95%) and 108 (95%) in the intervention group and control group, respectively, participated in both surveys at the baseline and three month follow-up.“
Selective reporting (reporting bias)	Unclear risk	No study protocol available. But because all pre specified outcomes were reported, we consider bias to be low.
cRCT: recruitment bias	Low risk	Randomization was done before recruitment, but nearly all (22/23) supervisors enrolled. This is why it is unlikely to have caused bias.
cRCT: baseline imbalance	Unclear risk	Imbalance exist but unclear if these imbalances caused bias. Quote: “There was a difference in characteristics of workers and some of job stressors at baseline.”
cRCT: loss of clusters	Low risk	One section chief died before follow-up. Loss of cluster is unlikely to have caused bias.
cRCT: incorrect statistical analysis	High risk	No adjustment for clustering of participants.
cRCT: comparability with RCTs	Unclear	

Kawakami et al. 2005		
Bias	**Authors´ judgement**	**Support for judgement**
Random sequence generation (selection bias)	Unclear risk	The only information given is that the section chiefs were assigned randomly.
Allocation concealment (selection bias)	Unclear risk	No information.
Blinding of participants and personnel (performance bias)	Low risk	Risk of bias is unclear. No information about blinding of trial personnel. Information about blinding of supervisors was available: Quote: "Supervisors in the intervention group were asked not to tell others about the training. Therefore, the possibility of any bias was slight. On the other hand, all supervisors worked in one building office. If supervisors in the intervention group had shared what they learned from the training with supervisors in the control group, the effects of the training would probably have been attenuated. This is also possible, but for the same reason above, it is unlikely."
Blinding of outcome assessment (detection bias)	Low risk	Outcome measures were subjective and self-reported. See explanation above for bias to be low.
Incomplete outcome data (attrition bias)	Low risk	Quote: "Among them, 90 (90%) and 90 (100%), respectively, participated in the first baseline survey of stress and mental health (before supervisor training), and 89 (89%) and 85 (94%), respectively, participated in the second survey at the 3-month follow-up. The numbers of subordinate workers who participated in both baseline surveys and follow-up were 82 (82%) and 84 (93%) in the intervention group and control group workers, respectively."
Selective reporting (reporting bias)	Unclear risk	No study protocol available. But because all pre specified outcomes were reported, we consider bias to be low.
cRCT: recruitment bias	Low risk	Randomization was done before recruitment, but eight of nine supervisors completed intervention and responded to the questionnaire. This is why it is unlikely to have caused bias.
cRCT: baseline imbalance	Unclear risk	Imbalance exist but unclear if these imbalances caused bias.
cRCT: loss of clusters	Low risk	Only one out of eight supervisors allocated to the intervention group did not attend the training program. Loss of cluster is therefore unlikely to have caused bias.
cRCT: incorrect statistical analysis	High risk	No adjustment for clustering of participants.
cRCT: comparability with RCTs	Unclear risk	

Lange and Rowold 2019		
Bias	**Authors´ judgement**	**Support for judgement**
CBA: was the allocation sequence adequately generated	High risk	Judgement according to EPOC recommendations for CBAs.
CBA: was the allocation adequately concealed	High risk	Judgement according to EPOC recommendations for CBAs.
CBA: were baseline outcome measurements similar	Low risk	No significant difference in relevant outcome measure at baseline.
CBA: were baseline characteristics similar	High risk	Significant differences in subordinates concerning age.
CBA: were incomplete outcome data adequately addressed	Low risk	Missing outcome measures were unlikely to bias the results.
CBA: was knowledge of the allocated interventions adequately prevented during the study	Unclear risk	Self-reported outcomes and not specified whether employees were blinded.
CBA: was the study adequately protected against contamination	Unclear risk	No information.
CBA: was the study free from selective outcome reporting	Unclear risk	No study protocol available. But because all pre specified outcomes were reported, we consider bias to be low.

Milligan-Saville et al. 2017		
Bias	**Authors´ judgement**	**Support for judgement**
Random sequence generation (selection bias)	Low risk	Managers were randomized by use of an online random sequence generator.
Allocation concealment (selection bias)	Low risk	Randomization process was performed by an independent research team.
Blinding of participants and personnel (performance bias)	Low risk	Quote: "Researchers and managers were not masked to the outcome of randomisation, but it is unlikely employees were aware of the research project or the condition to which their manager was allocated."
Blinding of outcome assessment (detection bias)	Low risk	Objective outcome, but unlikely that participants were aware of their intervention status.
Incomplete outcome data (attrition bias)	High risk	Incomplete outcome data is likely to have caused bias. Quote: "Furthermore, employees' sickness absence data were not available for 41 (48%) of 85 managers who consented to participate, because it was not possible to define which employees they managed.
Selective reporting (reporting bias)	Unclear risk	No study protocol available.
cRCT: recruitment bias	High risk	Participants were recruited after randomization was done. Quote: "Because of logistical reasons relating to the organizational planning of training, participants were randomized before consent and baseline information were obtained."
cRCT: baseline imbalance	Unclear risk	Demographic information of subordinates was not collected, only of managers.
cRCT: loss of clusters	High risk	Loss of cluster is likely to have caused bias. Quote: "44 (50%) of 88 participating managers (in the intervention group and the control group) completed the 6-month follow-up questionnaire."
cRCT: incorrect statistical analysis	Low risk	Adjustment for clustering of participants Quote: "Differences in the change in absences between the intervention and control groups were then assessed using linear regression with generalized estimating equations and robust SEs to adjust for clustering at the manager level."
cRCT: comparability with RCTs	Unclear risk	

Stansfeld et al. 2015		
Bias	**Authors´ judgement**	**Support for judgement**
Random sequence generation (selection bias)	Unclear risk	No information. We consider bias to be low because an independent statistician allocated participants. Quote: "Three workplace services were randomly allocated to the intervention and one to control by an independent statistician."
Allocation concealment (selection bias)	Low risk	Randomization was done by an independent statistician.
Blinding of participants and personnel (performance bias)	Low risk	Employees were blinded to whether their managers were in the intervention or control group. Outcome measures were subjective and self-reported
Blinding of outcome assessment (detection bias)	Low risk	Self-reported and objective outcomes and employees were blinded.
Incomplete outcome data (attrition bias)	High risk	Quote: "At follow-up 291 participants (69%, 95% CI 64% to 73%) completed the questionnaire of whom 284 had completed the WEMWBS, the primary end point. Follow-up rates per cluster varied from 59% to 77%. Baseline and follow-up sickness absence was available for 393 employees (93%, 95% CI 90% to 95%)"
Selective reporting (reporting bias)	Unclear risk	No study protocol available.
cRCT: recruitment bias	Low risk	Quote: "Employees gave informed consent to participate in the study prior to randomization."
cRCT: baseline imbalance	High risk	Imbalances are apparent. Employees in the intervention group had higher well-being scores at baseline. Therefore, it is likely that baseline imbalance has caused bias.
cRCT: loss of clusters	High risk	Only 21 mangers, out of 41 managers, were adhered to the intervention.
cRCT: incorrect statistical analysis	High risk	No adjustment for clustering of participants. Quote: "This analysis used a random effect model but did not adjust for the small number of clusters as the comparison was within rather than between clusters.."
cRCT: comparability with RCTs	Unclear risk	

Takao et al. 2006		
Bias	**Authors´ judgement**	**Support for judgement**
Random sequence generation (selection bias)	Unclear risk	The only information given is that the allocation was done randomly.
Allocation concealment (selection bias)	Unclear risk	No information.
Blinding of participants and personnel (performance bias)	High risk	Due to the nature of the study design, blinding was not possible. Also supervisors and employees, from both the intervention and control groups, often worked together.
Blinding of outcome assessment (detection bias)	High risk	Outcome measures were subjective and self-reported. Blinding was not possible.
Incomplete outcome data (attrition bias)	Low risk	Participation rate was very high, and almost all responses for the questionnaire were collected. Quote: "Regarding the pre-intervention survey, all subordinates (= 255) responded. A total of 250 responded to the post-intervention survey, as there were five subordinates (four in the intervention group and one in the control group) who were not able to respond due to sick leave or retirement. For the analyses of psychosocial distress, we excluded 24 subordinates (16 in the intervention group and eight in the control group) for whom information on age, occupation, or psychological distress was missing from the survey responses."
Selective reporting (reporting bias)	Unclear risk	No study protocol available. But because all pre specified outcomes were reported, we consider bias to be low.
cRCT: recruitment bias	Low risk	Participants were recruited before randomization was done.
cRCT: baseline imbalance	Unclear risk	Imbalance exist but unclear if these imbalances caused bias. Quote: "The intervention group was more engaged in blue-collar occupations (e.g. brewers) and was older than the control group. The intervention group had lower job demands and lower job control then the control group."
cRCT: loss of clusters	Low risk	Only one out of 24 supervisors allocated to the intervention group did not attend the education program. Loss of cluster is therefore unlikely to have caused bias.
cRCT: incorrect statistical analysis	High risk	No adjustment for clustering of participants.
cRCT: comparability with RCTs	Unclear risk	

Veloso-Besio et al. 2019		
Bias	**Authors´ judgement**	**Support for judgement**
CBA: was the allocation sequence adequately generated	High risk	Ouote: “The organization was going through a process of organizational change, which caused discomfort in several units. The experimental group consisted of the units that had generated the most resistance, as indicated by the human resources unit. The control group did not show problems. Judgement according to EPOC recommendations for CBAs.
CBA: was the allocation adequately concealed	High risk	Judgement according to EPOC recommendations for CBAs.
CBA: were baseline outcome measurements similar	Low risk	No statistically significant differences were found in job satisfaction nor life satisfaction.
CBA: were baseline characteristics similar	Low risk	Baseline characteristics are similar and are not likely to influence outcome.
CBA: were incomplete outcome data adequately addressed	Low risk	Missing outcome measures were unlikely to bias the results.
CBA: was knowledge of the allocated interventions adequately prevented during the study	Unclear risk	Self-reported outcomes. No information. We consider bias to be high because organization was going through structural change and control and training group worked in same hospital.
CBA: was the study adequately protected against contamination	Unclear risk	No information.
CBA: was the study free from selective outcome reporting	Unclear risk	No study protocol available. But because all pre specified outcomes were reported, we consider bias to be low.

Appendices References

Barling J, Weber T, Kelloway EK (1996) Effects of transformational leadership training on attitudinal and financial outcomes: A field experiment. JOURNAL OF APPLIED PSYCHOLOGY 81(6):827–832

Barrech A, Seubert C, Glaser J, Gündel H (2018) Can a workplace leadership intervention reduce job insecurity and improve health? Results from a field study. International archives of occupational and environmental health 91(5):547–557

Biggs A, Brough P, Barbour JP (2014) Enhancing work-related attitudes and work engagement: A quasi-experimental study of the impact of an organizational intervention. International Journal of Stress Management 21(1):43–68

Cochrane Effective Practice and Organisation of Care (EPOC) (2017) Suggested risk of bias criteria for EPOC reviews. epoc.cochrane.org/epoc-resources-review-authors. Accessed 02 October 2020

Dahinten VS, MacPhee M, Hejazi S, Laschinger H, Kazanjian M, McCutcheon A, Skelton-Green J, O'Brien-Pallas L (2014) Testing the effects of an empowerment-based leadership development programme: part 2 - staff outcomes. J Nurs Manag 22(1):16–28

Dimoff JK, Kelloway EK (2019) With a little help from my boss: The impact of workplace mental health training on leader behaviors and employee resource utilization. J Occup Health Psychol 24(1):4–19

DRKS00013635 (2018) "Leadership in Balance": evaluation of a prevention campaign on health-promoting leadership. http://www.who.int/trialsearch/Trial2.aspx?TrialID=DRKS00013635

Eklof Mats, Hagberg Mats (2006) Are simple feedback interventions involving workplace data associated with better working environment and health? A cluster randomized controlled study among Swedish VDU workers. Appl Ergon 37(2):201–210

Elo A-L, Ervasti J, Kuosma E, Mattila-Holappa P (2014) Effect of a leadership intervention on subordinate well-being. Journal of Mgmt Development 33(3):182–195

Gonzalez-Morales MG, Kernan MC, Becker TE, Eisenberger R (2018) Defeating abusive supervision: Training supervisors to support subordinates. J Occup Health Psychol 23(2):151–162

Gregersen S, Stein M, Vincent-Höper S, Johansson K, Krampitz H (2019) FÜHR´GESUND Evaluation einer Intervention zur gesundheitsförderlichen Führung in der KiTa — Abschlussbericht. https://www.bgw-online.de/DE/Arbeitssicherheit-Gesundheitsschutz/Grundlagen-Forschung/GPR-Medientypen/Downloads/BGW04-07-131-Fuehr-gesund.pdf?__blob=publicationFile. Accessed 12 February 2021

Hammer LB, Kossek EE, Anger WK, Bodner T, Zimmerman KL (2011) Clarifying work-family intervention processes: the roles of work-family conflict and family-supportive supervisor behaviors. JOURNAL OF APPLIED PSYCHOLOGY 96(1):134–150

Hammer LB, Truxillo DM, Bodner T, Pytlovany AC, Richman A (2019a) Exploration of the impact of organisational context on a workplace safety and health intervention. Work Stress 33(2):192–210

Hammer LB, Wan WH, Brockwood KJ, Bodner T, Mohr CD (2019b) Supervisor Support Training Effects on Veteran Health and Work Outcomes in the Civilian Workplace. JOURNAL OF APPLIED PSYCHOLOGY 104(1, SI):52–69

Higgins J, Thomas J, Chandler J, Cumpston M, Li T, Page M, Welch V (2020) Cochrane Handbook for Systematic Reviews of Interventions. www.training.cochrane.org/handbook

Ikegami K, Tahara H, Yamada T, Mafune K, Hiro H, Nagata S (2010) Effects of a mental health training program for manufacturing company managers. Journal of UOEH 32(2):141–153

Kajiki S, Izumi H, Hayashida K, Kusumoto A, Nagata T, Mori K (2017) A randomized controlled trial of the effect of participatory ergonomic low back pain training on workplace improvement. Journal of occupational health 59(3):256–266

Kawakami N, Kobayashi Y, Takao S, Tsutsumi A (2005) Effects of web-based supervisor training on supervisor support and psychological distress among workers: A randomized controlled trial. Prev Med 41(2):471–478

Kawakami N, Takao S, Kobayashi Y, Tsutsumi A (2006) Effects of web-based supervisor training on job stressors and psychological distress among workers: a workplace-based randomized controlled trial. Journal of occupational health 48(1):28–34

Ketelaar SM, Schaafsma FG, Geldof MF, Boot CRL, Kraaijeveld RA, Shaw WS, Bültmann U, Twisk J, Anema JR (2017) Employees' Perceptions of Social Norms as a Result of Implementing the Participatory Approach at Supervisor Level: Results of a Randomized Controlled Trial. J Occup Rehabil 27(3):319–328

Kmiec JJ (2010) A Study of the Effectiveness of a Pilot Training Program in an Organizational Setting: An Intervention for Work Engagement. Dissertation

Kossek EE, Thompson RJ, Lawson KM, Bodner T, Perrigino MB, Hammer LB, Buxton OM, Almeida DM, Moen P, Hurtado DA, Wipfli B, Berkman LF, Bray JW (2019) Caring for the elderly at work and home: Can a randomized organizational intervention improve psychological health? J Occup Health Psychol 24(1):36–54

Lange S, Rowold J (2019) Mindful leadership: Evaluation of a mindfulness-based leader intervention. Gruppe. Interaktion. Organisation. Zeitschrift für Angewandte Organisationspsychologie (GIO) 50(3):319–335

Milligan-Saville JS, Tan L, Gayed A, Barnes C, Madan I, Dobson M, Bryant RA, Christensen H, Mykletun A, Harvey SB (2017) Workplace mental health training for managers and its effect on sick leave in employees: a cluster randomised controlled trial. The lancet. Psychiatry 4(11):850–858

Odle-Dusseau HN, Hammer LB, Crain TL, Bodner TE (2016) The influence of family-supportive supervisor training on employee job performance and attitudes: An organizational work-family intervention. J Occup Health Psychol 21(3):296–308

Romanowska J, Larsson G, Eriksson M, Wikström B-M, Westerlund H, Theorell T (2011) Health effects on leaders and co-workers of an art-based leadership development program. Psychotherapy and psychosomatics 80(2):78–87

Stansfeld SA, Kerry S, Chandola T, Russell J, Berney L, Hounsome N, Lanz D, Costelloe C, Smuk M, Bhui K (2015) Pilot study of a cluster randomised trial of a guided e-learning health promotion intervention for managers based on management standards for the improvement of employee well-being and reduction of sickness absence: GEM Study. BMJ open 5(10):e007981

Takao S, Tsutsumi A, Nishiuchi K, Mineyama S, Kawakami N (2006) Effects of the job stress education for supervisors on psychological distress and job performance among their immediate subordinates: a supervisor-based randomized controlled trial. Journal of occupational health 48(6):494–503

Torp S (2008) How a health and safety management training program may improve the working environment in small- and medium-sized companies. J Occup Environ Med 50(3):263–271

Tsutsumi A, Takao S, Mineyama S, Nishiuchi K, Komatsu H, Kawakami N (2005) Effects of a supervisory education for positive mental health in the workplace: a quasi-experimental study. Journal of occupational health 47(3):226–235

Veloso-Besio C, Cuadra-Peralta A, Gil-Rodriguez F, Cuadra-Mira F, Ponce F, Sjoberg O (2019) Improving Life Satisfaction and Job Satisfaction Of Employees, Through An Intervention To The Supervisors. LIMITE-REVISTA DE FILOSOFIA Y PSICOLOGIA 14