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# Health-Related Interventions at Work: A Systematic Review

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## 0 Executive Summary

**Introduction:** Reducing stress at work is necessary and can be promising to foster health and well-being. Two approaches of interventions can be distinguished: Focusing on the person by changing appraisal, reaction, coping, or health behavior (optimizing stress appraisals and reactions), and focusing on work-conditions by changing work tasks, conditions or social relationships at work (optimizing exposure to adverse conditions and resources) (Semmer, 2006; Semmer & Zapf, 2004). While there is evidence for both approaches (e.g., person-oriented: LaMontagne, Keegel, Louie, Ostry, & Landsbergis, 2007; Richardson & Rothstein, 2008; work-oriented: LaMontagne, et al., 2008; Montano, Hoven, & Siegrist, 2014), it is not clear if these effects are similar in small and large organizations.

**Method:** The review included 77 studies, published between January 2012 and July 2015 that reported effects of person- and work-oriented interventions. Effect sizes derived of post intervention- and follow up-assessments were analyzed. The studies used Randomized Controlled Trials as well as quasi-experimental designs. By grouping effect sizes within similar outcomes and intervention categories, the effectiveness of different types of interventions in small and large organizations were compared.

**Results:** Mindfulness and relaxation interventions as well as skills at work-interventions were the most common interventions and both showed effectiveness regarding a variety of employee outcomes. Also, mindfulness and relaxation, skills at work-, and work-oriented interventions showed good effects at post-intervention follow up measurements, therewith showing some durability. Skills at work-interventions, Cognitive Behavioral Therapy, and work-oriented interventions seemed to be more effective in small- and medium-sized organizations than in large organizations. Based on current state of research, no conclusive results were found for health-related and informational interventions.

**Conclusion:** As previous research showed, person-oriented interventions showed consistent positive effects. The size of organizations matters with respect to work interventions. Lastly, the differentiating results also showed that with careful implementation, work-oriented intervention may have large effects.

# 1 Introduction

Reducing stress at work can be a promising approach to foster health and well-being. To reduce stress and enhance health and well-being we can distinguish between two approaches of interventions (Semmer, 2006; Semmer & Zapf, 2004):

1. Focusing on the person by changing appraisal, reaction, coping, or health behavior (optimizing stress appraisals and reactions).
2. Focusing on work-conditions by changing work tasks, conditions or social relationships at work (optimizing exposure to adverse conditions and resources).

While there is evidence for both approaches (e.g., person-oriented: LaMontagne, Keegel, Louie, Ostry, & Landsbergis, 2007; Richardson & Rothstein, 2008; work-oriented: LaMontagne, et al., 2008; Montano, Hoven, & Siegrist, 2014) it is not clear if these effects are similar in small and large organizations. It seems that there is a cautiously positive conclusion (Semmer, 2006) for work-related interventions having potential for positive effects, but still there are some null-findings and some negative findings in the field. A recent review on organizational-level interventions concluded that it might be beneficial to target more than one organizational-level modification at the time (Montano, Hoven, & Siegrist, 2014).

Research on person- versus work-oriented interventions revealed that person-related interventions seemed to show more positive evidence (e.g., van der Klink, Blonk, Schene, & van Dijk, 2001; Bamberg & Busch, 1996). To date, many prevention approaches are directed to a person's resources, stress management, and health behavior (Murphy & Sauter, 2004; Semmer, 2003). In sum, there is more evidence for person-oriented approaches but work-oriented interventions seem more complex (target complex social systems, different preferences and interests of people, trade-offs, side-effects, etc.) and both approaches revealed effects on well-being and health.

Another possible criterion on the effectiveness of interventions could be the organization size. Small- and medium-sized organizations are organizations with 1) less than 250 employees and 2) an annual sale to maximum 50 Million Euro or annual balance sheet with maximum 43 Million Euro (Bundesamt für Statistik, 2015). Corresponding to this large-sized organizations hire more than 250 employees and do have more annual sale or balance. There are several reasons why organization size may affect effectiveness of interventions: high participation and awareness may be less difficult to obtain in small-sized organizations and interventions can be designed for specific needs of a small group of employees.

We expect fewer studies on small-sized organizations than large-sized organizations because small-sized organizations may not have the presumed financial resources or the urgent need for an intervention (i.e. survival of the company is more important). Also small-size organizations pose several important difficulties for research, among them power problems and difficulties to gather a control group.

Referring to a research assignment by the Staatssekretariat für Wirtschaft (SECO) we conducted a systematic review including person- and work-oriented interventions at the workplace to image the

current state of research. Furthermore we took the organization size into account in order to investigate possible differences between small- and medium-sized organizations and large-sized organizations. Because there already is a lot of evidence in forms of reviews we updated the review conducted by Montano and colleagues (2014) with the exception of the organization size, which we added to their coding scheme. Besides replicating the Montano review (which only included work-oriented interventions), we also extended it by including person-directed interventions.

## 2 Methods

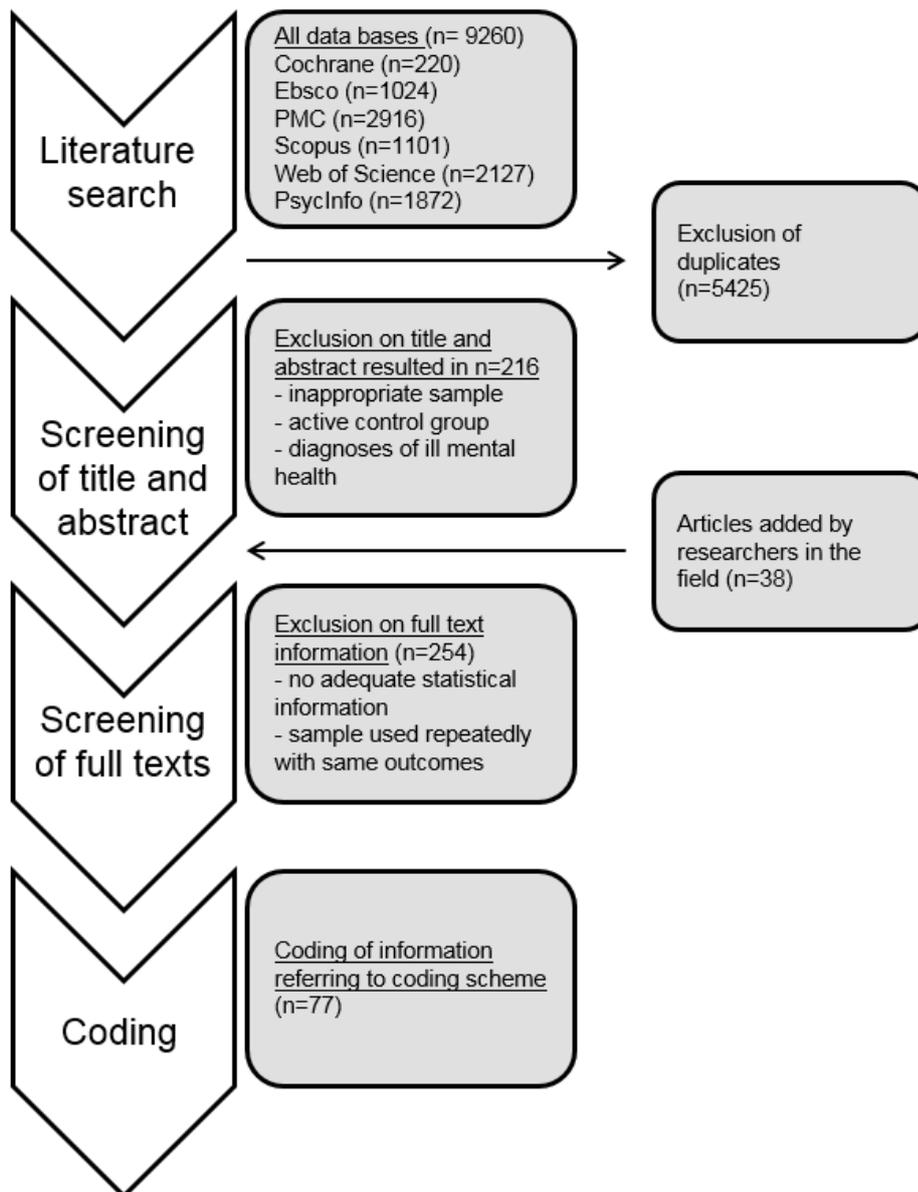
Since we aimed at updating the systematic review by Montano and colleagues (2014) who reported results of 39 intervention studies published between 1993 and 2012 we adopted their approach with minor modifications concerning coding categories and search strategy.

### 2.1 Search Strategy

We adapted the search strategy by Montano and colleagues (2014) using their search strings with only minor modifications. First we added some terms concerning lack of mental health (illness, fear, anxiety) and psychosomatic consequences (somatoform, psychosomatic, sleep, headache, dizziness, pain). Also we included more synonyms for organization (firm, company, enterprise, business). The intervention part we expanded for wellness, mindfulness, prevention, hardening and resistance in order to achieve more interventions. Further we added some NOT-terms in order to prevent irrelevant search results (e.g., surgery, poisoning). The following databases were searched for suitable studies: Business Source Premier (EBSCO), the Cochrane Library, Econlit (EBSCO), PubMed Central, PsycInfo, Scopus, and Web of Science. Search criteria have been (1) publication date between January 2012 and July 2015 in peer-reviewed journals, (2) written in English or German, and (3) reporting on effects of psychosocial interventions on health outcomes. The interventions had to be supported by the company in ways of initiation through company, implementation during working hours, or compensation of participants' potential expenses. Neither conference papers nor anthologies, dissertations, unpublished papers or book chapters were included in the review. The complete search queries are reported in Appendix 1.

Additionally, references from existing systematic reviews and meta-analyses on this topic were scanned and researchers in the field were approached to include any supplementary articles not found by the search. Two researchers independently screened each article regarding title and abstract. The initial search led to 5425 articles. Another 38 studies were added through reference lists and consulted researchers in the field. After screening of title and abstracts, only 216 studies fitted with the search criteria outlined above. An additional and more detailed screening was carried out looking for suitable information in terms of effect sizes or information from which we could derive effect sizes. Furthermore we checked each eligible study for study design, because we only included control-group designs with passive control-group, care-as-usual, waitlist-control-group or quasi-experimental designs. Studies were excluded, if participants had diagnoses of ill physical or mental health (related to DSM or ICD). Also two studies were excluded because they used the same sample repeatedly examining identical outcomes. The procedure of inclusion and exclusion of studies is imaged in Table 1.

Table 1 Flow of Search History



## 2.2 Coding

After the screening described above, a total of 77 studies met inclusion criteria and provided adequate statistical information on effect sizes. These articles were independently coded by two researchers using similar methods as used by Montano and colleagues (2014), including: number of participants, time lag to follow-up, occupation, country, study design (whether it is randomized controlled trial or quasi-experimental), level of evidence (three categories: low, medium, high; based on quality and study design), existence of intervention effect, and whether the targeted working conditions or the health outcomes have changed. Further, we coded calculation of effect sizes (within groups between pre and post intervention, or between groups post intervention and/or at follow up), intervention type, and size of organization. A post intervention-assessment means that participants were questioned

right after the intervention was completed. A follow up-assessment contains a time-lagged assessment and so includes longer-termed effects. Studies which applied follow up measurements (56%) usually measured 0.5 to 30 months after the intervention (mean time lag of 7.2 months). Due to the lack of small- and medium-sized organizations fulfilling all criteria of the definition (Bundesamt für Statistik, 2015) we decided to focus on the size criterion, taking less than 250 employees as a criterion for small- and medium-sized organizations. The majority of studied samples consisted of teachers and supportive staff. Studies not containing any information about the company size were separated. Authors of these studies were contacted in order to obtain the missing data. If we received no answer, we estimated the organization size comparing to those information we had with other studies. Organization size was coded as follows: 0= more than 249 employees, 1= less than 250 employees, 2=estimated less than 250 employees. For detailed information on all studies consult the tables in Appendix 2.

Cohen`s Kappa was calculated in order to show agreement between the raters ( $\kappa=0.89$ ). Again, after the independent coding disagreements between researches were resolved by reaching consensus after discussion.

## 2.3 Grouping of Interventions

Considering the diversity of the interventions implemented at the workplace and around, we divided our studies in 2 broad categories: person-oriented and work-oriented.

For the work-oriented interventions we used the same classification as used by Montano and colleagues (2014):

1. Material conditions. All sorts of physical and chemical agents implied in the execution of work tasks are included (e.g. vibrations, noise, chemical substances, ergonomics).
2. Work time-related conditions. These conditions relate to the amount of working time and intensity of work, the latter being measured as number of activities per time unit (e.g. work speed, shifts, deadlines, pace of work, breaks).
3. Work organization conditions. These include a variety of psychological and social factors (job demands, job control, efforts and rewards, responsibility, etc.), and processes and procedures required to accomplish work tasks (e.g. methods of work, order of tasks, team organization, structure of hierarchy, security guidelines training).

Due to the small number of intervention studies focusing on work conditions we merged them into one table.

For the person-oriented interventions we created a classification based on the respective intervention approach. The following categories were identified:

1. Mindfulness and relaxation interventions. This contains all interventions including Mindfulness Based Stress Reduction (MBSR), learning of relaxation techniques, Yoga, Quigong, and others which focused on reducing stress-related outcomes in the context of work.

2. Cognitive Behavioral Therapy (CBT). All programs based on Cognitive Behavioral Therapy were included.
3. Informational interventions. This category included all interventions focusing on the transfer of knowledge. Besides psychoeducational approaches interventions using feedback were obtained.
4. Skills at work-interventions. All studies focusing on change of personal skills at the workplace were involved. This group includes coping skills as well as communication trainings.
5. Health-related behavior-interventions. Physical and dietary approaches focusing mainly on enhancing health and decreasing health-related problems were included.
6. Others. This category especially encases all the mixed study designs, which include more than one intervention target. Commonly they combined person-oriented and work-oriented approaches. Furthermore we added such designs that didn't belong to any other category.

## 2.4 Analysis

In order to evaluate which intervention types are more effective for which outcome and for which organization size, we transformed statistical information into effect sizes, grouping them into tables depending on intervention category and outcome.

Consequently, we constructed four different kinds of tables. The first group contains studies investigating small-to-medium sized organizations subdivided for intervention category and outcome. The second group included studies concerning large-sized organizations subdivided for the same patterns. The third group included studies investigating estimated small-and-medium sized organizations or separated departments of organizations meeting the size criterion. The fourth group consisted of all studies summarized and subdivided for the same patterns.

### 3 Results

We reviewed 77 intervention studies which consisted of person-oriented (n=67) and work-oriented (n=10) interventions. An overall amount of 22680 participants were included in the review. In Table 2 the main characteristics of the studies are reported.

Table 2 Descriptive Statistics of Studies Reviewed

Variable	Number of studies
Organization size	
Small- and medium-sized	6
Large-sized	58
Estimated small- and medium-sized	13
Intervention type	
Work-oriented	10
Mindfulness/ relaxation	27
Cognitive Behavioral Therapy (CBT)	9
Skills at work	14
Informational	5
Others (mixed designs)	9
Health-related behavior	3
Study design	
Quasi-experimental	35
Randomized controlled	42
Measurement point	
Post intervention	66
Follow up	26
Significant intervention effects	
Yes	72
No	5
Country	
Australia	8
Canada	3
China	4
Denmark	4
Finland	3
Germany	5
Great Britain	4
India	1
Iran	5
Israel	1
Italy	2
Japan	4
Portugal	2

Sweden	4
The Netherlands	13
USA	13
NA	1
Occupation	
Hospital and health care staff	32
Various occupations	12
University staff and teachers	10
Construction and industry workers	6
Administrative staff	4
Police officers	3
Research and laboratory staff	2
Managers	2
Public sector workers	2
Human service staff	1
Fire fighters	1
Technology staff	1
Chemical industry workers	1

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*Note:* Small- and medium-sized: <250 employees, large-sized organizations: >249 employees, estimated small- and medium-sized organizations: estimated <250 employees.

Effects of different interventions at work were analyzed separately for different organization sizes. We grouped our analyses in four parts. First we explored the effect of different interventions on health- and work-related outcomes in small- and medium-sized organizations (Bundesamt für Statistik, 2015). Second, we examined the same relations in large organizations with more than 249 employees. In a third analysis we included all studies referring to samples of indistinct and so estimated size. In a fourth analysis we included all of the above studies irrespective of size.

Referring to our coding strategy, we divided each table in two kinds of columns: a white column presenting the post intervention-effect size, and a grey column presenting the effect size assessed at follow up.

In order to summarize the results and provide an overview of the evidence extractable from the intervention studies we formed groups integrating similar health- and work-related outcomes. We built these groups following the World Health Organizations definition (1992) of health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.” Because we were not able to merge our outcome variables in three categories we figured out additional groups by brainstorming. These groups are:

1. General health. This group included only general measures of health, which combined both mental or psychological and physical components (e.g., General Health Questionnaire by Banks et al. 1980; Goldberg 1980).
2. Perceived stress. As an integrating concept perceived stress, similar to general health, includes both physical and mental consequences (e.g., Perceived Stress Questionnaire by Levenstein et al., 1993).

3. Physical outcomes. Psychosomatic symptoms as well as change in hormones like cortisol are involved. Furthermore we included cardiovascular outcomes and musculoskeletal functioning.
4. Mental and cognitive outcomes. Mindfulness and resilience as much as worrying, irritability and detachment fit into that category. Further we included self-efficacy and goal setting as possible outcomes.
5. Emotional and motivational outcomes. All affective diseases like anxiety and depression were integrated. Further motivational processes like satisfaction, quality of life and rewards are included.
6. Burnout. Concerning all facets of Burnout measured predominantly with the Maslach Burnout Inventory MBI (Maslach, Jackson, & Leiter, 1996) and the Oldenburg Burnout Inventory OLB (Demerouti, Bakker, Vardakou, & Kantas, 2003).
7. Interpersonal outcomes. Regarding to all interactional processes like social support, fairness perceptions, perceived leadership and teamwork.
8. Work-related behavior. All behavioral outcomes as performance, sickness absence and intention to retire.
9. Work conditions. This category reflects the possibilities that employees have to affect their job like influence, decision latitude, and participatory management as well as environmental variables.

A completed list of variables included in the categories mentioned before is attached in Appendix 3. Since we replicated the review by Montano and colleagues (2014) we adapted their search strategy. Thereby it should be mentioned that pain and pain-related interventions were not included as a main focused topic. We only included pain in the context of back pain combined with health.

In the following we summarize our findings for all sizes of organizations. For more detailed results consult the tables in Appendix 4. We differentiated between large-sized effects (Cohen's  $d > 0.8$ ,  $r > 0.5$ ), medium-sized effects (Cohen's  $d = 0.5 - 0.79$ ,  $r = 0.3 - 0.49$ ), small-sized effects (Cohen's  $d = 0.2 - 0.49$ ,  $r = 0.1 - 0.29$ ), and no effects (Cohen's  $d < 0.2$ ,  $r < 0.1$ ). No effects means, that there was a study investigating the relationship, but the results showed no significant effect.

## 3.1 Small- and Medium-Sized Organizations

### 3.1.1 Mindfulness and Relaxation Interventions

We only had six effect sizes derived from mindfulness and relaxation interventions but we found consistent effects on perceived stress (medium to large), on emotional and motivational outcomes (medium to large), and on Burnout (small). All effects are derived from post intervention-assessments (see Table 6).

### **3.1.2 Cognitive Behavioral Therapy (CBT)**

Regarding CBT, we detected nine effects on physical outcomes (small to large) and six effects on mental and cognitive outcomes (medium to large) for both time points (post intervention and at follow up). For physical outcomes no effects could be found in two cases. For work-related behavior there was no effect at follow up but a small effect in the inverse direction (see Table 7).

### **3.1.3 Skills at Work-Interventions**

We found three small effects on perceived stress and three small to medium effects on physical outcomes. Also no effect was detected in five cases, and one small effect in the inverse direction. Small to medium sized effects were found for mental and cognitive outcomes (12) as well as burnout (eight; in one follow up case there was no effect). For emotional and motivational outcomes we found six small- to medium-sized effects, but in the majority no effect could be detected (eight cases). One effect pointed in the inverse direction. For work-related behavior we detected two small effects (no effect in one case).

All effects included post intervention- as well as follow up-assessments (see Table 8).

### **3.1.4 Work-Oriented Interventions**

Three large effects were found on emotional and motivational outcomes, from which one pointed in the inverse direction. Nine medium to large effects were detected for interpersonal outcomes. Also three small and large effects were found for the inverse direction.

Work conditions showed eight medium to large effects and four large effects for the inverse direction. All effects were based on post intervention-assessments (see Table 9).

## **3.2 Large-Sized Organizations**

### **3.2.1 Mindfulness and Relaxation Interventions**

We detected effects on all categories of outcomes. For general health we detected two medium to large effects and a small effect pointing in the inverse direction. We found 12 small to large effects (no effect found in one case) on perceived stress and a mixed pattern for physical outcomes: two studies reported a large effect, 13 reported small to medium effects, and 13 reported no significant effect. For mental and cognitive (11 effects) as well as emotional and motivational outcomes (23 effects) we found small to large effect sizes (no effect found in six cases per group). Further mental and cognitive outcomes showed one small effect for the inverse direction. For burnout (nine effects), interpersonal outcomes (three effects) and work conditions (three effects) we found small to large effects. Work-related behavior only showed one medium-sized effect. We also found one small inverse effect for work conditions.

Effects included post intervention-measurements as well as follow up-assessments (see Table 10).

### **3.2.2 Cognitive Behavioral Therapy (CBT)**

In two studies, CBT showed no effects on general health and perceived stress revealed small effects in two studies (no effect found in one case). Physical outcomes showed two small and medium effects but the majority (four) showed no effect and one large effect was in the inverse direction. Mental and cognitive outcomes included four small to large effects of which one small effect was inverse directed. Emotional and motivational outcomes showed three small to medium effects but the majority showed no effect (five cases) or pointed in the inverse direction (three cases). For burnout no effects were found in two cases. Work-related behavior only showed one medium and one large effect, whereas the majority (nine studies) showed no effect.

All effects included post intervention- as well as follow up-assessments (see Table 11).

### **3.2.3 Skills at Work-Interventions**

General health showed both one medium and one large effect. Similar, perceived stress showed three small and large effects. For physical outcomes two small effects could be found of which one pointed in the inverse direction. Mental and cognitive outcomes only showed one small effect. In three cases no effect could be found, one small and one large effect were in the inverse direction. Emotional and motivational outcomes showed six small to large effects, but the majority reached no effect (seven of 14), and one medium effect pointed in the inverse direction. For Burnout three small effects could be identified. In four cases no effect was found. Interpersonal outcomes revealed four large effects, whereas in five cases no effect was found. For work-related behavior two small effects (no effect in four cases) and for work conditions one small and one large effect (no effect in one case) were found. The effects consisted both of post intervention- and follow up-assessments (see Table 12).

### **3.2.4 Informational Interventions**

For physical outcomes a small effect was found (no effect in two cases). Mental and cognitive outcomes revealed small- to large-sized effects (no effect in five of 12 cases), whereas emotional and motivational outcomes only showed small- to medium-sized effects (no effect in two of 7 cases). Two large effects pointed in the inverse direction. Interpersonal outcomes only showed two medium effects for the inverse direction. Work-related behavior showed only one small effect, whereas two medium-sized effects were in the inverse direction (no effect in four cases).

All effects included post intervention- as well as follow up-assessments (see Table 13).

### **3.2.5 Others (Mixed Designs)**

Mixed interventions with both work- and person-oriented approaches showed a medium effect for general health and no effects for physical health in ten cases. For mental and cognitive outcomes only small effects were found (no effect in 18 of 26 cases), whereas 3 small effects were inverse directed. Emotional and motivational outcomes showed both medium to large effects and a small inverse

directed effect (no effect in 12 of 18 cases). Burnout revealed small to large effects (no effect in two of 8 cases), interpersonal outcomes only included small to medium effects, whereas one small effect was inverse directed (no effect in three of seven cases). Finally work-related behavior showed small to large effects and also small to medium inverse directed effects (no effect in 34 of 54 cases). The effects consisted both of post intervention- and follow up assessments (see Table 14).

### **3.2.6 Health-Related Behavior-Interventions**

This category includes almost no effects. Only for emotional and motivational outcomes one small effect was found. No effects were found in cases of general health, physical outcomes, also emotional and motivational outcomes, and work-related behavior (overall six of seven cases).

The effects consisted only of post-intervention assessments (see Table 15).

### **3.2.7 Work-Oriented Interventions**

For physical outcomes small- and large-sized effects were found (no effect in 8 out of 14 cases). Mental and cognitive outcomes revealed small- to large-sized effects (no effect in 1 of 7 cases), whereas emotional and motivational outcomes only showed one medium-sized effect (no effect in 5 cases). For Burnout no effect could be found. Interpersonal outcomes showed few small and large effects, whereas in 16 out of 19 cases no effect could be found. Work-related behavior showed only small effects, of which one was in the inverse direction (no effects in 10 of 14 cases). Work conditions revealed small- to medium-sized effects, of which one small effect was inverse directed (no effects in 14 of 22 cases).

All effects included post intervention- as well as follow up-assessments (see Table 16).

## **3.3 Organizations of Unclear Size that Are Supposed to be Small- and Medium-Sized Organizations**

### **3.3.1 Mindfulness and Relaxation-Interventions**

Compared to small- and medium- and large-sized organizations the pattern for mindfulness and relaxation-interventions is similar to the one for large-sized organizations. This is mainly based on the fact that there were only few studies for small- and medium-sized organizations. Effects were derived from post intervention- and follow up-assessments (see Table 17). For detailed information we added the tables in Appendix 4.

### **3.3.2 Cognitive Behavioral Therapy (CBT)**

Compared to small- and medium-sized and large-sized organizations the results for this group showed a different pattern. While we had good evidence for both of the other groups only few studies were included for the estimated small- and medium-sized organizations. The studies showed a medium

effect on perceived stress, a small effect on interpersonal outcomes, and a small inverse directed effect on general health for post intervention-assessments (see Table 18).

### 3.3.3 Skills at Work-Interventions

Compared to both of the other groups skills at work-interventions in this group showed the lowest amount of effects (six small- to large-sized out of 12). There were only studies examining mental and cognitive, emotional and motivational, interpersonal outcomes and burnout. Effect sizes were only based on post intervention-assessments (see Table 19).

### 3.3.4 Others (Mixed Designs)

Compared to large-sized organization this group showed a more spread pattern of effect sizes. Most effects were found on burnout but were in the hypothesized as well as in the inverse direction. Overall, also some studies revealed no effects (18 of 30 cases). Effects were based on post intervention- and follow up-assessments (see Table 20).

### 3.3.5 Health-Related Behavior-Interventions

Compared to large-sized organizations estimated small- and medium-sized organizations showed a similar pattern concerning effect sizes. Overall eight out of ten showed no effect. Only two small effects were found on mental and cognitive outcomes. Effects were based on post intervention- and follow up-assessments. It is important to mention that for both organization sized we only had few studies examining this type of intervention (see Table 21).

For overall patterns of effect sizes we added tables summarizing all sizes of organizations (small- and medium-, large-, and estimated small- and medium-sizes) in Appendix 4 (see Tables 22-28).

## 3.4 Integration of Results

To compare across interventions types, organization size, and direction of effects, we conducted Chi-square-tests. We aggregated different information about the studies. First we aggregated Mindfulness and relaxation interventions, Cognitive Behavioral Therapy, and skills at work-interventions all belonging to the category of person-oriented interventions. All work-oriented interventions were already merged. Second all small- and medium-sized just as the large-sized organizations were grouped together. Third we aggregated small-, medium-, and large-sized effects for the hypothesized direction as well as for the inverse direction.

Afterwards we compared person- and work-oriented interventions, interventions in small- and medium-sized versus large-sized organizations, and hypothesized, none, and inverse directed effects.

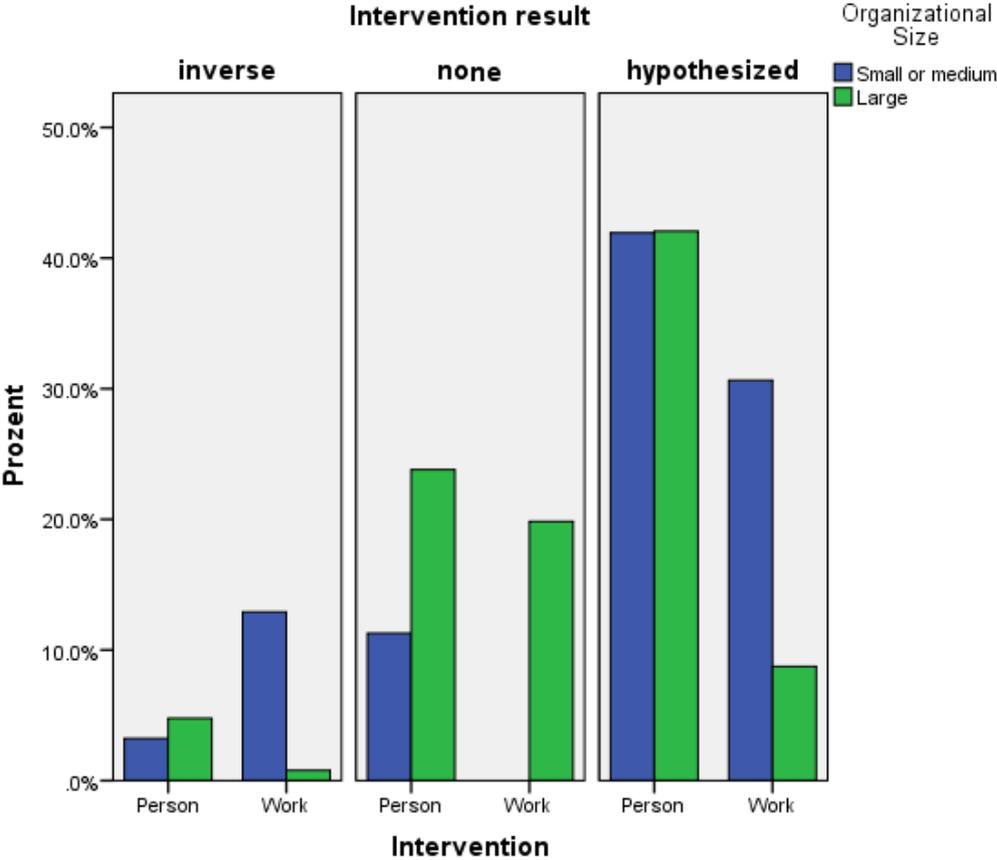
Chi-square-tests showed that for both small- and medium-, and large-sized organizations there were significant differences between person- and work-oriented interventions (small:  $\chi^2=10.837$ ,  $p=.004$ ;

large:  $\chi^2=24.415, p=.000$ ). The results were in favor of person-oriented interventions showing relatively more hypothesized effects and less inverse effects than work-oriented interventions.

Chi-square-tests also showed that for person-oriented interventions there is no difference in whether small- and medium-sized organizations or large-sized organizations found more hypothesized and less inverse effects. ( $\chi^2=2.819, p=.244$ ).

In contrast, for work-oriented interventions Chi-square-tests showed less inverse and more hypothesized effects in relation in favor of the small- and medium-sized organizations ( $\chi^2=40.779, p=.000$ ). This shows that person-oriented seem to be similar in effectiveness for both small- and medium-sized as well as large-sized organizations, while work-oriented interventions seem to be more effective for small- and medium-sized organizations. Figure 1 summarizes the finding of all Chi-square-tests conducted.

Figure 1 Intervention Results Separated for Effect, Intervention Type, and Organization Size



## 4 Discussion

The main research question addressed small- and medium-sized organizations: The number of intervention studies conducted in small- and medium-sized organizations fulfilling all criteria of the definition of the Bundesamt für Statistik (2015) was limited. Facing this obstacle we decided to include all organizations as small- and medium-sized if they fulfilled the size criterion of less than 250 employees. Also we included departments of organizations with less than 250 employees in cases where it was clear that the unit was separated from other departments. Thereby we reached a small amount of studies that we were able to include in this category. Interestingly, most studies in small-sized organizations consisted of teachers. This points to the need of more research on small-sized organizations, however, we acknowledge the challenges for research as well as these organizations. Among small-sized organizations, we found a clear picture for mindfulness and relaxation, showing small to large effects but no null or inverse effects. Among CBT interventions we also found small to large effects with some null and inverse direction effects. For work-interventions, the effects were small to medium, again with some null and a few small inverse effects. For work-oriented interventions the picture was diverse: there were medium to large effects in the hypothesized and in the inverse direction with majority being in the hypothesized direction. However, it is important to note that for mindfulness and relaxation, CBT, and work-oriented interventions we only found few studies which makes well-grounded and elaborate comparisons difficult. For large-sized organizations mindfulness and relaxation interventions seem to show the largest effects and most consistent results. In general, more studies are needed for health-related and informational interventions to evaluate their effectiveness.

Over the time span of 2.5 years (January 2012 to June 2015), we found 77 studies which included work- and person-directed interventions at the workplace and evaluated their effects on employees' health and well-being. We tried to counteract the large heterogeneity of the studies by categorizing interventions (mindfulness and relaxation interventions, Cognitive Behavioral Therapy, skills at work-interventions, informational interventions, health-related interventions, others, and work-oriented interventions) and outcomes (general health, perceived stress, physical outcomes, musculoskeletal complaints, mental and cognitive outcomes, emotional and motivational outcomes, burnout, interpersonal outcomes, work-related behavior, and work conditions). By analyzing the intervention studies we found that 72 out of 77 studies reported at least one significant effect of the intervention on a health- or work behavior-related outcome. Only five studies found no effect at all, which represents a very good rate compared to former reviews (La Montagne, Keegel, Louie, Ostry, & Landsbergis, 2007; Montano, Hoven, & Siegrist, 2014). Outcomes showing many hypothesized effects were especially mental and cognitive, and emotional and motivational outcomes. Overall, we included 671 effect sizes in the review of which 339 showed an effect in the hypothesized direction. 273 investigated relations revealed no significant effect size, whereas 59 effects pointed in the inverse direction (8.8%).

In particular, mindfulness and relaxation interventions were one of the two most commonly used intervention types and also seemed to be effective showing 78% effects in the hypothesized direction. They also reported an overall of 81% hypothesized small- to large-sized follow up-effects.

The second type of intervention, which was also investigated in many studies were skills at work-interventions (70% significant follow up-effects). Revealing an overall of 56% significant effects, this intervention type showed different patterns for small- and medium-sized than for large-sized organizations. In relation to the amount of effects there were more significant effects in small- and medium-sized organizations (67%) than for large-sized organizations (46%). For estimated small- and medium-sized organizations there were only few studies (12 effects).

Cognitive Behavioral Therapy showed an overall of 48% significant effects (and 48% significant follow up-effects). In relation of total amount of effects there were more significant effects in small- and medium-sized (79%) than in large-sized organizations (32%).

The similar pattern is shown for work-oriented interventions. In this category we found 111 effects of which 41% showed significance (50% significant follow up-effects). When separating for organization size, more effects were found for small- and medium-sized (70%) than for large-sized organizations (32%).

The mixed designs consisting of both person- and work-oriented approaches showed an overall of 154 effects of which only 29% showed significance (18% significant follow up-effects). No studies were conducted with small- and medium-sized organizations.

Health-related (18% significant effects overall, 33% significant follow up-effects) and informational interventions (39% significant effects overall, 33% significant follow up-effects) showed the smallest numbers of significant effects as well as overall effects.

According to long-term-effects the findings are similar to the ones for post intervention-assessments with mindfulness and relaxation and skills at work-interventions showing the most hypothesized significant effects for follow ups. Also work-oriented interventions showed a follow up-quote of 50%.

## 4.1 Practical Implications

Our findings showed that more person-directed than work-oriented interventions were conducted in the latest research period. A possible reason for this circumstance could be that work-oriented interventions are harder to implement than person-oriented interventions due to regulated work structure and working conditions and recent general economic circumstances. The fact that studies showed large effects in the hypothesized direction but as well in the inverse direction may be associated with individual preferences, pay-offs, and side effects. Not every intervention is suitable for all employees. If, for example, an intervention for the reduction of work-family-conflict is implemented, a single employee will not benefit in the way as an employee with a family will – and some may even become offended as attention goes away from their issues. Besides this, participating can induce increased workload, time pressure, and complexity for employees. Therefore, at least in the beginning, job stress may even increase. Also, interventions may be effective regarding one outcome but not another one, for example employees may not be more satisfied but health indicators show improvement.

Nevertheless, work-oriented interventions contribute to improved well-being and health and also work-related behavior in forms of large effects in the hypothesized direction. These types of interventions seemed to be more successful in small- and medium-sized organizations. This may reflect a bias in the sense that research with small- and medium-sized organizations is particularly difficult because they may be less likely to engage in an intervention, because of power issues often several comparable organizations are needed, and it may be difficult to find a suitable research design in a small- or medium-sized organization (e.g., problem to find a control group). On the other hand, this result may also show, that implementation of work-oriented interventions is to some extent easier in smaller organizations. This may be associated with better support from management, higher participation of employees, and higher awareness of intervention among management and employees. In addition, smaller organizations usually do not engage in several interventions or change projects at the same time. Therefore, employees may less likely be affected by previous intervention failures and are motivated to participate.

## 4.2 Limitations

Due to our search queries we are limited to those results found and the added articles of researchers in the field. Because we focused on psychosocial interventions the area of physical and health-management-intervention could maybe not be fully covered by our review. Further we did not include interventions focusing mainly on pain due to our search queries. Also some studies didn't provide full information on implementation, measurement and statistical information to derive effect sizes. We needed to exclude these studies due to the lack of information.

Another challenge was the breadth and heterogeneity of the interventions as well as the health- and behavior-related outcomes. By building categories we tried to simplify and summarize the findings of the studies. Thus results of this review should be interpreted and generalized only with caution because of that heterogeneity. There are more underlying factors influencing results of the interventions (e.g., acceptance by employees).

Since this was a replication of the review by Montano and colleagues (2014) we also adapted their inclusion criteria. Thus we only included articles published in peer-reviewed journals, and no thesis, dissertations, or unpublished material. This could lead to a publication bias. On the other side we included a broad range of interventions and variables reducing a selection bias.

Another fact to be mentioned is that the effect of interventions is researched more for some outcomes, and less for others. The majority of effects were investigated for mental and cognitive, and emotional and motivational outcomes providing good evidence. Opposite, more research on psychosocial interventions is needed for physical and musculoskeletal outcomes. Especially musculoskeletal complaints are of increasing importance (e.g., Melloh, Elfering, Chapple, Käser, Salathé, et al., 2013). A great amount of interventions was implemented among medical staff. This makes it more difficult to generalize our findings.

On the other side there are a many positive aspects concerning our review. First, we included a broad range of interventions. Also we collected a relatively large number of studies at all. Moreover it gives an overview over the studies in the field, showing areas which need to be further researched.

We also weighted the included studies for their methodological approach and study quality, and we coded for organization size which offers the possibility to compare the effectiveness of interventions in organizations of different size. Beyond we included international studies from all over the world to enable for international comparison. Another important fact is that we took follow up-assessments into account which enables to investigate long-term-effects.

### **4.3 Conclusion**

In face of the large number of different interventions included in this review we were able to give an overview of the current situation. Mindfulness and relaxation as well as skills at work-intervention showed consistent effects on well-being and health outcomes. Further, we were able to highlight that skills at work-, cognitive, and work-oriented interventions seemed to show more consistent effects in small- and medium-sized organizations than in large-sized organizations. Also, mindfulness and relaxation, skills at work-, and work-oriented interventions showed good effects at follow up, therewith showing some durability. Lastly, the differentiating results also showed that with careful implementation, work-oriented intervention may have large effects.

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## Appendix 1

### PMC (PUBMED)

((("health"[All Fields] OR ("subjective"[All Fields] AND "health"[All Fields]) OR ("health"[All Fields] AND ("manpower"[All Fields] OR "worker\*"[All Fields])) OR ("physical"[All Fields] AND "health"[All Fields]) OR ("mental"[All Fields] AND "health"[All Fields]) OR ("general"[All Fields] AND "health"[All Fields]) OR ("functioning"[All Fields] AND "health"[All Fields]) OR functioning[All Fields] OR functional limitations[All Fields] OR "absenteeism"[All Fields] OR ("sickness"[All Fields] AND "absence"[All Fields]) OR ("depressive"[All Fields] AND "disorder"[All Fields]) OR ("affective"[All Fields] AND "disorder"[All Fields]) OR depression[All Fields] OR "disease\*"[All Fields] OR cardiovascular[All Fields] OR ("cardiovascular"[All Fields] AND "disease\*"[All Fields]) OR ("heart"[All Fields] AND "disease\*"[All Fields]) OR coronary[All Fields] OR "stroke"[All Fields] OR (ischaemia[All Fields] OR "ischemia"[All Fields] OR "ischem\*"[All Fields]) OR myocard\* [All Fields] OR "hypertension"[All Fields] OR "obesity"[All Fields] OR diabetes[All Fields] OR "overweight"[All Fields] OR "cholesterol"[All Fields] OR musculoskeletal[All Fields] OR ("musculoskeletal"[All Fields] AND "disorder"[All Fields]) OR "blood pressure"[All Fields] OR ("back"[All Fields] AND "pain"[All Fields]) OR "disability"[All Fields] OR ("wound\*"[All Fields] AND "injur\*"[All Fields]) OR "injur\*"[All Fields] OR "wounds"[All Fields] OR ("work"[All Fields] AND ("accidents"[All Fields] OR "accidents"[MeSH Terms])) OR morbidity[All Fields] OR mortality[All Fields] OR burnout[All Fields] OR ("all-cause"[All Fields] AND "mortality"[All Fields]) OR illness[All Fields] OR fear[All Fields] OR anxi\*[All Fields] OR somatoform[All Fields] OR psychosomat\*[All Fields] OR sleep[All Fields] OR headache[All Fields] OR dizziness[All Fields] OR pain[All Fields]) AND ((("psychosocial"[All Fields] AND ("stress"[All Fields] OR "stressors"[All Fields] OR "risk"[All Fields] OR "conditions"[All Fields])) OR ("psychological"[All Fields] AND ("stress"[All Fields] OR "stressors"[All Fields])) OR "demand-control"[All Fields] OR ("support"[All Fields] AND work[All Fields]) OR ("demand"[All Fields] AND "control"[All Fields]) OR ("effort"[All Fields] AND "reward"[All Fields]) OR ("effort-reward"[All Fields] AND "imbalance"[All Fields]) OR ("organizational"[All Fields] AND "justice"[All Fields]) OR ("organisational"[All Fields] AND "justice"[All Fields]) OR ("strain"[All Fields] AND (work[All Fields] OR job[All Fields])) OR ("job"[All Fields] AND "task"[All Fields] AND "control"[All Fields]) OR ("work\*"[All Fields] AND "conditions"[All Fields]) OR "psychosocial"[All Fields] OR "workplace"[All Fields] OR "job\*"[All Fields] OR "downsizing"[All Fields] OR "overtime"[All Fields] OR "ergonomic"[All Fields] OR ((("physical"[All Fields] OR "chemical"[All Fields]) AND "hazard\*"[All Fields]) OR ((("night"[All Fields] OR "day"[All Fields]) AND "work"[All Fields]) OR ("occupation\*"[All Fields] AND "stress\*"[All Fields]) OR ("work\*"[All Fields] AND "characteristics"[All Fields])) AND (intervention[Title/Abstract]) AND ("management"[All Fields] OR "organization"[All Fields] OR "organisation"[All Fields] OR "firm"[All Fields] OR "company"[All Fields] OR "enterprise"[All Fields] OR "business"[All Fields] OR ("disease"[All Fields] AND "management"[All Fields]) OR ("health"[All Fields] AND "circles"[All Fields]) OR "amigo"[All Fields] OR ("primary"[All Fields] AND "intervention"[All Fields]) OR "prima-ef"[All Fields] OR ("health"[All Fields] AND "management"[All Fields]) OR ("return to"[All Fields] AND "work"[All Fields]) OR ("return-to"[All Fields] AND "work"[All Fields]) OR ("workplace"[All Fields] AND "health"[All Fields]) OR ("health"[All Fields] AND "promotion"[All Fields]) OR ("shift"[All Fields] AND "work"[All Fields]) OR ("psychosocial"[All Fields] AND "risk"[All Fields]) OR "risk management"[All Fields] OR "self-scheduling"[All Fields] OR ("flexible"[All Fields] AND "scheduling"[All Fields]) OR ("work"[All Fields] AND "schedule\*"[All Fields]) OR ("flexible"[All Fields] AND "work"[All Fields]) OR ("compressed"[All Fields] AND ("hour"[All Fields] OR "work"[All Fields])) OR ("compressed"[All Fields] AND "week"[All Fields]) OR ("flexible"[All Fields] AND "salary"[All Fields]) OR ("life"[All Fields] AND "balance"[All Fields]) OR ("work"[All Fields] AND "life"[All Fields] AND "balance"[All Fields]) OR ("life"[All Fields] AND "family"[All Fields]) OR ("reconciling"[All Fields] AND "work"[All Fields]) OR "employee\*"[All Fields] OR "employer\*"[All Fields] OR ("quality"[All Fields] AND "life"[All Fields]) OR "quality of life"[All Fields] OR OR wellness[All Fields] OR mindfulness[All Fields] OR prevention[All Fields] OR hardening[All Fields] OR resistance[All Fields]) OR ((("cognitive"[All Fields] AND "therapy"[All Fields]) AND "behavi\*"[All Fields])) AND ("2012"[PubDate] : "3000"[PubDate]) AND (((control[All Fields] OR condition[All Fields] OR comparison[All Fields] OR

intervention[All Fields] OR waiting[All Fields]) AND (group[All Fields] OR trial[All Fields] OR list[All Fields])) OR RCT[All Fields] OR random switched[All Fields] OR Solomon design[All Fields] OR staggered design[All Fields] NOT (cancer[Title/Abstract] OR oncology[Title/Abstract] OR amygdala[Title/Abstract] OR brain[Title/Abstract] OR surgery[Title/Abstract] OR infant[Title/Abstract] OR baby[Title/Abstract] OR tumor[Title/Abstract] OR tumour[Title/Abstract] OR tuberculosis[Title/Abstract] OR newborns[Title/Abstract] OR Alzheimer[Title/Abstract] OR demen\*[Title/Abstract] OR hippocamp\*[Title/Abstract] OR frontal[Title/Abstract] OR striatum[Title/Abstract] OR cadaver[Title/Abstract] OR Parkinson[Title/Abstract] OR HIV[Title/Abstract] OR \*plegia[Title/Abstract] OR Down's syndrome[Title/Abstract] OR Trisom\*[Title/Abstract] OR Asperger\*[Title/Abstract] OR learning disability[Title/Abstract] OR ADHD[Title/Abstract] OR birth\*[Title/Abstract] OR poisoning[Title/Abstract])

## SCOPUS

(TITLE-ABS-KEY(health AND (subjective OR mental OR physical OR general)) OR TITLE-ABS-KEY(manpower) OR TITLE-ABS-KEY(worker) OR TITLE-ABS-KEY(functioning AND health) OR TITLE-ABS-KEY(functioning) OR TITLE-ABS-KEY(functional AND limitations) OR TITLE-ABS-KEY(absenteeism) OR TITLE-ABS-KEY(sickness AND absence) OR TITLE-ABS-KEY(depressive AND disorder) OR TITLE-ABS-KEY(affective AND disorder) OR TITLE-ABS-KEY(depression) OR TITLE-ABS-KEY(disease) OR TITLE-ABS-KEY(cardiovascular AND disease\*) OR TITLE-ABS-KEY(heart AND disease) OR TITLE-ABS-KEY(coronary) OR TITLE-ABS-KEY(stroke) OR TITLE-ABS-KEY(ischem\*) OR TITLE-ABS-KEY(ischaemia) OR TITLE-ABS-KEY(myocard\*) OR TITLE-ABS-KEY(hypertension) OR TITLE-ABS-KEY(obesity) OR TITLE-ABS-KEY(diabetes) OR TITLE-ABS-KEY(overweight) OR TITLE-ABS-KEY(cholesterol) OR TITLE-ABS-KEY(musculoskeletal AND disorder) OR TITLE-ABS-KEY(blood AND pressure) OR TITLE-ABS-KEY(back AND pain) OR TITLE-ABS-KEY(disability) OR TITLE-ABS-KEY(wound) OR TITLE-ABS-KEY(injur\*) OR TITLE-ABS-KEY(work AND accidents) OR TITLE-ABS-KEY(accidents) OR TITLE-ABS-KEY(morbidity) OR TITLE-ABS-KEY(mortality) OR TITLE-ABS-KEY(burnout) OR TITLE-ABS-KEY(all-cause AND mortality) OR TITLE-ABS-KEY(illness) OR TITLE-ABS-KEY(fear) OR TITLE-ABS-KEY(anxi\*) OR TITLE-ABS-KEY(somatoform) OR TITLE-ABS-KEY(psychosomat\*) OR TITLE-ABS-KEY(sleep) OR TITLE-ABS-KEY(headache) OR TITLE-ABS-KEY(dizziness) OR TITLE-ABS-KEY(pain)) AND (TITLE-ABS-KEY(psychosocial AND (stress OR stressors OR conditions OR risk)) OR TITLE-ABS-KEY(psychological AND (stress OR stressors)) OR TITLE-ABS-KEY(demand-control) OR TITLE-ABS-KEY(support AND work) OR TITLE-ABS-KEY(work AND control) OR TITLE-ABS-KEY(effort AND reward) OR TITLE-ABS-KEY(effort-reward AND imbalance) OR TITLE-ABS-KEY(organizational AND justice) OR TITLE-ABS-KEY(organisational AND justice) OR TITLE-ABS-KEY(strain AND (work AND job)) OR TITLE-ABS-KEY(work\* AND conditions) OR TITLE-ABS-KEY(psychosocial) OR TITLE-ABS-KEY(workplace) OR TITLE-ABS-KEY(job\*) OR TITLE-ABS-KEY(downsizing) OR TITLE-ABS-KEY(overtime) OR TITLE-ABS-KEY(ergonomic) OR TITLE-ABS-KEY((physical OR chemical) AND hazards) OR TITLE-ABS-KEY((night OR day) AND work) OR TITLE-ABS-KEY(occupation\* AND stress) OR TITLE-ABS-KEY(work\* AND characteristics)) OR TITLE-ABS-KEY(resource) OR TITLE-ABS-KEY(resilienc\*) OR TITLE-ABS-KEY(autonomy) OR TITLE-ABS-KEY(variety) OR TITLE-ABS-KEY(decision latitude) OR TITLE-ABS-KEY(recognition) AND (TITLE-ABS-KEY(intervention\*) AND TITLE-ABS-KEY(work\*)) AND (TITLE-ABS-KEY(disease AND management) OR TITLE-ABS-KEY(health AND circles) OR TITLE-ABS-KEY(amigo) OR TITLE-ABS-KEY(primary AND intervention) OR TITLE-ABS-KEY(prima-ef) OR TITLE-ABS-KEY(health AND management) OR TITLE-ABS-KEY(workplace AND health) OR TITLE-ABS-KEY(health AND promotion) OR TITLE-ABS-KEY(shift AND work) OR TITLE-ABS-KEY(psychosocial AND risk) OR TITLE-ABS-KEY(risk management) OR TITLE-ABS-KEY(self-scheduling) OR TITLE-ABS-KEY(flexible AND scheduling) OR TITLE-ABS-KEY(work AND schedule\*) OR TITLE-ABS-KEY(reconciling AND work) OR TITLE-ABS-KEY(family AND life) OR TITLE-ABS-KEY(return to AND work) OR TITLE-ABS-KEY(return-to AND work) OR TITLE-ABS-KEY(flexible AND work) OR TITLE-ABS-KEY(flexibility) OR TITLE-ABS-KEY(compressed AND (hour OR work)) OR TITLE-ABS-KEY(compressed AND week) OR TITLE-ABS-KEY(flexible AND salary) OR TITLE-ABS-KEY(life AND balance) TITLE-ABS-KEY(work AND life AND balance) OR

TITLE-ABS-KEY(employee\*) OR TITLE-ABS-KEY(employer\*) OR TITLE-ABS-KEY(quality AND life) OR TITLE-ABS-KEY(quality of life) OR TITLE-ABS-KEY(cognitive AND (therapy OR behav\*)) OR TITLE-ABS-KEY(wellness) OR TITLE-ABS-KEY(mindfulness) OR TITLE-ABS-KEY(prevention) OR TITLE-ABS-KEY(hardening) OR TITLE-ABS-KEY(resistance)) AND (PUBYEAR > 2011 AND PUBYEAR < 3000 ) AND (((TITLE-ABS-KEY(control) OR TITLE-ABS-KEY(condition) OR TITLE-ABS-KEY(comparison) OR TITLE-ABS-KEY(intervention) OR TITLE-ABS-KEY(waiting)) AND (TITLE-ABS-KEY(group) OR TITLE-ABS-KEY(trial) OR TITLE-ABS-KEY(list))) OR TITLE-ABS-KEY(RCT) OR TITLE-ABS-KEY(random switched) OR TITLE-ABS-KEY(Solomon design) OR TITLE-ABS-KEY(staggered design)) AND (LANGUAGE(german) OR LANGUAGE (English) OR LANGUAGE(Dutch)) AND NOT (TITLE-ABS(cancer) OR TITLE-ABS(oncology) OR TITLE-ABS(amygdala) OR TITLE-ABS(brain) OR TITLE-ABS(surgery) OR TITLE-ABS(infant) OR TITLE-ABS(baby) OR TITLE-ABS(tumor) OR TITLE-ABS(tumour) OR TITLE-ABS(tuberculosis) OR TITLE-ABS(newborns) OR TITLE-ABS(Alzheimer) OR TITLE-ABS(demen\*) OR TITLE-ABS(hippocamp\*) OR TITLE-ABS(frontal) OR TITLE-ABS(stratum) OR TITLE-ABS(cadaver) OR TITLE-ABS(Parkinson) OR TITLE-ABS(HIV) OR TITLE-ABS(\*plegia) OR TITLE-ABS(Down's syndrome) OR TITLE-ABS(Trisom\*) OR TITLE-ABS(Asperger\*) OR TITLE-ABS(learning disability) OR TITLE-ABS(ADHD) OR TITLE-ABS(birth\*) OR TITLE-ABS(poisoning))

### **EBSCO (PsychInfo, Business Source Premier, Econlit)**

(TX (health AND (subjective OR mental OR physical OR general)) OR manpower OR worker OR (functioning AND health) OR functioning OR (functional AND limitations) OR absenteeism OR (sickness AND absence) OR (depressive AND disorder) OR (affective AND disorder) OR depression OR disease OR (cardiovascular AND disease) OR (heart AND disease) OR coronary OR stroke OR ischem OR ischaemia OR myocard OR hypertension OR obesity OR diabetes OR overweight OR cholesterol OR (musculoskeletal AND disorder) OR musculoskeletal OR (blood AND pressure) OR (back AND pain) OR disability OR wound OR injury OR (work AND accidents) OR accidents OR morbidity OR mortality OR burnout OR (all-cause AND mortality) OR illness OR fear OR anxi\* OR somatoform OR psychosomat\* OR sleep OR headache OR dizziness OR pain) AND (TX ((psychosocial AND (stress OR stressors OR conditions OR risk)) OR (psychological AND (stress OR stressors)) OR demand-control OR (support AND work) OR (work AND control) OR (effort AND reward) OR (effort-reward AND imbalance) OR (organizational AND justice) OR (organisational AND justice) OR (strain AND (work AND job)) OR (work AND conditions) OR psychosocial OR workplace OR job OR downsizing OR overtime OR ergonomic OR (hazard AND (physical AND chemical)) OR (work AND (night OR day)) OR (occupation AND stress) OR (work AND characteristics) OR resource OR resilienc\* OR autonomy OR variety OR decision latitude OR recognition)) AND (TX (disease AND management) OR (health AND circles) OR amigo OR (primary AND intervention) OR prima-ef OR (health AND management) OR (workplace AND health) OR (health AND promotion) OR (shift AND work) OR risk management OR self-scheduling OR (flexible AND scheduling) OR (work AND schedule) OR (reconciling AND work) OR (family AND life) OR (return-to AND work) OR (flexible AND work) OR flexibility OR (compressed AND (hour OR work OR week)) OR (flexible AND salary) OR (life AND balance) OR (work AND (life OR balance)) OR employee OR employer OR (quality AND life) OR (cognitive AND (therapy OR behavioral)) OR wellness OR mindfulness OR prevention OR hardening OR resistance)) AND ((TI intervention\*) OR (AB intervention\*)) AND (TX(((control OR condition OR comparison OR intervention OR waiting) AND (group OR trial OR list)) OR RCT OR random switched OR Solomon design OR staggered design)) NOT (TI/AB(cancer OR oncology OR amygdala OR brain OR surgery OR infant OR baby OR tumor OR tumour OR tuberculosis OR newborns OR Alzheimer OR demen\* OR hippocamp\* OR frontal OR striatum OR cadaver OR Parkinson OR HIV OR \*plegia OR Down's syndrome OR Trisom\* OR Asperger\* OR learning disability OR ADHD OR birth\* OR poisoning))

### **WEB OF SCIENCE (KNOWLEDGE)**

(TS=((health AND (subjective OR mental OR physical OR general)) OR manpower OR worker OR (functioning AND health) OR functioning OR (functional AND limitations) OR absenteeism OR

(sickness AND absence) OR (depressive AND disorder) OR (affective AND disorder) OR depression OR disease OR (cardiovascular AND disease) OR (heart AND disease) OR coronary OR stroke OR ischem OR ischaemia OR myocard OR hypertension OR obesity OR diabetes OR overweight OR cholesterol OR (musculoskeletal AND disorder) OR musculoskeletal OR (blood AND pressure) OR (back AND pain) OR disability OR wound OR injury OR (work AND accidents) OR accidents OR morbidity OR mortality OR burnout OR (all-cause AND mortality) OR illness OR fear OR anxi\* OR somatoform OR psychosomat\* OR sleep OR headache OR dizziness OR pain)) AND (TS=((psychosocial AND (stress OR stressors OR conditions OR risk)) OR (psychological AND (stress OR stressors)) OR demand-control OR (support AND work) OR (work AND control) OR (effort AND reward) OR (effort-reward AND imbalance) OR (organizational AND justice) OR (organisational AND justice) OR (strain AND (work AND job)) OR (work AND conditions) OR psychosocial OR workplace OR job OR downsizing OR overtime OR ergonomic OR (hazard AND (physical AND chemical)) OR (work AND (night OR day)) OR (occupation AND stress) OR (work AND characteristics) OR resource OR resilienc\* OR autonomy OR variety OR decision latitude OR recognition)) AND (TS=((disease AND management) OR (health AND circles) OR amigo OR (primary AND intervention) OR prima-ef OR (health AND management) OR (workplace AND health) OR (health AND promotion) OR (shift AND work) OR risk management OR self-scheduling OR (flexible AND scheduling) OR (work AND schedule) OR (reconciling AND work) OR (family AND life) OR (return-to AND work) OR (flexible AND work) OR flexibility OR (compressed AND (hour OR work OR week)) OR (flexible AND salary) OR (life AND balance) OR (work AND (life OR balance)) OR employee OR employer OR (quality AND life) OR (cognitive AND (therapy OR behavi\*)) OR wellness OR mindfulness OR prevention OR hardening OR resistance)) AND (TI=(intervention\*)) AND (TS=(((control OR condition OR comparison OR intervention OR waiting) AND (group OR trial OR list)) OR RCT OR random switched OR Solomon design OR staggered design)) NOT (TI=(cancer OR oncology OR amygdala OR brain OR surgery OR infant OR baby OR tumor OR tumour OR tuberculosis OR newborns OR Alzheimer OR Demen\* OR hippocamp\* OR frontal OR striatum OR cadaver OR Parkinson OR HIV OR \*plegia OR Down's syndrome OR Trisom\* OR Asperger\* OR learning disability OR ADHD OR birth\* OR poisoning))

## COCHRANE

((health AND (subjective OR mental OR physical OR general)) OR manpower OR worker OR (functioning AND health) OR functioning OR (functional AND limitations) OR absenteeism OR (sickness AND absence) OR (depressive AND disorder) OR (affective AND disorder) OR depression OR disease OR (cardiovascular AND disease) OR (heart AND disease) OR coronary OR stroke OR ischem OR ischaemia OR myocard OR hypertension OR obesity OR diabetes OR overweight OR cholesterol OR (musculoskeletal AND disorder) OR musculoskeletal OR (blood AND pressure) OR (back AND pain) OR disability OR wound OR injury OR (work AND accidents) OR accidents OR morbidity OR mortality OR burnout OR (all-cause AND mortality) OR illness OR fear OR anxi\* OR somatoform OR psychosomat\* OR sleep OR headache OR dizziness OR pain) AND ((psychosocial AND (stress OR stressors OR conditions OR risk)) OR (psychological AND (stress OR stressors)) OR demand-control OR (support AND work) OR (work AND control) OR (effort AND reward) OR (effort-reward AND imbalance) OR (organizational AND justice) OR (organisational AND justice) OR (strain AND (work AND job)) OR (work AND conditions) OR psychosocial OR workplace OR job OR downsizing OR overtime OR ergonomic OR (hazard AND (physical AND chemical)) OR (work AND (night OR day)) OR (occupation AND stress) OR (work AND characteristics) OR resource OR resilienc\* OR autonomy OR variety OR decision latitude OR recognition) AND ((disease AND management) OR (health AND circles) OR amigo OR (primary AND intervention) OR "prima-ef" OR (health AND management) OR (workplace AND health) OR (health AND promotion) OR (shift AND work) OR risk management OR self-scheduling OR (flexible AND scheduling) OR (work AND schedule) OR (reconciling AND work) OR (family AND life) OR ("return-to" AND work) OR (flexible AND work) OR flexibility OR (compressed AND (hour OR work OR week)) OR (flexible AND salary) OR (life AND balance) OR (work AND (life OR balance)) OR employee OR employer OR (quality AND life) OR (cognitive AND (therapy OR behavioural)) OR wellness OR mindfulness OR prevention OR hardening OR resistance) AND "intervention\*" AND (((control OR condition OR comparison OR

intervention OR waiting) AND (group OR trial OR list)) OR RCT OR random switched OR Solomon design OR staggered design) NOT (cancer OR oncology OR amygdala OR brain OR surgery OR infant OR baby OR tumor OR tumour OR tuberculosis OR newborns OR Alzheimer OR demen\* OR hippocamp\* OR frontal OR striatum OR cadaver OR Parkinson OR HIV OR \*plegia OR Down's syndrome OR Trisom\* OR Asperger\* OR learning disability OR ADHD OR birth\* OR poisoning)

## OID (PSYCINFO)

((health and (subjective or mental or physical or general)) or manpower or worker or (functioning and health) or functioning or (functional and limitations) or absenteeism or (sickness and absence) or (depressive and disorder) or (affective and disorder) or depression or disease or (cardiovascular and disease) or (heart and disease) or coronary or stroke or ischem or ischaemia or myocard or hypertension or obesity or diabetes or overweight or cholesterol or (musculoskeletal and disorder) or musculoskeletal or (blood and pressure) or (back and pain) or disability or wound or injury or (work and accidents) or accidents or morbidity or mortality or burnout or (all-cause and mortality) or illness or fear or anxi\* or somatoform or psychosomat\* or sleep or headache or dizziness or pain).af. and ((psychosocial and (stress or stressors or conditions or risk)) or (psychological and (stress or stressors)) or demand-control or (support and work) or (work and control) or (effort and reward) or (effort-reward and imbalance) or (organizational and justice) or (organisational and justice) or (strain and (work and job)) or (work and conditions) or psychosocial or workplace or job or downsizing or overtime or ergonomic or (hazard and (physical and chemical)) or (work and (night or day)) or (occupation and stress) or (work and characteristics) or resource or resilienc\* or autonomy or variety or decision latitude or recognition).af. and ((disease and management) or (health and circles) or amigo or (primary and intervention) or prima-ef or (health and management) or (workplace and health) or (health and promotion) or (shift and work) or risk management or self-scheduling or (flexible and scheduling) or (work and schedule) or (reconciling and work) or (family and life) or (return-to and work) or (flexible and work) or flexibility or (compressed and (hour or work or week)) or (flexible and salary) or (life and balance) or (work and (life or balance)) or employee or employer or (quality and life) or (cognitive and (therapy or behavioral)) or wellness or mindfulness or prevention or hardening or resistance).af. and intervention\*.ti. and (((control or condition or comparison or intervention or waiting) and (group or trial or list)) or RCT or random switched or Solomon design or staggered design).af. not (cancer or oncology or amygdala or brain or surgery or infant or baby or tumor or tumour or tuberculosis or newborns or Alzheimer or demen\* or hippocamp\* or frontal or striatum or cadaver or Parkinson or HIV or \*plegia or Down`s syndrome or trisom or asperger\* or learning disability or ADHD or birth\* or poisoning).af.

## Appendix 2

Identifier = First author and publication year. Designs: RCT = Randomized controlled trial, QE = Quasi-experimental, QE prospective = Quasi-experimental with control group. NA = not available or not applicable, FU= follow up, O= large-sized organization, 1= small- and medium-sized organization, 2=estimated small- and medium-sized organization

Table 3 Detailed Description of Studies Reviewed

Identifier	n baseline	n follow up	Follow up (months)	n control	Occupation	Country	Design	Evidence level	Effect	Effect calculation	Intervention type	Working conditions changed	Organization size
Aikens 2014	89	63	6	45	Employees in a chemical company	USA	RCT	medium	yes	between post	mindfulness	person	0
Altenhöner 2015	59	59	none	none	Shift workers in an industrial company	Germany	QE	low	yes	within pre-post	informational	person	0
Angelo 2013	104	104	none	37	Fire fighters	Portugal	RCT	medium	yes	between post	skills at work	work organization/ person	2
Arnetz 2013	75	75	18	38	Police Cadets	Sweden	RCT	medium	yes	between FU	relaxation	person	2
Ashley 2013	126	77	6	25	Teachers	England	RCT	high	yes	between post + FU	coping	person	1
Bazarko 2013	41	36	6	none	Nurses	USA	QE	low	Yes	within post + FU	mindfulness	person	2

Identifier	n baseline	n follow up	Follow up (months)	n control	Occupation	Country	Design	Evidence level	Effect	Effect calculation	Intervention type	Working conditions changed	Organization size
Bellé 2013	138	none	none	23	Nurses	Italy	RCT	medium	yes	between post	education/ leadership style/ self-persuasion	work organisation/ person	0
Bharadwaj 2013	50	none	none	25	Working woman from DAV Girls Degree College	India	QE prospective	low	yes	between post	yoga	person	2
Biggs 2014	853	368	none	222	Police Officers	Australia	QE prospective	medium	yes	between post	leadership style	person/ work Organization	0
Bolier 2014	266	203	6	188	Nurses and allied health professionals such as physiotherapists and radiotherapists	The Netherlands	RCT	medium	yes	between post + FU	CBT	person	0
Brady 2012	23	16	3	none	Psychiatric nurses, social workers, mental health technologists, psychiatrists, recreational therapists and health unit coordinators	USA	QE	low	yes	within pre-post	mindfulness	person	2
Cheema 2013	37	34	none	19	University staff (administrative staff, technical support, post-graduate students, academic staff & research staff	Australia	RCT	medium	yes	between post	yoga	person	0

Identifier	n baseline	n follow up	Follow up (months)	n control	Occupation	Country	Design	Evidence level	Effect	Effect calculation	Intervention type	Working conditions changed	Organization size
Cheng 2014	102	94	3	34	Nurses, physicians, occupational and physical therapists	China	RCT	high	yes	within post + FU	mindfulness	person	0
Chesak 2015	51	40	3	21	New nurses	USA	RCT	medium	yes	between FU	mindfulness	person	0
Clayton 2012	22	21	none	none	Junior-doctors	Australia	QE	low	yes	within pre-post	communication	person	0
Coffeng, Boot 2014	412	329	12	106	Financial office employees	The Netherlands	RCT	high	yes	between post + FU	social and/ or physical environmental change	work material	0
Coffeng, Hendriksen 2014	412	329	12	106	Office employees	The Netherlands	QE prospective	medium	yes	between FU	leadership behaviour/ physical environmental change	work material/ person	0
Dollard 2014	605	679	none	511	Employees of public sector organization	Australia	QE prospective	medium	yes	between post	participatory	organization	0
Ebert 2014	150	66	3 6	75	teachers	Germany	RCT		yes	between FU	coping	person	1
Elder 2014	40	40	none	20	Teachers and supported staff	USA	RCT	high	yes	between post based on change	mindfulness/ meditation	person	1

Identifier	n baseline	n follow up	Follow up (months)	n control	Occupation	Country	Design	Evidence level	Effect	Effect calculation	Intervention type	Working conditions changed	Organization size
										scores			
Foureux 2013	40	28	none	none	Nurses and Midwives	Australia	QE	low	yes	within pre-post	mindfulness	person	0
Garde 2012	299	297	12	183	Health care workers	Denmark	QE prospective	medium	no	between pre-post	shift schedules	time	0
Gaudine 2013	69	62	1	24	Nurses	Canada	RCT	medium	yes	between FU	feedback/ goal-setting	person	0
Geraedts 2014	231	125	6 12	115	Employees of 2 banking companies, 2 research institutes, a security company, and an university	The Netherlands	RCT	high	no	between post	coping/ CT	person	0
Gillespie 2014	227	120	6	6	Emergency department employees (nurses, social workers, child life specialists, and unlicensed assistive personnel)	USA	QE prospective	medium	yes	within pre-post	education	person	0
Goodman 2012	93	90	none	none	Health care providers	USA	QE	low	yes	within pre-post	mindfulness/ education	person	0

Identifier	n baseline	n follow up	Follow up (months)	n control	Occupation	Country	Design	Evidence level	Effect	Effect calculation	Intervention type	Working conditions changed	Organization size
Grégoire 2015	49	43	1,5	25	Call center agents, managers	Canada	RCT	medium	yes	between post	mindfulness/ meditation	person	0
Hansen 2015	840	785	12	347	Health care professionals and call center employees	Denmark	QE prospective	medium	yes	between post	self-rostering	time	1
Hasson 2014	1084	1084	6	none	Managers, professionals, technicians and office workers	Canada	QE	medium	no	within pre-post	participative	organization	0
Hirokawa 2012	91	55	none	44	Hospital staff	Japan	QE prospective	medium	yes	pre-post based on change scores	education/ coping/ relaxation techniques	person	0
Hosseina-badi 2013	56	40	none	23	Emergency medical staff	Iran	QE prospective	low	yes	between post	participatory/ education	organization/ person	0
Hülshager 2015	148	140	none	73	Clerks, hairdressers, merchants, consultants, kindergarten teachers, pedagogues, health care professionals, civil servants, police officers, nurses, managers HR-professionals, physicians, engineers, secretaries,	Germany	RCT (randomized field experiment)	medium	yes	correlation	mindfulness	recovery from work	0

Identifier	n baseline	n follow up	Follow up (months)	n control	Occupation	Country	Design	Evidence level	Effect	Effect calculation	Intervention type	Working conditions changed	Organization size
					salespersons, physiotherapists, athletic trainers, waiters and other								
Imamura 2015	850	592	6	381	Employees of an information technology company	Japan	RCT	high	yes	between post + FU	CBT	person	0
Jeffcoat 2012	236	117	none	115	Teachers	America	RCT	high	yes	between post	mindfulness	person	0
Jeon 2012	194	124	4	47	Healthcare personnel	Australia	QE prospective	medium	yes	between post + FU	other	organization/person	2
Kaspereen 2012	54	54	none	27	High school teachers and staff members	USA	RCT	medium	yes	between post	relaxation therapy	person	1
Ketelaar 2013	366	253	6	188	Nurses and allied health professionals	The Netherlands	RCT	high	no	between post + FU	CBT	person	0
Ketelaar 2014	128	128	none	none	Nurses and allied health professionals	The Netherlands	QE	low	yes	within pre-post	CBT	person	0
Kettunen 2015	371	206	12	33	Skilled employees: teaching, journalism, bank and insurance work Unskilled employees: kitchen, cleaning, and	Finland	QE prospective	medium	yes	between post + FU	physical activity	person	2

Identifier	n baseline	n follow up	Follow up (months)	n control	Occupation	Country	Design	Evidence level	Effect	Effect calculation	Intervention type	Working conditions changed	Organization size
					construction work								
Kimura 2015	196	136	3	99	Managers, engineers, and office workers	Japan	RCT	medium	yes	between post	CBT	person	0
Kjellgren 2014	65	65	none	28	Wide variation of occupational groups varying from managers, employers and employees in the retail industry	Sweden	RCT	medium	yes	within pre-post	mindfulness/ yoga	person	0
Koivu 2012	166	166	none	82	Registered nurses and assistant nurses	Finland	QE prospective	medium	yes	between post	work	organization	0
Lloyd 2013	100	100	none	57	Employees of government	Great Britain	RCT	medium	yes	between post	CBT	person	0
Ly 2014	73	73	1.5	37	Middle managers with staff responsibilities at a company in the private sector.	Sweden	RCT	medium	yes	between post	CBT	person	2
Malarkey 2013	186	170	12	93	University faculty and staff	USA	RCT	medium	yes	between post	mindfulness	person	0
Marx 2014	42	27	3	none	Health care professionals (nurses, ward managers, cognitive behavioural	Great Britain	QE	low	yes	within pre-post	mindfulness	person	0

Identifier	n baseline	n follow up	Follow up (months)	n control	Occupation	Country	Design	Evidence level	Effect	Effect calculation	Intervention type	Working conditions changed	Organization size
					therapists, healthcare assistants, occupational therapists, clinical or counselling psychologists, recovery support workers, trainee psychological wellbeing practitioners)								
Mazaheri 2012	88	84	none	44	Employees of a Steel Company	Iran	QE prospective	medium	yes	between post	relaxation	person	0
Michel 2014	412	191	0.5	204	Various occupations	Germany	Randomized waitlist control group design	high	yes	between post + FU	mindfulness	person	2
Moyle 2013	19	19	none	10	Nurses	Australia	RCT	medium	yes	between post	foot massage	person	0
Nooryan 2012	150	150	none	75	Nurses and physicians from intensive care units	Iran	Clustered RCT	medium	yes	between post	coping	person	0
Orly 2012	36	36	none	16	Nurses	Iran	RCT	medium	yes	between post	CBT	person	0

Identifier	n baseline	n follow up	Follow up (months)	n control	Occupation	Country	Design	Evidence level	Effect	Effect calculation	Intervention type	Working conditions changed	Organization size
Oude Hengel 2012	293	213	3 6 12	122	Construction workers	The Netherlands	RCT	high	yes	between post + FU	time	work	0
Oude Hengel 2013	291	213	3 6 12	121	Construction workers	The Netherlands	RCT (cluster randomization)	high	yes	between post + FU	time	work	0
Ouweneel 2013	878	86	none	225	Various occupations	The Netherlands	QE prospective	medium	yes	between post	mindfulness	person	0
Page 2013	50	23	6	30	Government employees	Australia	RCT	medium	yes	between post + FU	other	person	0
Palumbo 2012	14	11	none	7	Older nurses	USA	RCT	medium	yes	between post	Tai Chi	person	0
Pidgeon 2013	44	16	1 4	22	Human service professionals	NA	RCT	medium	yes	within pre-post + FU	mindfulness	person	2
Rajaratnam 2014	677	677	6	1404	Employees of three distribution centers; daily work: hard labor	USA	QE prospective	medium	yes	within pre-post	other	person	2
Roessler 2012	537	427	none	228	Laboratory technicians	Denmark	RCT	medium	yes	between pre-post	health-related behavior	person	2

Identifier	n baseline	n follow up	Follow up (months)	n control	Occupation	Country	Design	Evidence level	Effect	Effect calculation	Intervention type	Working conditions changed	Organization size
Saadat 2012	60	58	none	40	Anaesthesiology residents	USA	RCT	medium	yes	between post	coping	person	0
Saganha 2012	16	16	none	8	physiotherapists	Portugal	RCT prospective	medium	yes	between post	Quigong	person	0
Sharif 2013	56	52	1	27	Intensive care unit nurses	Iran	RCT	medium	yes	between post + FU	coping	person	0
Sørensen 2014	157	99	1.75	38	Employees of private engineering companies, of a negotiation department, municipality's financial department, and of a municipality's political secretariat	Denmark	QE prospective	medium	yes	within pre-post	participatory	work organization	0
Sprangers 2015	24	22	none	12	Nursing aides	The Netherlands	QE prospective	low	yes	between post	communication	person	2
Strijk 2013	730	500	12	363	Hospital staff	The Netherlands	RCT	high	no	between post + FU	others	person	0
Sun 2013	2768	1652	30	none	Employees of a retail enterprise (sales/marketing, clerical/administrative support,	China	QE	medium	yes	Pre-post	others	organization/person	0

Identifier	n baseline	n follow up	Follow up (months)	n control	Occupation	Country	Design	Evidence level	Effect	Effect calculation	Intervention type	Working conditions changed	Organization size
					middle- and top-level management, professional/ technical, first-level management and others)								
Thiart 2015	128	128	6	64	Teachers	Germany	RCT	medium	yes	between post + FU	CBT	person	1
Thorgensen-Ntounmani 2014	75	46	4	none	University employees	UK	QE	low	yes	between post	lunchtime walks	person	0
Uchiyama 2013	401	319	none	218	Nurses	Japan	QE prospective	medium	yes	between post	participatory	organization	0
Van Berkel 2014	257	233	12	128	Employees from research institutes	The Netherlands	RCT	high	no	between post + FU	mindfulness	person	0
Van den Heuvel 2015	86	39	none	47	Police officers	The Netherlands	QE prospective	low	yes	between post	job redesign (job crafting)	work-organization	0
Villani 2013	30	NA	none	15	Oncology nurses	Italy	QE prospective	low	yes	between post (based on change scores)	skills	person	0

Identifier	n baseline	n follow up	Follow up (months)	n control	Occupation	Country	Design	Evidence level	Effect	Effect calculation	Intervention type	Working conditions changed	Organization size
Von Thiele Schwarz 2015	202	NA	24	91	Nurse, assistant nurse, manager, physiotherapist, physician, medical secretary.	Sweden	QE prospective	medium	yes	between post + FU	participatory	organization	0
Vuori 2012	718	616	7	349	Employees in the public sector	Finland	QE prospective	medium	yes	between FU	coping	person	0
Zhang 2014	278	234	3	129	Marketing jobs, technical jobs, manufacturing jobs and administrative jobs	China	QE prospective	medium	yes	between post + FU	education	person	0
Zhu 2013	3344	1740	6	none	Rural-to-urban migrant workers	China	QE	medium	yes	within pre-post	educational	person	0

Identifier	n baseline	n follow up	Follow up (months)	n control	Occupation	Country	Design	Evidence level	Effect	Effect calculation	Intervention type	Working conditions changed	Organization size
Zohar 2014	364 (16 supervisors)	313	none	13 supervisors	Manufacturing workers	Israel	Randomized field study	medium	yes	between post	communication/feedback	person	0

Table 4 Detailed Description of Implementation and Results. Identifier= First Author and Publication Year.

Identifier	Implementation	Outcomes	Measures	Results
Aikens 2014	Mindfulness Based Stress Reduction Program including three parts. In the first part participants completed various mindfulness audio exercises, the second part consisted of a survey to assess the understanding of the exercises and the progress of the participants. Finally, customized texts were sent to participants.	mindfulness, perceived stress, resilience, vigor	Five Facets of Mindfulness Questionnaire, Perceived Stress Scale, Connor-Davidson Resilience Scale, Shirom Vigor Scale	Lower perceived stress and higher resiliency ( $d=0.685$ , $p<0.001$ and $d=0.623$ , $p<0.001$ ). Increases were found on all components of vigor including physical strength ( $d=0.301$ , $p=0.021$ ), cognitive liveliness ( $d=0.416$ , $p<0.001$ ), and emotional energy ( $d=0.427$ , $p=0.027$ ). More mindfulness (average $d=0.6128$ ). All compared to control group, after intervention.
Altenhöner 2015	Education about sleep and stress in groups of 8 to 12 persons including: how to better deal with stress, how stress influences sleep and how one can optimize its sleep pattern.	perceived health-related self-leadership, quality of life, perceived quality of sleep	Health Orientation Leadership Questionnaire, Short Form-8 Health Survey, Profile of Mood States	Positive changes on self-efficacy ( $M(SD) T_0= 3.35(1.04)$ ; $M(SD) T_1 = 3.68 (0.57)$ ; $T=-2.77$ , $p=0.083$ , $d=0.258$ ) and on behavioral health ( $M(SD)T_0=3.35 (1.04)$ ; $M(SD) T_1=3.60 (0.89)$ ; $T=-1.77$ , $p= 0.007$ , $d=0.333$ ). Furthermore better sleep quality ( $d=0.319$ ), psychological quality of life ( $d=0.141$ ), and higher vitality (affective, $d=0.261$ ) were found. No effect for mindfulness and physical quality of life.
Angelo 2013	3-days training with educational and action part: Stress and its behavioural, physiological and psychological impact, importance of occupational health in everyday scenarios and critical interventions, coping strategies, adaptive and promoters of psychological well-being, managing impact of incidents, role of support.	demands, social support of colleagues and supervisors, burnout, engagement	Portugese Rescue Mission Firefighters- Professional Demands Scale, Job Content Questionnaire, Maslach Burnout Inventory,	Chronic demands ( $d=0.608$ ) and acute demands ( $d=0.4$ ) increased compared to control group, social support from supervisors ( $d=0.279$ ) increased. Vigor (engagement, $d=0.13$ ) and emotional exhaustion ( $d=0.127$ ) increased compared to control.

Identifier	Implementation	Outcomes	Measures	Results
	Mixed problem-solving teams to design and implement action plans to manage stressful situations.		Utrecht Work Engagement Scale	No effect for dedication (engagement) and cynism (BO).
Arnetz 2013	A presentation was given followed by a discussion to enhance knowledge about the theory of stress and the impact of stress on health and performance, followed by teaching a variety of relaxation techniques to reduce anxiety in stressful situations.	somatic symptoms, coping, mental well-being, sleep quality, exhaustion, blood hormone	Bodily Symptom Scale, 3-item measure of coping, General Health Questionnaire, Karolinska Institute Sleep Questionnaire, Appels Maastricht Questionnaire to measure exhaustion, Blood hormone sampling (prolactin, cortisol, DHEA)	Increase in coping skills (d=0.943), vital exhaustion (d=0.594), GHQ (d=0.343), sleep (d=0.516). Decrease in cortisol (d=0.371), bodily symptoms (d=0.307) and gastric pain (d=0.435). No effects for cardiovascular complaints, gastric symptoms, prolactin and DHEA. All compared with control group.
Ashley 2013	An intervention was implemented in which participants had to write about stressful or traumatic experiences (written emotional disclosure intervention). The study included three conditions, the first was normal written emotional disclosure, and the second was written disclosure including writing about one stressful or traumatic event. The third included written emotional disclosure about stressful or traumatic events related to work.	psychological health, physical health, job satisfaction	Intervention fidelity, benefit expectancies, Brief Symptom Inventory (BSI), Pennebaker's Inventory of Limbic Languidness, job satisfaction	Psychological health (affective) increased in group 3 (d=0,657) post treatment, and in group 1 (d=0,13) and 3 (d=0,369) at follow up. Physical health increased in group 2 (d=0.146) and 3 (d=0.397), and decreased in group 1 (d=0.25) post treatment. It also increased in group 1 (d=0,15) and 3 (d=0,555) at follow up. Job satisfaction decreased in group 2 (d=0,158) and 3 (d=0,406) post treatment, and increased in all groups (d=0.174/0.184/0.394) at follow up. No other effects found.

Identifier	Implementation	Outcomes	Measures	Results
Bazarko 2013	Mindfulness-Based Stress Reduction was delivered by an experienced instructor and involved: a full-day-in-person retreat at the beginning of the 8-week program, 6 weekly 1.5 hour group teleconference calls at a regularly scheduled day and time, email contact with the instructor between sessions and a full-day retreat at the end of the program.	perceived stress, burnout, physical and mental health, spirituality and well-being, empathy, self-compassion	Perceived Stress Scale, Copenhagen Burnout Inventory, SF-12v2 Health Survey, Brief Serenity Scale, Jefferson Scale of Physician Empathy, Self-Compassion Scale	<p>Results between baseline and post treatment: Lower perceived stress (t=6,39, p&lt;0.001, d=1,226), lower burnout (personal d=0,981, work d=0,674, client d=0,308) higher general health (t=2.58, p&lt;0.05, d=0,377), higher lack of bodily pain (d=0,289), higher vitality (t=4,6, p&lt;0.001, d=0,896), higher social functioning (t=4.12, p&lt;0.001, d=0,723), higher role emotional (t= 5.56, p&lt;0.001, d=0,967), higher mental health (t=8.12, p&lt;0.001, d=1,564), higher serenity (d=1,491), higher empathy (d=0,765), Higher scores on all self-compassion scales (d&gt;0,871).</p> <p>No effects on physical functioning, role physical.</p> <p>Results between baseline and FU: Lower perceived stress (t=6,39, p&lt;0.001, d=1,221), lower burnout (personal d=1,063, work d=1,008, client d=0,386) higher general health (t=2.58, p&lt;0.05, d=0,588), higher physical functioning (d=0,208), higher role physical (d=0,201), higher lack of bodily pain (d=0,381), higher vitality (t=4,6, p&lt;0.001, d=0,849), higher social functioning (t=4.12, p&lt;0.001, d=0,873), higher role emotional (t= 5.56, p&lt;0.001, d=1,13), higher mental health (t=8.12, p&lt;0.001, d=1,686), higher serenity (d=1,623), higher empathy</p>

Identifier	Implementation	Outcomes	Measures	Results
				(d=0,657), Higher scores on all self-compassion scales (d>1,039).
Bellé 2013	Beneficiary contact and self-persuasion intervention; 6 groups: control (welcome and short video), transformational leadership (15 min talk, enthusiasm, practical tips), beneficiary contact (15 min meeting with former patient), combined transformational leadership and beneficiary contact, self-persuasion (control + 30 min brainstorming how efforts influence patients who receive kits), combined transformational leadership and self-persuasion (+ speech); different sessions for groups.	performance, perceived pro-social impact, public service motivation	Surgical kits correctly assembled, 3 PPSI-items by Grant (2008), Perry's original questionnaire	No effects for public service motivation for 5 intervention groups compared to control. Only transformational leadership (d=0,126) and mixture with self-persuasion (d=0,108) had really small effects on intrinsic motivation (no effects for 3 other groups). Medium to large effects in performance for TL (d=0,542), BC (d=0,93), TLxBC (d=2,29), SP (d=0,803) and TLxSP (d=2,211).
Bharadwaj 2013	60 minute yoga intervention for a duration of 45 days	physical variables	Systolic blood pressure, Diastolic blood pressure, Alpha electroencephalograph level	Higher systolic blood pressure (t=6.86, p<0.01, d=1,858), higher diastolic blood pressure (t=5.33, p<0.01, d=1,57) and higher EEG level (t=4.77, p<0.01, d=1,731) compared to control group after treatment. (blood pressure was to low in the beginning)

Identifier	Implementation	Outcomes	Measures	Results
Biggs 2014	<p>Leadership-development intervention: The program aimed to support leaders in developing effective leadership styles and behaviors. Specific topics included education about leadership styles (e.g., transformational leadership), effective communication, and strategic leadership. First, a 360° review process was completed and second, action-learning workshops were conducted over five days including theoretical training (on the topics mentioned above) and practical resources to enhance leadership capabilities. Finally, participants (leaders) received three individual coaching sessions, which were conducted by an external facilitator.</p>	<p>job demands, perceptions of work culture support, perceived supportiveness and effectiveness of leadership, work engagement, job satisfaction, psychological strain, turnover intentions</p>	<p>Job demands (Wall, Jackson, &amp; Mullarkey, 1995), strategic alignment (Biggs et al., in press), individual perceptions of work-culture support (Gracia, 2007), individual perceptions of organizational leadership (Gracia, 2007), job satisfaction (Warr, Cook, &amp; Wall, 1979), Utrecht Work Engagement Scale (UWES; Schaufeli, Bakker, &amp; Salanova, 2006), 3 items on turnover intentions (Brough, &amp; Frame, 2004), General Health Questionnaire (GHQ-12, Goldberg, 1972).</p>	<p>Small effects on work engagement (d=0,169) and turnover intention (d=0,197) in favour of treatment group. Small effect on supportive leadership (d=0,172) in favour of control group. No effects for job demands, work-culture support, job satisfaction and psychological strain.</p>

Identifier	Implementation	Outcomes	Measures	Results
Bolier 2014	Workers' health surveillance (WHS) module that offers screening, tailored feedback and online interventions targeting positive mental health and mental health complaints was implemented. Based on the screening, participants were offered the following online courses : Psyfit, a course aimed at enhancing well-being and mental fitness, based on principles stemming from positive psychology, cognitive behavioural therapy and mindfulness; colour your life (tackling depressive symptoms based on CBT); strong at work (reducing stress, how to cope); don't panic online (reducing panic symptoms); drinking less (reduction of risky drinking).	positive mental health, work engagement, well-being, anxiety, depression	Mental Health Continuum-Short Form, Utrecht Work Engagement scale, WHO-5, Brief symptom inventory	Post treatment: Large effects on positive mental health (enhanced, d=0,541), small effects on work engagement (enhanced, d=0,242), small effect on well-being (d=0,195). No effects on depression and anxiety. All effects in favour of treatment group. Follow Up: Large effects on positive mental health (enhanced, d=0,456), small effects on work engagement (enhanced, d=0,141), depression (decreased, d=0,208), and anxiety (decreased, d=0,176). All effects in favour of treatment group. No effects on well-being.
Brady 2012	Mindfulness-based Stress Reduction: Learning and practising meditation, didactic presentations, group discussions, and homework assignments. Formal meditation utilized sitting meditation, with posture and breathing exercises emphasized. Informal meditation included applying mindfulness to activities in daily life such as driving or eating.	stress, mindfulness practise, burnout, intrapersonal presence	Mental Health Professionals Stress Scale, Sense of Self Scale, Toronto Mindfulness Scale, Maslach Burnout Inventory	Small decrease in depersonalization (d=0,237), medium decrease in emotional exhaustion (d=0,508). Small increase in personal accomplishment (d=0,296). Medium increase in sense of self (d=0,551) and mindfulness (d=0,661). Medium to large decrease in stress levels (d=0,722).

Identifier	Implementation	Outcomes	Measures	Results
Cheema 2013	Three times per week <i>hatha</i> yoga during lunch hour at their place of work led by an experienced instructor in a group-based setting.	HRV (heart rate variability), heart rate, musculoskeletal fitness, psychological health status, state anxiety, job satisfaction	procedures developed by the Task Force for Pacing and Electrophysiology (1996), procedures outlined by the American College of Sports Medicine (2010), The Medical Outcomes Trust Short-form 36 Health Status Questionnaire (SF36; Stewart, Hays, & Ware, 1998), State-Trait Anxiety Inventory (STAI; Spielberger, & Reheiser, 2004), Job Descriptive Index (JDI), Job in General (JIG) scale	Small effect on 3 effects of heart rate (d=0,222-0,336), medium effects on 2 measures of heart rate (d=0,501-0,765), no effect on 3 measures. Medium effects on sit and reach (d=0,479) and side bridge (d=0,555) as measures of musculoskeletal fitness. 3 <sup>rd</sup> measure (push-ups) had no effect. Very small to small effects on mental health (d=0,108), physical health (d=0,153) and trait anxiety (d=0,259). Medium effect on state anxiety (d=0,545), no effect on job satisfaction. All effects in favor of treatment group.
Cheng 2014	Diary intervention. Participants wrote about work-related events twice a week for four weeks. In the gratitude condition participants received the instruction to write about thankful events that happened during the work day. In the hassle condition, participants had to write about negative events (events that made them angry/ annoyed).	perceived stress, depression	Chinese version of the Center of Epidemiologic Studies-Depression Scale, Chinese version of the Perceived Stress scale	Gratitude lowered depressive symptoms (d = -0,49 at follow up) and perceived stress (d=0,7 post treatment and d=0.95 follow up). No effect on depressive symptoms at post treatment.

Identifier	Implementation	Outcomes	Measures	Results
Chesak 2015	Stress management and resiliency training program (SMART). An investigator presented a model of stress and resilience, integrating neuroscience and biology. Based on this model, mind-body approaches to managing stress were discussed, including developing intentional attention and practicing gratitude, compassion, acceptance, forgiveness, and higher meaning. A follow-up session was offered to address individual questions. Participants also received biweekly handouts on each of the topics via email.	stress, mindfulness, anxiety, resilience	Perceived Stress Scale, Mindful Attention Awareness Scale, Generalized Anxiety Disorder 7 item scale, Connor-Davidson Resilience Scale,	Mindfulness (d=1,085) and resilience (d=0,695) higher compared to control. Lower stress (d=0,815) and anxiety (d=0,822) compared to control.
Clayton 2012	Junior Doctors received three one-hour on-site training sessions regarding end-of-life communication including take-home training materials. The first session was provided in a small group, all other sessions were offered individually.	confidence in communication skills, attitudes towards psychosocial aspects of care, stress, burnout	Self-assessed confidence in communication skills, attitudes towards psychosocial aspects of care, Maslach Burnout Inventory	Improved self-assessed confidence in communication (d=1,806), attitudes towards psychosocial aspects of care (d=0,699), and personal accomplishment (d=0,42). Decrease of emotional exhaustion (d=0,133) and depersonalization (d=0,169). Enhanced self-assessed confidence in communication skills (average d=1,33).

Identifier	Implementation	Outcomes	Measures	Results
Coffeng, Boot 2014	<p>Participants were allocated to the combined social and physical intervention, to the social intervention only, to the physical intervention only or to the control group.</p> <p>For the social environmental intervention team leaders of the departments were trained in Group Motivational Interviewing (GIM) to stimulate employees' physical activity and relaxation. Sessions were held during work hours.</p> <p>The physical environmental changes consisted of "Vitality in Practice" zones; e.g. the coffee corner was given a more relaxing atmosphere and tennis tables and lounge chairs were added in the hall. Participants were either assigned to the group motivational interviewing, to the physical environmental changes or both.</p>	<p>need for recovery, exhaustion, detachment and relaxation, small breaks at work, stair climbing at work, sedentary behavior at work</p>	<p>Need for Recovery after Work scale (Van Veldhoven, &amp; Broersen, 2003), Oldenburg Burnout Inventory (OLBI, Demerouti, Bakker, Vardakou, &amp; Kantas, 2003), Recovery Experience Questionnaire (Sonnetag et al., 2007), Newly developed Items: 1 for "small breaks at work", 1 for "stair climbing at work"</p>	<p>Decreased need for recovery in combined intervention after 12 months (d=0,175). Decreased emotional exhaustion in combined condition after 6 months (d=0,216), in social condition after 12 months (d=0,22), and in physical condition after 6 (d=0,2) and 12 months (d=0,2). Decreased detachment at work in combined condition after 6 (d=0,144) and 12 months (d=0,133), and in physical condition after 6 months (d=0,133). Decreased detachment after work in combined condition after 12 months (d=0,147), increased in social condition after 6 months (d=0,159). Decreased relaxation (cogn.) at work in combined condition after 6 (d=0,227) and 12 months (d=0,295), and in physical condition after 12 months (d=0,217). All effects compared to control group. No other effects found.</p>

Identifier	Implementation	Outcomes	Measures	Results
Coffeng, Hendriksen 2014	<p>Participants were allocated to the combined social and physical intervention, to the social intervention only, to the physical intervention only or to the control group.</p> <p>For the social environmental intervention team leaders of the departments were trained in Group Motivational Interviewing (GIM) to stimulate employees' physical activity and relaxation. Sessions were held during work hours.</p> <p>The physical environmental changes consisted of "Vitality in Practice" zones; e.g. the coffee corner was given a more relaxing atmosphere and tennis tables and lounge chairs were added in the hall. Participants were either assigned to the group motivational interviewing, to the physical environmental changes or both.</p>	<p>relative presenteeism, absolute presenteeism, absenteeism, work performance, work engagement</p>	<p>Health and Work Performance Questionnaire (HPQ, WHO), Individual Work Performance Questionnaire, Utrecht Work Engagement Scale</p>	<p>Absolute presenteeism decreased in combined group at 6 months (d=0,141), and increased in social condition (d=0,139/0,134) and physical condition at 6 months (d=0,104).</p> <p>Relative presenteeism increased in combined (d=0,409), social (d=0,5) and physical (d=0,602) condition after 6 months.</p> <p>Absenteeism also increased in combined condition after 6 months (d=0,144).</p> <p>Contextual performance decreased in combined (d=0,5/0,524), social (d=0,463/0,375) and physical (d=0,25/0,25) condition.</p> <p>Counterproductive work behaviour increased in combined condition after 6 months (d=0,125), and physical condition after 6 months (d=0,138). It decreased in social condition after 12 months (d=0,153).</p> <p>Decrease in work engagement in combined (d=0,208/0,3) and increase in social (d=0,2/0,221) and physical (d=0,208/0,109) condition.</p> <p>No other effects. All compared to control group.</p> <p>No effects on task performance in all groups at both measurement points.</p>

Identifier	Implementation	Outcomes	Measures	Results
Dollard 2014	Participatory risk management intervention including: capacity building workshops and the development and implementation of action plans to reduce work and organizational stress risk factors (e.g., job design, performance management, work quality, and organizational change) and stress outcomes (e.g. work stress, morale, and sickness absence duration).	organization & job design factors, stress	Local empowerment, job design, training and development, positive performance management, positive organizational change, quality, work stress, employee moral, sickness absence duration	Less local empowerment (d=0,146), enhanced job design (d=0,174), more positive organizational change (d=0,1), more quality (d=0,232) and more sickness absence (d=0,192) for intervention group compared with control.
Ebert 2014	Internet-based problem-solving training: five lessons, in which participants acquire different problem-solving techniques; behavioural activation; techniques for coping with rumination, video introductions for every lesson with example teacher characters.	depressive symptoms, general and work-specific self-efficacy, burnout, stress, worrying, health-related quality of life, absenteeism	CES-D, General Self-Efficacy Scale (GSE), Teacher Self-Efficacy Scale, Maslach Burnout Inventory for people working in human services (MBI-D), Perceived Stress Questionnaire, Penn State Worry Questionnaire (PSWQ), SF-12 Health Survey	Significantly greater reduction in depressive symptoms after intervention (d=.59), after 3 months (d=.37), after 6 months (d=.38) compared to control group; increase in self-efficacy (d=.47), after 3 months (d=.38), after 6 months (d=.40); increase in work-specific self-efficacy (d=.56), after 3 months (d=.47), after 6 months (d=.40); reduction in emotional exhaustion (d=.24), after 3 months (d=.54), after 6 months (d=.38), depersonalization (d=.23), after 3 months (d=.12), after 6 months (d=.33), and increase in personal accomplishment (d=.25), after 3 months (d=.21), after 6 months (d=.29); decrease in worrying (d=.63), after 3 months (d=.62), after 6 months (d=.54), and stress (d=.36), after 3 months (d=.28), after 6 months (d=.36); improvement in physical (d=.19), after 3 months (d=.19), after 6

Identifier	Implementation	Outcomes	Measures	Results
				months (d=.39) and mental health (d=.40), after 3 months (d=.35), after 6 months (d=.27); decrease in absenteeism (d=.22), after 3 months (d=.14), after 6 months (d=.37)
Elder 2014	Transcendental Meditation program: Participants attended 2 didactic lectures followed by an individual interview with the instructor. After that, the instructor provided individual instruction in the technique to each participant. On top of that, group meetings were organized to review and discuss experiences. Participants were advised to practise the technique twice a day for 15 to 20 minutes at home.	stress, depression, burnout	Perceived Stress Scale, Mental Health Inventory-5, Maslach Burnout Inventory-Educators Survey	Significant decrease in stress (Glass Delta=0,94), depression (Glass Delta=0,67) and burnout (Glass Delta=0,4).
Foureur 2013	A one-day Mindfulness Based Stress Reduction workshop involving mindfulness-based stress reduction taught by an experienced psychologist.	general health, sense of coherence, depression, stress, anxiety	General Health Questionnaire-12, SOC-Orientation to Life, DASS	General health (d=0,88), Orientation to life (d=0,739), increased. Depression (d=0,334), anxiety (d=0,284) and stress (d=0,662) decreased compared to pretest.
Garde 2012	Multisite intervention. Three workplaces introduced self-rostering by use of an IT-software. In four workplaces employees were given influence on a fixed rotation schedule. In intervention A, employees were encouraged to reconsider their usual habits and attitudes and instead organize their working hours around their private life. The intervention included also a time bank and a puzzle phase. In intervention B, employees could choose what days they wanted to work and not to work, and could choose between a limited number of predefined types of duties. In Intervention C, employees had the possibility to enter their preferences for specific shifts	sleep quality	Karolinska Sleep Questionnaire, Symptom Checklist-90, Reports of objective working hours	Lower need for recovery in group A (d=0,182), B (d=0,301), and C (d=0,304); less disturbed sleep in group A (d=0,111), B (d=0,229), and C (d=0,149); less awakening in group A (d=0,12) and C (d=0,105); less somatic symptoms in group A (d=0,88), B (d=1), and C (d=0,865); less mental distress in group A (d=0,741), B (d=0,829), and C (d=0,694); all compared to control group. No effects for awakening index in group B.

Identifier	Implementation	Outcomes	Measures	Results
	during the work day. They also had a time bank and a puzzle phase.			
Gaudine 2013	The intervention contained absenteeism feedback with or without individual goal-setting.	absenteeism, fairness perceptions, feelings of discomfort	Hospital records on absenteeism, Fairness questionnaire developed for this study, five item questionnaire developed for this study	Effect of individual goal-setting (d=1,252/ t4 d=0,544) and group goal-setting (d=1,266/t4 d=0,555) on lower perception of fairness (T3) compared to control group, and small effect of individual goal-setting on feelings of discomfort (d=0,137) in favour of control group. Large effect of individual goal-setting (t4 d=11,579) and group goal-setting (t4 d=12,088) on increased feelings of discomfort. Medium effects of group goal-setting on absent days (d=0,616) and periods (d=0,462) in favour of control group. No effects of individual goal-setting on absent days and periods and of group goal-setting on feelings of discomfort.
Geraedts 2014	Happy@Work: brief Web-based intervention delivered with minimal guidance; 2 evidence-based treatments: problem-solving treatment, cognitive therapy, guideline for employees to help them prevent work-related stress. 6 weekly lessons: problem solving, methods, changing cognitions, dealing with work-related problems, social support, relapse prevention. Feedback was given by Coaches.	depressive symptoms, burnout, work performance, duration of absenteeism, anxiety	CES-D, Maslach Burnout Inventory, Health and Work Performance Questionnaire HPQ, Hospital Anxiety and Depression Scale HADS	Less depression (d=0,253), emotional exhaustion (d=0,25), cynism (BO, d=0,308), absenteeism (d=0,339) and anxiety (d=0,189) in treatment than in control group for t1. Increase in professional efficacy (d=0,105). No effect for work performance.

Identifier	Implementation	Outcomes	Measures	Results
Gillespie 2014	Employees received a hybrid educational program with online and classroom components designed to inform emergency department employees about workplace violence by patients and visitors. The first component included three online modules about workplace violence prevention, safe management of workplace violence and post-incident response. The second component was an interactive two-hour classroom-based tabletop exercise with video vignettes and discussions.	workplace violence test score	20 items workplace violence test (based on Bloom's taxonomy of educational objectives; Bloom et al., 1956)	Increased knowledge about violence at workplace after intervention (d=0,319) and at follow up (d=0,893) compared with pre intervention.
Goodman 2012	8-week Mindfulness Based Stress Reduction (MBSR). Classes were taught by both authors, who are experienced teachers. 2.5 hours per week including 7 hours silence retreat between week 6 and 7. Mindfulness practices included body scan, mindful movement, walking meditation, sitting meditation plus presentations by teachers	stress, burnout	SF12v2, Maslach Burnout Inventory	Decrease in physical health for physicians (d=0,159), increase in mental health for physicians (d=1,004) and others (d=0,788). Decrease in emotional exhaustion for physicians (d=0,73) and others (d=0,296). Decrease in depersonalization for physicians (d=0,442) and others (d=0,27). Increase in personal accomplishment in physicians (d=0,604) and others (d=0,44). No effect for others on physical health.

Identifier	Implementation	Outcomes	Measures	Results
Grégoire 2015	<p>Pretest-post-test control group switching-replication design. 5-week intervention consisting of 15 min (10min in the morning before work and 5min just after lunch) daily audio sessions. Participants were guided through brief body scans and sitting meditation sessions. Each week approached a new theme and they were based on attention and awareness, acceptance and openness, decentering, letting go, focusing on the present moment and the practice of being fully aware during everyday activities. At the end of each audio session, employees were encouraged to apply what they had learned throughout the day, both at work and at home. Additional training was provided in mid-training meetings held by the Buddhist nun who has prepared the audio sessions.</p>	<p>mindfulness, psychological distress, anxiety, depression, fatigue, negative affect, level of satisfaction of clients</p>	<p>Mindfulness Attention Awareness Scale, Psychological Stress Measure, Subscale of the Psychological Distress Manifestation Scale, Fatigue Scale, Subscale 'Negative affect' of the Positive and Negative Affect Schedule, Survey for level of satisfaction of the clients developed by the organization</p>	<p>Increased mindfulness (d=0,199) and decreased stress (d=0,933), anxiety-depression (d=0,813), fatigue (d=0,676) and negative affect (d=1,115) in treatment group compared to control (t2).</p>
Hansen 2015	<p>Self-rostering for at least 9 months by the use of commercially available IT-software chosen by the workplace. Three different software were implemented in three different groups. Focus-group interviews and individual interviews with managers and employees were performed at baseline and after 12 months to collect qualitative data about the involved companies, working conditions, and time schedules. Eligible opportunities of self-rostering were length of shift, starting and ending times, possibility to transfer hours from one period to another (a time-bank), and a point system for distribution of unwanted hours of shifts. Mandatory requirements for the workplaces to participate were, that employees had the possibility to choose what days they wanted or</p>	<p>emotional demands, work pace, influence, social support from colleagues, social support from supervisors, job satisfaction, negative acts</p>	<p>Copenhagen psychosocial Questionnaire, 6 items to examine social climate, Negative Acts Questionnaire</p>	<p>Emotional demands: more in group a (d=1,701), less in groups b and c (d=7,233 and 22,988); Quantitative demands: less in all groups (d&gt;0,783); Work pace: less in group a and b (d&gt;1,808), more in group c (d=6,347); Influence: more in group a (d=2,937), less in groups b and c (d&gt;0,904); Job satisfaction: Less in group a (d=1,342), more in groups b and c (d&gt;4,517); Social support from colleagues: more in all 3 groups (d&gt;0,969); Social support from supervisors: less in group a (d=4,007), more in groups b and c (d&gt;0,554); Work-related negative acts: more in</p>

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	did not want to work.			groups a and b (d=0,409), less in group c (d=7,5); Person related negative acts: less in all 3 groups (d>8).
Hasson 2014	A risk assessment of psychosocial risk factors was made by the researchers. In addition, a focus group with employees and researchers was formed to identify prioritized organizational changes targeting the adverse psychosocial factors of each department. These changes were suggested to the managers. Examples of changes implemented: creation of joint union-management committees, mandated to examine and make recommendations on issues related to work organization; the development and implementation of a pilot coaching program to assist in the integration of young recruits and new managers into the organization; an increase in the workforce and long-term leave replacements; the reinstatement of workers after long-term absence, using a multidisciplinary approach. Organizational restructuring aimed at bringing together existing teams working on complementary tasks to facilitate the use of expertise and promote collaboration.	psychological demands, decision latitude, social support from supervisor, social support from colleagues, rewards	Employee perceptions of exposure to and impact of changes (adapted by Eklöf and Hagberg, 2006), Job Content Questionnaire, Effort-Reward Imbalance Questionnaire	There were no effects on psychological demand, decision latitude, social support from supervisors or colleague, or reward.

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Hirokawa 2012	Employees of a Japanese hospital participated in an educational program about stress management. This Stress management program included a lecture about stress, relaxation training and assertive training.	job stress, coping strategies, mental health, interpersonal behavior	Job Content Questionnaire, Stress-coping scale, Communion-agency scale	Support from supervisor lower in intervention (d=0.15) and support from coworker higher in intervention group (d=0.26). Active (d=0.41) and passive coping (d=0.15) higher in intervention group. Mental health better in intervention group (d=0.22). Higher assertiveness (d=0.57), cooperativeness (d=0.12), aggressiveness (d=0.36) and lower dependency (d=0.56) in intervention group.
Hosseinabadi 2013	Two educational sessions were held to make participants familiar with the issues of group dynamics, problem-solving training, techniques of quality circles, role of each member, and procedures of the circles. Employees were then divided into three circles. The members of the circles convened once a week, identified problems, and discussed their causes through brainstorming. Then, in subsequent sessions they prioritized the problems and suggested and discussed possible solutions. Best solutions were chosen and referred to the manager of the emergency medical service of the city. Solutions were returned back to the circles to be applied.	job satisfaction, work-life quality	Job satisfaction questionnaire, Walton's work-life quality questionnaire	More motivation (d=1.194) and job satisfaction (d=1.032) after the intervention compared with the control group. Compared with control group a higher total scores of Quality of work-life (d=0.724). Better health factors (d=0.578) compared with control.
Hülshager 2015	Self-training interventions based upon key elements and exercises of mindfulness-based cognitive therapy and mindfulness based stress reduction. Participants received some general information about mindfulness and mindfulness mediation along with instruction when and how to perform the exercises. The following mindfulness practices were taught: body scan,	trait mindfulness, psychological detachment, sleep quality and duration	Mindfulness Attention and Awareness Scale, Recovery Experience Questionnaire, Pittsburgh Sleep Quality Index, Diary survey for 10 workdays to investigate whether participate had	Correlation of mindfulness with everyday sleep quality (r=0.13), sleep duration (r=0.15), and psychological detachment (r=0.28).

Identifier	Implementation	Outcomes	Measures	Results
	three-minute Breathing Space, the Mindful Routine Activity exercise, and a Loving Kindness Meditation exercise.		engaged in their exercises	
Imamura 2015	The intervention group got access to a six week online CBT program. The program consisted of a weekly 30-minute training session on CBT skills, including: self-monitoring, cognitive restructuring, relaxation, assertiveness and problem solving.	work engagement, work performance, sick leave	Utrecht Work Engagement Scale, WHO Health and Work Performance Questionnaire, Subjective sick leave	Increased work performance after 3 months (d=0.1) in treatment group. Less sick days after 3 (d=0.141) and 6 months (d=0.717) in treatment group. No effect on work engagement and performance after 6 months.
Jeffcoat 2012	Participants read a book about Acceptance and Commitment Therapy for two months, and completed exercises and quizzes.	general health, depression, anxiety, stress, psychological flexibility, mindfulness skills	General Health Questionnaire, Depression Anxiety Stress Scales (only subscales Anxiety, Depression and Stress), Acceptance and Action Questionnaire, Kentucky Inventory of Mindfulness Skills	Less general health (d=0.4), more depression for normal depressed (0.155) and less for much depressed (d=0.435). More anxiety for normal anxious (d=0.19) and less for much anxious (d=0.266). Less stress for much stressed (d=0.347). Increase in psychological flexibility (d=0.222) and mindfulness (d=0.662) in intervention group. No effect on stress for normal stressed.

Identifier	Implementation	Outcomes	Measures	Results
Jeon 2012	<p>Two interventions: Person Centred Care (PCC) and Dementia Care Mapping (DCM) were provided.</p> <p>PCC: two days off-site education in PCC for two staff members, two full day field visits to assist these staff members with developing individual resident care plans and implementing PCC in the work setting. Followed by ongoing telephone consult.</p> <p>DCM: Three day DCM and PCC education and training for two employees, conduct DCM for all participating residents, advice is given on preparation and implementation for person centred care plans for each mapped resident and guidance for DCM trained staff on how to implement and evaluate resident outcomes. Followed by ongoing telephone support.</p>	burnout, psychological morbidity, attitudes and reactions toward resident behavioural disturbances, perceived managerial support, quality of care interactions	Maslach Burnout Inventory-Human Services Survey General Health Questionnaire Neuropsychiatric Inventory for the Nursing Home Quality of Interactions Schedule	<p>Higher emotional exhaustion of DCM (d=0,146) and PSS (d=0,764) at post measurement, lower in DCM (d=1,796) and PSS (d=0,789) at follow up.</p> <p>Lower depersonalization in both groups at post measurement and follow up (d=0,28/0,858/2,822/3,015).</p> <p>Higher scores on personal accomplishment for DCM (d=1,572) and PCC (d=1,184) at post measurement, and lower at follow up (DCM: d=0,539, PCC: d=1,271).</p> <p>Improved general health at post measurement (DCM: d=0,688, PCC: d=0,271) and decreased for follow up (DCM: d=1,147, PCC: d=0,271).</p> <p>Lower perception of support from management in both groups on both measurement points (d&gt;1,101). All compared to control group.</p>
Kaspereen 2012	A relaxation program including mediation, deep breathing and relaxing music was implemented in a school setting. Group sessions were given by an experienced instructor and were held during pre-periods, lunches, and before and after school.	perceived stress, perceived work stress, life satisfaction	Perceived Stress Scale, Professional Life Stress Scale, Satisfaction With Life Scale	Lower stress (d=1,045), work stress (d=0,788), and higher life satisfaction (d=0,945) in treatment group compared to control.

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Ketelaar 2013	<p>Participants were screened and based on that screening they got tailored feedback and offered one of the following e-mental health courses:</p> <p>Psyfit: aimed at enhancing mental fitness</p> <p>Strong at work: aimed at gaining insight into work stress and learning skills to cope with it</p> <p>Colour your life: aimed at tackling depressive symptoms</p> <p>Don't panic online: aimed at reducing panic symptoms</p> <p>Drinking less: aimed at reducing risky drinking behaviour.</p>	work ability, work-related fatigue	<p>Nurses Work functioning Questionnaire, Four-Dimensional Symptoms Questionnaire, Distress subscale, Need for recovery subscale of the Dutch Questionnaire on the Experience and Evaluation of Work, AUDIT-C, Depression and anxiety subscales of Brief Symptom Inventory, Patient health Questionnaire, Impact of Event Scale</p>	No effects for work-related fatigue and work ability between treatment and control in post measurement and follow up.
Ketelaar 2014	<p>Participants were screened. All participants received automatically generated feedback on screening results. The personalized feedback was followed by online tailored advice, consisting of an invitation to follow an E-mental health course and (if applicable) the receipt of an onscreen educational leaflet with advice on how to improve work functioning. The following e-mental health courses were offered:</p> <p>Psyfit: aimed at enhancing mental fitness</p> <p>Strong at work: aimed at gaining insight into work stress and learning skills to cope with it</p> <p>Colour your life: aimed at tackling depressive symptoms</p> <p>Don't panic online: aimed at reducing panic symptoms</p>	impaired work functioning, stress, work-related fatigue	<p>Nurses Work Functioning Questionnaire, Distress subscale of the Four-Dimensional Symptoms Questionnaire, The need for recovery subscale of the Dutch Questionnaire on the Experience and Evaluation of Work</p>	Small decrease of impaired work functioning (d=0,17), stress (d=0,141), and work-related fatigue (d=0,179) compared to pre intervention.

Identifier	Implementation	Outcomes	Measures	Results
	Drinking less: aimed at reducing risky drinking behaviour.			
Kettunen 2015	The exercise group underwent a 12-month exercise program, which contained 2-days training camps at the Sport Institute of Finland. They participated in lessons about health related issues such as physical fitness and muscle care. Groups were formed of 15-20 persons within the same company and each group had a coach. The program consisted of 2 supervised exercise sessions and 3-5 unsupervised sessions per week. Exercise intensity was monitored with polar heart rate microcomputer and self-documented in exercise diaries. The coach viewed the content of these diaries twice a month and gave feedback.	stress symptoms, mental resources, cardiorespiratory fitness	Lifestyle Questionnaire, Electrically braked bicycle ergometer, Occupational Stress Questionnaire, Mental Resource Index	Higher mental resources in exercise compared to control group at post measurement (d=0,44) and follow up (d=0,31). No effects on stress and oxygen uptake.
Kimura 2015	Participants took part in a group session presented by a CBT specialised. First the basis of CBT (i.e. relationship between emotions, cognition and behaviour) was explained, second the column method was used (situation, mood, automatic thought, evidence supporting and refusing the automatic thought, adaptive thoughts, and mood changes) to gain cognitive restructuring skills followed by a group discussion. Finally web-based CBT homework for 1 month was given to practise the restructuring method at least 3 times by using a self-help-program by reflecting on work-related stress. The "Depression & Anxiety Network – Mental Health Skill-up Training program" was used for homework to familiarize participants with the column method.	Subjective work performance, subjective cognitive flexibility	One item questionnaire on work performance. A two item questionnaire on cognitive flexibility	Higher work performance in intervention group (d=3,012). More subjective cognitive flexibility in treatment group (d=3,227 and d=2,846).

Identifier	Implementation	Outcomes	Measures	Results
Kjellgren 2014	Two off-site sessions for seven weeks in a flotation tank. Participants were treated with flotation-REST sessions (45 min each).	energy and stress experience, anxiety, depression, dispositional optimism, sleep quality, mindfulness	Stress and Energy, Hospital Anxiety, Depression Scale, Life Orientation Test, Sleep Quality, Mindfulness attention awareness scale (MAAS), Visual Analog Scale, Experienced Deviation from Normal state	Less stress (d=0,994), energy (d=0,172), anxiety (d=0,752), depression (d=0,802) in floating group. More optimism (d=0,464) and sleep quality (d=0,504). All compared to control group.
Koivu 2012	Clinical supervisors implemented 19 group processes lasting 1-3 years. 84 nurses participated in the CS, but they were divided into two groups according to their score on the MCSS (high vs. low evaluation of the CS). Control group did not attend any CS.	job demands, job resources, personal resources, self-rated health, burnout, psychological distress	Nordic Questionnaire of Psychological and Social Factors at Work, Self-rated health, Maslach Burnout inventory-General Survey, General Health Questionnaire, Manchester Clinical Supervision Scale (Finish version) [MCSS]	Less quantitative demands for higher evaluations group (d=0,225). More control of work for higher evaluations (d=0,133) and lower evaluations group (d=0,124). Higher social support for higher evaluations group (d=0,122). Higher intrinsic motivation for higher evaluations (d=0,622) and lower evaluations group (d=0,135). No effects for demands in lower evaluations group, role conflicts in both groups and social support in lower evaluations group.
Lloyd 2013	Participants attended 3 three-hour training sessions of an Acceptance and Commitment Therapy (ACT) intervention. The training was delivered in groups (8-12 persons) and its key objectives were to first increase present moment awareness and undermine unhelpful avoidance of and entanglement with, one's thoughts and emotions. The second objective was to teach people acceptance and mindfulness as an	general mental health, burnout, psychological inflexibility	GHQ-12, Maslach Burnout Inventory – Human Services Survey (MBI-HSS), Acceptance and Action Questionnaire	Less psychological flexibility (d=0,227), strain (d=0,276), and depersonalization (d=0,179) compared to control group. No effect on emotional exhaustion.

Identifier	Implementation	Outcomes	Measures	Results
	<p>alternative strategy for dealing with problematic thoughts and feelings, and demonstrate how these may be used to facilitate values-based actions. The training consisted of various metaphors, mindfulness, and cognitive defusion techniques, as well as values and goals clarification exercises.</p>			
Ly 2014	<p>Acceptance and commitment therapy (ACT) over smartphone app. The intervention consisted of a step-by-step behaviour program with the purpose of educating the participant to use ACT's six basic principles to handle their stress. The intervention consisted of six modules, each module started with a short audio lecture, 2-3 texts and 2-4 exercises. The intervention entailed no physical meetings. Each participant worked independently with the application, but with the recommendation of spending about 15 min a day on the program.</p>	<p>general health, perceived stress, transformational leadership effectiveness</p>	<p>General Health Questionnaire Perceived Stress Scale Multifactor Leadership Questionnaire</p>	<p>Less general health in intervention group (d=0,41), less perceived stress (d=0,5), and higher perceived effective leadership (d=0,49).</p>
Malarkey 2013	<p>Low dose Mindfulness Based Intervention (MBI-ld) to reduce the time committed to meetings and formal mindfulness practice, while conducting the sessions during the workday. The program was delivered on-site and included reflective writing, sharing among participants, mindfulness instruction, yoga, and formal mindfulness meditation, similar to traditional MBSR.</p>	<p>CRP, IL-6, cortisol, leptin, depression, perceived stress, sleep quality</p>	<p>Physical measurement, Perceived Stress Scale (PSS), Pittsburgh Sleep Quality Index, Center for Epidemiological Studies - Depression (CES-D), Toronto Mindfulness Scale (TMS)</p>	<p>CRP decreased in intervention group (ES=0,23). No effect on IL-6 or cortisol.</p>

Identifier	Implementation	Outcomes	Measures	Results
Marx 2014	Mindfulness-based Cognitive Therapy. Five Groups followed a 8-week protocol for MBCT with an additional orientation session to induct the participants to the culture of the group, to aid group bonding. MBCT was complemented with appropriate modifications from MBSR such as education around stress physiology with less focus on depression and an emphasis on mindful and difficult communications.	perceived stress, self-compassion	Perceived Stress Scale (PSS; Cohen & Williamson, 1988), Self-Compassion Scale (SCS, Neff, 2003)	A large effect was found on perceived stress which decreased between pre-test and 3 month follow-up ( $F(1,40)= 15.73, p<0.001, d=0.98$ ) and between pre- and post-test ( $d=0,76$ ). Furthermore a large effect was found on self-compassion ( $F(1, 39)=19.01, p<0.001, d=0.81$ ) at 3 months follow up, and $d=0,67$ at post-test.
Mazaheri 2012	Education about the causes of stress in the workplace and training in analysing conditions that causes stress. After that, training on relaxation techniques as well as deep muscle relaxation, cue-controlled relaxation, and breathing instruction training and rational reorganization techniques are given.	stress inducing work roles	Occupational Role Questionnaire (ORQ) portion of the Occupational Stress Inventory-Revised (OSI-R)	Decrease in role overload ( $d=0,522$ ), role insufficiency ( $d=0,565$ ), role ambiguity ( $d=0,389$ ), role boundary ( $d=1,332$ ), responsibility ( $d=0,468$ ), and increase in unpleasant physical environment ( $d=0,458$ ) compared to control group.
Michel 2014	Intervention to train the use of mindfulness as a cognitive-emotional segmentation strategy. The intervention consisted of exercises related to mindfulness-based cognitive therapy (MBCT) and mindfulness-based stress reduction (MBSR). There were three modules that comprised a part where participants received basic information input combined with practical exercises for the weekend. The second part was a daily task for the following five workdays.	mindfulness, psychological detachment from work during time off; strain-based work-family conflict, satisfaction with work-life balance	Cognitive and Affective Mindfulness Scale-Revised (CAMS-R), Recovery Experience Questionnaire, WFC, Satisfaction with Work-Family Balance Scale	Increase in mindfulness at t2 ( $d=0,215$ ) and t3 ( $d=0,196$ ). Increase in psychological detachment at t2 ( $d=0,268$ ) and t3 ( $d=0,247$ ). Decrease in strain-based work-family conflict at t2 ( $d=0,443$ ) and t3 ( $d=0,356$ ). Increase in satisfaction with work-life balance at t2 ( $d=0,256$ ) and t3 ( $d=0,204$ ).

Identifier	Implementation	Outcomes	Measures	Results
Moyle 2013	Foot massage took place in a separate room with a closed door. Each session lasted 10 minutes and staff could receive up to three sessions a week.	positive and negative affect, staff experiences and satisfaction, blood pressure (systolic and diastolic), anxiety	Profile of Mood States-Bipolar (POMS-Bipolar), Staff Experience of Working with Demented Residents Questionnaire (SWEDRQ), Digital Wrist Blood Pressure Monitor, Faces Anxiety scale	Increase in positive affect in massage group ( $d=1,145$ ), and also in satisfaction ( $d=0,975$ ) compared to silent rest group. Greater decrease in diastolic blood pressure ( $\text{Eta}^2=0,22$ ), and anxiety ( $\text{Eta}^2=0,31$ ) in massage group.
Nooryan 2012	Training of emotional intelligence: 2 sessions lasting 2 hours per week. First, definitions were presented on emotional intelligence. Second, training was undergone on empathy, problem-solving methods, flexibility, thought control methods, and methods of replacing negative thought with positive thoughts, relaxation techniques and methods of controlling anxiety. Finally, required training was undergone on the methods of identification of oneself and others, and relationships with the others, independence, self-concept and impulse control. Training was supported through educational pamphlets and booklets.	situational anxiety,	20-question Berger situational anxiety (overt) questionnaire, Bar-on emotional intelligence questionnaire	Increased anxiety in physicians ( $d=0,514$ ) compared to control. No effect for nurses.
Orly 2012	Cognitive behavioural intervention including: teaching and practicing of breathing techniques and progressive muscle relaxation, provision of information regarding potential reactions to stressors, identification of irrational ways of thinking, skills for modifying negative ways of thinking and acquiring problem-solving skills. Each meeting started with a theoretical presentation followed by practicing the relevant skill(s).	personality resources, transitory mood variables	SOC, perceived Stress Scale, profile of Mood states	Increase of sense of coherence ( $d=0,757$ ), less perceived stress ( $d=0,382$ ), increased tension-anxiety ( $d=0,463$ ), increased depression ( $d=0,364$ ), increased anger ( $d=0,257$ ), increased vigor ( $d=0,725$ ), increased fatigue ( $d=3,442$ ). No effect on confusion. All effects compared to control.

Identifier	Implementation	Outcomes	Measures	Results
Oude Hengel 2012	Intervention combines theoretical information with practical information from stakeholders. The intervention consisted of two individual physical training sessions, a rest-break tool for improving balance between work and recovery, and two empowerment training sessions to increase the influence of the construction workers at the worksite.	general health, social support at work, work engagement, physical workload, social support at work, need for recovery	Need for recovery, Job Content Questionnaire (Karasek, 1998), Modified version of the Utrecht Work Engagement Scale (UWES-9; Schaufeli, Bakker, & Salanova, 2006), 3 Items of the Periodical Health Screenings survey in the construction industry VBBA (Dutch questionnaire on Experience and Assessment of Work; Van Veldhoven, 2002)	Decrease in work engagement (d=0,266) after 3 months, and increase (d=0,117) after 12 months. No effects on social support for 3 or 12 months. Slightly increase in physical workload after 3 (d=0,125) and 12 months (d=0,125). All compared to control group.
Oude Hengel 2013	Two individual training sessions with a physical therapist aimed at lowering the physical workload, a rest-break tool to improve the balance between work and recovery. Furthermore, two empowerment training sessions were given to increase the workers influence at the worksite including: taking responsibility for own health, discussing with colleagues about the responsibility for own behaviour and improving the communication with the supervisor.	work ability, physical and mental health status	Work Ability Index, Short-Form Health Survey (SF-12)	Increase in work ability after 3(d=0,152) and 12 months (d=0,183), and mental health after 3 (d=0,239) and 12 months (d=0,299), compared to control group. No effect for physical health at post measurement or 12 months follow up.

Identifier	Implementation	Outcomes	Measures	Results
Ouweneel 2013	A web-based intervention was designed to enhance participants' levels of positive emotions, self-efficacy and work engagement. The program consisted of three types of assignments: happiness assignments, goal setting assignments, and resource building assignments. Participants were given three assignments (combination of watching a movie clip, describing something on paper, and actually conducting particular behaviour in the workplace) per week	positive emotions, self-efficacy, work engagement	Job-related Affective Well-Being Scale (JAWS), Self-constructed following Bandura, Utrecht Work Engagement Scale (UWES)	Increase in positive emotions (d=3,195), self-efficacy (d=6,283), and work engagement (d=0,208) in favour of self enhancement group compared to control group.
Page 2012	A Working wellness program was implemented including education about what workplace well-being entails, looking for character strengths and applying job crafting, setting of goals and action plans, discussing how to cultivate flow and discussing how to optimize relationships at and outside of work.	subjective well-being, psychological well-being, affective well-being, work-related well-being	Satisfaction with Life scale, Positive and Negative Affect Schedule, Workplace Well-being Index, Affective Well-Being Scale, Scales of Psychological Well-Being	Improve in psychological well-being post intervention (d=0,21), and after 6 months (d=0,155). Improvement in subjective well-being post intervention (d=0,338) and after 6 months (d=0,189). Less work-related well-being post intervention (d=0,216). Improvement in affective well-being post intervention (d=1,305) and after 6 months (d=0,999). All effects compared to control group. No effect for work-related well-being after 6 months.

Identifier	Implementation	Outcomes	Measures	Results
Palumbo 2012	Participants were asked to attend on-site Tai Chi classes once a week and to practice on their own for 10 minutes each day at least 4 days per week for 15 weeks.	health and well-being, physical functions, work limitations, stress, work productivity	SF-36 Health Survey, Nursing Stress Scale (NSS), Perceived Stress Scale (PSS), Sit-and-Reach test, Isometric knee extensor strength test dynamometer, Functional reach test, Nordic Musculoskeletal Questionnaire Menzel, Workload Limitation Questionnaire, work absenteeism	Increase in general health (d=0,777), decreased mental health (d=0,489), decreased nursing stress (d=0,742), decreased perceived stress (d=0,444), increase in sit and reach (d=0,101), increase in functional reach (d=3,333), decrease in physical demands (d=0,77), decrease in mental demands (d=1,273), all compared to control group.
Pidgeon 2013	The Mindfulness with Metta Training Program involved a two and a half day residential retreat consisting of periods of silence nad training in mindfulness and metta skills and cognitive therapy strategies to increase mindfulness and self-compassion. Two booster sessions were employed over a 12-week period. They included a review and practice of mindfulness, metta and cognitive strategies taught at the retreat.	ability to cope effectively when faced with adversity, general tendency to be mindful in everyday life, self-compassion	Resilience Scale (RS-14), Five Facet Mindfulness Questionnaire (FFMQ), Self-Compassion Scale (SCS)	Increased resilience after 4 months (d=1,377), improvements in mindfulness after 1 month (d=2,35) and 4 months (d=2,302), increased self-compassion after 1 month (d=1,807) and 4 months (d=1,813). No effect for resilience after 1 month.

Identifier	Implementation	Outcomes	Measures	Results
Rajaratnam 2014	At baseline, participants completed an online well-being and productivity assessment. Then they participated in a biometric screening consisting of height and weight measurement and blood draw. Immediately after this they were given a well-being report that provided a tailored action plan, followed by an on-site well-being coaching session with a coach trained to identify and influence readiness to change and well-being opportunities. During the next 6 months participants received additional wellbeing coaching calls, participated in online daily challenges and were directed to additional Web-based resources that targeted specific well-being areas like healthy and affordable grocery shopping etc. After 6 months, participants completed again the online well-being, productivity and biometric assessments.	well-being (life evaluation, emotional health, physical health, healthy behaviors, work environment, and basic access), biometric measures (systolic blood pressure, diastolic blood pressure, total cholesterol, BMI), productivity (in form of presenteeism)	Individual Well-Being Score, Well-Being Assessment for Productivity (WBA-PP; Prochaska et al., 2011)	Improvement in life evaluation (d=0,182), physical health (d=0,14), healthy behaviour (d=0,145). No effect on emotional health and work environment. Decreased diastolic blood pressure (d=0,234), total cholesterol (d=0,287), and presenteeism (d=0,194). No effect on BMI and systolic blood pressure.
Roessler 2012	The participants in the training group trained three times 20 minutes per week during work hours. The training group performed high-intensity-specific strength training locally for the neck and shoulder muscles with four different dumbbell exercises and four exercises for the forearm.	job satisfaction, influence at work, sense of community, time pressure	Copenhagen Psychosocial Questionnaire	Decrease in influence at work (d=0,119) and job satisfaction (d=0,127) compared to control group. No effects on sense of community and time pressure.

Identifier	Implementation	Outcomes	Measures	Results
Sadaat 2012	Coping with work and family stress including a training on the identification of stressful situations and the use of effective problem-solving and communication skills, and strategies for increasing social networks; instruction in approaches to modify cognitive and appraisal processes; emphasizing stress management (e.g. deep breathing, muscle relaxation, healthy eating and exercise) and minimizing the use of avoidance coping (e.g. reducing problem avoidance or use of alcohol to reduce tension, and teaching refusal skills); developing personalized stress management plans.	coping, stressors, social support, psychological symptoms, alcohol use, tobacco use	Role Quality Scale, Coping strategy indicator, Social support instrument, State-anxiety subscale of the Spielberger State-Trait Anxiety Inventory, Center for Epidemiologic Studies Depression scale, The Cohen-Hoberman inventory of physical symptoms, National Survey on Drug Abuse	Decreased perceived job stress (d=0,296), perceived stress as spouse (d=0,303), perceived stress as parent (d=1,022). Increased problem solving (d=0,136), decreased avoidance (d=0,626). Decreased anxiety (d=0,705), depression (d=0,55), somatic symptoms (d=0,415). All compared to routine duties control group. No effects on seeking social support, social support from work, social support from home, total alcohol consumption.
Saganha 2012	The intervention group performed a specific qigong intervention ("White Ball") and was taught daily within the first week for 20 min. Self-treatment was carried out twice a day for the next two weeks. The "White Ball" technique includes requirements of posture, breathing and mind focus.	burnout	Maslach Burnout Inventory	Decrease of emotional exhaustion (d=0,735), depersonalization (d=0,791), and lack of personal accomplishment (d=0,64).
Sharif 2013	Two day workshop on emotional intelligence at the College of Nursing and Midwifery, Shiraz University of Medical Sciences, Shiraz, Iran. The workshop included the concept of health, self-awareness skills, stress and its symptoms, stress management, relationship between thoughts and emotions, emotional intelligence, management of emotions, relationship management, and self-management.	emotional intelligence (interpersonal relationship, intrapersonal relationship, stress management, adaptability, general mood), general health	Bar-on emotional intelligence, Goldberg's general health questionnaire	Emotional intelligence increased immediately after intervention (d=0,608), and at 1 month follow up (d=1,118). General health improved immediately after intervention (d=0,662), and at 1 month follow up (d=0,984). All effects were compared to control group.

Identifier	Implementation	Outcomes	Measures	Results
Sørensen 2014	Bottom-up organizational level occupational health intervention. Researchers informed employees about the intervention, and gained acceptance for it. Workshops with employees and managers to discuss work-related issues and come up with possible solution. Employees implanted the solutions and assessed the progress. Finally the intervention was evaluated.	job characteristics, relationship quality, employee well-being	Copenhagen Psychosocial Questionnaire	Decrease in work tempo (d=0,179) and in leader support (d=0,169) compared to pre intervention. No effects for job autonomy, workload, manager relationship quality, leader skill, co-worker support, and burnout.
Sprangers 2015	First nurses were observed on their communication skills with residents with dementia. Based on the observation the number of training sessions on communication skills was assessed. The training consisted of feedback based on observations First they were asked how they had experienced the observed interaction. Subsequently they received feedback on which effective communication skills and instruction they had used and which they should have used. They were encouraged to keep using the effective communication skills they had used and to start using the skills they had not used.	severity of psychopathology in residents	Cohen-Mansfield Agitation Inventory, Neuropsychiatric Inventory Questionnaire (Dutch version)	Decreased depression (d=0,382), anxiety (d=0,267), apathy (d=0,764), irritability (d=3,597), and increased disinhibition (d=0,758) compared to control.
Strijk 2013	Two weekly guided group sessions: one yoga and one workout, as well as one weekly session of aerobic exercising, without face-to-face instruction, and three individual coach visits aimed at changing workers lifestyle behaviour by goal setting, feedback and problem-solving strategies.	work-related vitality, general vitality, work engagement, productivity, sick leave	UWES vitality scale, RAND-36 vitality scale, UWES, Two single items to measure productivity and sick leave	No effects for vitality (UWES), vitality, work engagement, productivity, at both post intervention and follow up.

Identifier	Implementation	Outcomes	Measures	Results
Sun 2013	<p>A Health Promotion Enterprise Program was implemented which addressed job-related factors to be related to depression, including the workplace physical and psychosocial environment, overtime work hours, conflicts with managers and co-workers, and work stressors. On an organizational-level, managers received a training to empower them with skills and competency to promote resilience and mental health, and build a healthy environment. On an individual level, employees received training to help the enterprise build a friendly and caring environment.</p>	<p>job stress, resilience, psychological and physical work ability, absenteeism, depression, anxiety, job performance</p>	<p>General Health Questionnaire (GHQ30; Goldberg &amp; Williams, 1988), A needs assessment to measure work-related stress (developed for this study), Work-Ability Index (WAI; Kessler et al., 2003), World Health Organization Health and Work Performance Questionnaire (HPQ; Kessler et al., 2003)</p>	<p>Decreased job change (d=0,202), conflict with manager (d=0,149), increase in job performance (d=0,129) after intervention. No effect on pay, resilience, and work ability.</p>
Thiart 2015	<p>Internet-based guided intervention group vs. waitlist group. GET.ON Recovery uses therapeutic techniques combined in order to foster recovery from work. CBT-I methods, such as sleep restriction, stimulus control, sleep hygiene and cognitive interventions, supplemented by techniques from behavioral activation, metacognitive therapy (MCT), gratitude research and research on boundary management were used.</p>	<p>insomnia severity, secondary outcomes: rumination, recuperation in sleep, sleep efficiency, worrying, work-related rumination, recovery experiences, recovery activities, absenteeism, presenteeism, user satisfaction</p>	<p>Insomnia Severity Index, Irritation Scale (IS)</p>	<p>Decrease in insomnia severity post intervention (d=1,453) and at follow up (d=1,425), increase of sleep efficiency post intervention (d=0,47), increase of recuperation in sleep post intervention (d=0,769) and at follow up (d=0,847), less work-related rumination (d=0,73) and at follow up (d=0,988), decrease in worrying (d=0,748) and at follow up (d=0,844), increase in recovery control (d=0,342) and at follow up (d=0,392), increase in psychological detachment (d=0,64) and at follow up (d=0,77), increase in relaxation (d=0,423) and at follow up (d=0,719), less absenteeism at follow up (d=0,11), also less presenteeism at follow up (d=0,343). No effects on recovery mastery.</p>

Identifier	Implementation	Outcomes	Measures	Results
Thorgensen-Ntounmani 2014	The intervention consisted of 10 weeks of group-led walks and further 6 weeks of independently organized walks. Participants were requested to take part in three 30-min group-led walks per week and two walks during the weekends which were independently organized. They were encouraged to self-select their own walking intensity/speed for each walk. Twice daily affective reports at work were completed on two randomly chosen days per week.	well-being, work performance	SF-36; Subjective Vitality Scale, Job Affect Scale, World Health Organisation Health and Work Performance Questionnaire (WHO HPQ), Positive and Negative Affect Scale	Increase in health perceptions (d=0,12), less enthusiasm (d=0,108), more relaxation (d=0,287), more fatigue (d=0,139), less global work performance (d=0,157) compared to wait list. No effect on subjective vitality and nervousness.
Uchiyama 2013	Participatory intervention to improve psychosocial work environment. Unit members were asked to come up with workplace interventions and implement them. Examples are team reorganization, delivering a message of support, sharing problems of patients etc.	depression, psychosocial work environment	Center for Epidemiologic Studies Depression Scale, Job Content Questionnaire, Short version of the Effort-Reward Imbalance Questionnaire, Quality Work Competence questionnaire	Decreased job demands (d=0,279), increased job control (d=0,169), increase in supervisor and co-worker support (d=0,13 and d=0,278). Higher goals (d=0,256), more efficiency (d=0,305), more participatory management (d=0,198), better work climate (d=0,176), better competence development (d=0,241), better leadership (d=0,224) compared to control group. No effects for mental health, rewards, and feedback.
Van Berkel 2014	The intervention comprised 8 weeks of in-company mindfulness-related training with homework exercises, followed by 8 session of e-coaching. The weekly mindfulness-related training sessions took 90 minutes and were held in a room at the worksite in a group setting of 4 to 17 participants. The sessions weren't held during paid work time. The homework exercises included formal (body scan, mediation, sitting meditation) and informal exercises (small exercises, such as breathing exercises when starting up the computer, and grocery shopping	work engagement, general mental health, need for recovery, mindfulness	Utrecht Work Engagement Scale, Mental Health scale from the RAND-36, Need for recovery scale from the Questionnaire on the Experience and Evaluation of Work, Mindful Attention Awareness Scale	Less mindfulness in intervention group at follow up (d=0,111) and also less in work engagement (d=0,154). No effects for work engagement post intervention, mental health at both points, need for recovery at both points, and mindfulness post treatment.

Identifier	Implementation	Outcomes	Measures	Results
	mindfully) and took approximately 30 minutes per day on 5 days per week. Materials included cd's with guided meditation exercises and a booklet with examples of workplace situations background and (workplace) exercises. The e-coaching's key-elements were kindness and awareness.			
Van den Heuvel 2015	Interviews with the management prior to the intervention allowed to design the intervention as such, that it met the organization's and individuals' needs. A Job crafting intervention was implemented. First a training day was given in which participants received information about the JD-R model (Bakker & Demerouti, 2007) job crafting, followed by actively thinking about tasks at work they would like to craft. A plan with specific job crafting goals was drawn up by each participant and at the end of the week they reflected on the achievements in job crafting of the past week. Finally a reflection session was held in which participants could share their experiences.	opportunities for development, leader-member exchange, job –related affective well-being, self-efficacy	Five items of the Dutch adaptation (Le Blanc, 1994) of Graen and Uhl-Biens scale for LMX (1991), Scale on opportunities for development (3 items; Bakker et al., 1991), Job Affective Well-being Scale (JAWS; Van Katwyk et al., 2000), Four items of the generalized self-efficacy scale (Schwarzer & Jerusalem, 1995) Job crafting scale (Petrou et al., 2012),	Less seeking resources (d=0,268), less seeking challenge demands (d=0,112), more self-efficacy (d=0,22) compared to control group. No effects on decreasing demands, opportunities for development, leader-member exchange, positive affect, and negative affect.
Villani 2013	The needs analysis had the aim to explore the communicative and relational competences of nurses, related to bad news communication management and adaptation to work, and to explore perceived stress effects. After this, the self-help intervention phase was completed. During this time, participants watched 8 video clips with a narrative. The skills acquisition and rehearsal phase was combined with two kinds of relaxation techniques.	denial, active coping, trait anxiety	Mesure du Stress Psychologique (MSP), State Trait Anxiety Inventory (STAI), Italian version of Brief Coping Orientation to Problems Experiences (COPE), Job Content Questionnaire (JCQ)	Less active coping (d=1,528), increased denial (0,28) and increased anxiety (d=0,156) compared to control group.

Identifier	Implementation	Outcomes	Measures	Results
Von Thiele Schwarz 2015	<p>“Kaizen” encourages quick identification of problems that arise in work processes as well as discussing and testing potential solutions. It includes workplace health protection, health promotion, and continuous improvement. The structure consists of regular, short meetings at the unit level that all employees are to attend, and where work problems are identified, possible solutions discussed, chosen, tested, and evaluated.</p>	<p>health promotion, integration, workability, productivity, self-rated health, self-rated sickness absence</p>	<p>five items measuring workplace-based health promotion, four items covering the extent of integration of the program, single item measuring workability, Productivity subscale from the Health and Work Questionnaire, single item on self-rated health, question about frequency of sickness absence, question about the duration of sickness.</p>	<p>Increase in workplace-based health promotion after 12 (d=0,31) and 24 months (d=0,284), increase in integration after 12 (d=0,53) and 24 months (d=0,457), increase in workability after 24 months (d=0,223), increase in productivity after 24 months (d=0,247) compared to control group. No effects for workability after 12 months, self-related health at both points, and productivity after 12 months.</p>
Vuori 2012	<p>A 1-week group resource-building intervention to provide employees with a better preparedness to manage their own careers including the use of the following methods: active learning process, social modelling, gradual exposure, and practice through role playing. The following skills were taught: identifying and communicating ones skills and abilities, identifying and using ones social network and solving conflicts in social relationships, developing assertiveness at work, developing stress management skills and building commitment to one’s personal work-related plan for near future.</p>	<p>career management, preparedness, depression symptoms, exhaustion, work engagement, mental resources, intention to retire early</p>	<p>Career management self-efficacy, Preparation against setbacks, Beck Depression inventory, Maslach Burnout Inventory-General Survey, Utrecht Work Engagement Scale, Work Ability Index, single question about intention to retire early</p>	<p>Decrease in depressive symptoms (d=0,134) and intention to retire early (d=0,13) compared to control group. No effects for exhaustion, work engagement, and mental resources (all at follow up).</p>

Identifier	Implementation	Outcomes	Measures	Results
Zhang 2014	PsyCap intervention program was implemented under the cover story of a social survey about the relationship between job characteristics and reading ability. Participants were asked to sit individually in a large conference room and read structured reading material. The material included an introduction of psychological capital and ways to develop hope, optimism, efficacy and resilience in daily life and work. Finally participants read case studies about people successfully increasing their psychological capital.	psychological capital, job performance	Psychological Capital Questionnaire (PCQ-24; Luthans, Youssef, & Avolio, 2007), Contextual Performance Questionnaire (CPQ; Van Scotter, & Motowidlo, 1996)	Increase in psychological capital (d=0,499) and after 3 months (d=0,537), decrease in efficacy after 3 months (d=0,148), increase in resilience (d=0,564) and after 3 months (d=0,479), increase of optimism (d=0,721) and after 3 months (d=0,405), increase of job performance post intervention (d=0,183), compared to control group. No effect on efficacy post intervention, and job performance at follow up.
Zhu 2013	The intervention package consisted of free access to educational materials and lectures about reproductive health, mental health and occupational health that included the lifestyle and behavioral intervention (especially, physical activity, dietary habits, personal hygiene, sexual behaviors and occupational protection), coping strategies and stress management, video educational materials and propaganda column.	health-related quality of life, gynaecological diseases, job satisfaction	Health Survey Short Form (SF-36), yes/no gynaecological disease, question about job satisfaction	Increase in mental health (d=0,167) compared to pre intervention. No effect for physical component.
Zohar 2014	Modification of daily messages in supervisor-member communications to improve safety climate and resultant safety performance. Supervisors in the experimental group received 2 individualized feedback sessions regarding the extent to which they integrated safety and productivity-related issues in daily verbal exchanges with their members; those in the control group received no feedback.	safety climate, perceived supervisory messages, safety behaviour, workload, teamwork, corrective leadership behaviour, safety audits	Group level scale by Zohar and Luria (2005), Structured phone interviews, Scale by Griffin and Neal (2000), Scale developed by Caplan, Cobb, French, Van Harrison, and Pinneau (1980), Team Climate Inventory, Multifactor Leadership Questionnaire	Increase in safety climate (d=0,858), decrease in workload (d=0,389), increase in teamwork (d=0,96), safety behaviour (d=0,372), and safety audits (d=1,494) compared to control.

## Appendix 3

Table 5 Outcome Categories

General health	General health, well-being
Perceived stress	
Physical outcomes	Physical strength, sleep quality, exhaustion, cortisol, bodily symptoms, gastric pain, biomarker, cardiovascular, blood pressure, heart rate, need for recovery, somatic symptoms, fatigue, musculoskeletal function
Mental/ cognitive outcomes	Cognitive liveliness, mindfulness, resilience, self-efficacy, coping skills, psychological health, detachment, relaxation, worrying, orientation to life, goal-setting, knowledge, flexibility, confusion, avoidance, disinhibition, denial
Emotional/ motivational outcomes	Public service motivation, depression, anxiety, vitality, vigor, sense of coherence, satisfaction, quality of work life, life evaluation, payment, reward, emotional energy, dedication, empathy, self-compassion, work attitude, absorption, feelings of discomfort, affect, motivation, apathy, gratitude, optimism, anger, emotional intelligence, enthusiasm, nervousness, engagement, sense of self, serenity
Burnout	Emotional exhaustion, depersonalization, personal accomplishment, cynism
Interpersonal outcomes	Support, social functioning, confidence in communication, perception of fairness, assertiveness, cooperativeness, dependency, role conflicts, perceived leadership, role insufficiency, work climate, safety climate, teamwork, negative acts
Work-related behavior	Behavioral health, performance, presenteeism, absenteeism, organizational change, sickness absence, work ability, work functioning, competence development, opportunity for development, intention to retire early
Work conditions	participatory management, control of work, responsibility, autonomy, work pace, work environment, role overload, unpleasant, physical environment, work-family-conflict, workload, safety audits, decision latitude, influence, empowerment, job design, quality

## Appendix 4

### Results for Small- and Medium-Sized Organizations

Table 6 Results for Mindfulness and Relaxation Interventions in Small- and Medium -Sized Organizations

Mindfulness and relaxation interventions	Hypothesized direction						Inverse direction						Total	
	large		medium		small		none		small		medium			large
General Health														
Perceived stress	2		1											3
Physical														
Mental/ cognitive														
Emotional/ motivational	1		1											2
Burnout					1									1
Interpersonal														
Work-related behavior														
Work conditions														
Total	3		2		1									6

Note: Effect sizes were categorized following the conventions for Cohen's d (0.2= small, 0.5= medium, 0.8= large) and for correlational coefficients (0.1= small, 0.3= medium, 0.5= large). For each effect size both post intervention values (first column) and follow up values (second grey column) are reported.

Table 7 Results for Cognitive Behavioral Therapy in Small- and Medium -Sized Organizations

Cognitive Behavioral Therapy (CBT)	Hypothesized direction							Inverse direction			Total	
	large		medium		small		none	small	medium	large		
General Health												
Perceived stress												
Physical	1	2	1	1	3	1	1	1				11
Mental/ cognitive		2	3	1								6
Emotional/ motivational												
Burnout												
Interpersonal												
Work-related behavior							1	1				2
Work conditions												
Total	1	4	4	2	3	1	1	2		1		19

Note: Effect sizes were categorized following the conventions for Cohen's d (0.2= small, 0.5= medium, 0.8= large) and for correlational coefficients (0.1= small, 0.3= medium, 0.5= large). For each effect size both post intervention values (first column) and follow up values (second grey column) are reported.

Table 8 Results for Skills at Work-Interventions in Small- and Medium -Sized Organizations

Skills at work-interventions	Hypothesized direction						Inverse direction						Total	
	large		medium		small		none		small		medium			large
General Health														
Perceived stress					1	2								3
Physical				1	1	1	2	3	1					9
Mental/ cognitive			3	2	1	6								12
Emotional/ motivational			2			4	4	4	1					15
Burnout				1	3	4		1						9
Interpersonal														
Work-related behavior					1	1		1						3
Work conditions														
Total			5	4	7	18	6	9	2					51

Note: Effect sizes were categorized following the conventions for Cohen's d (0.2= small, 0.5= medium, 0.8= large) and for correlational coefficients (0.1= small, 0.3= medium, 0.5= large). For each effect size both post intervention values (first column) and follow up values (second grey column) are reported.

Table 9 Results for Work-Oriented Interventions in Small- and Medium -Sized Organizations

Work-oriented interventions	Hypothesized direction				none	Inverse direction			Total
	large	medium	small	none		small	medium	large	
General Health									
Perceived stress									
Physical									
Mental/ cognitive									
Emotional/ motivational	2							1	3
Burnout									
Interpersonal	7	2				2		1	12
Work-related behavior									
Work conditions	7	1						4	12
Total	16	3				2		6	27

Note: Effect sizes were categorized following the conventions for Cohen's d (0.2= small, 0.5= medium, 0.8= large) and for correlational coefficients (0.1= small, 0.3= medium, 0.5= large). For each effect size both post intervention values (first column) and follow up values (second grey column) are reported.

## Results for Large-Sized Organizations

Table 10 Results for Mindfulness and Relaxation Interventions in Large-Sized Organizations

Mindfulness and relaxation interventions	Hypothesized direction								Inverse direction						Total
	large		medium		small		none		small		medium		large		
General Health	1		1						1						3
Perceived stress	3	2	6		1		1								13
Physical	2		5		8		12	1							28
Mental/ cognitive	2		7		2		4	2	1						18
Emotional/ motivational	9	2	3		8	1	5	1							29
Burnout	1		4		4										9
Interpersonal	1		1		1										3
Work-related behavior			1												1
Work conditions	1		1		1				1						4
Total	20	4	29		25	1	22	4	3						108

Note: Effect sizes were categorized following the conventions for Cohen's d (0.2= small, 0.5= medium, 0.8= large) and for correlational coefficients (0.1= small, 0.3= medium, 0.5= large). For each effect size both post intervention values (first column) and follow up values (second grey column) are reported.

Table 11 Results for Cognitive Behavioral Therapy in Large-Sized Organizations

Cognitive Behavioral Therapy (CBT)	Hypothesized direction						Inverse direction						Total		
	large		medium		small		none		small		medium			large	
General Health							1	1							2
Perceived stress					2		1								3
Physical			1		1		2	2					1		7
Mental/ cognitive	2		1			1			1						5
Emotional/ motivational			1		1	1	3	2	3						11
Burnout							2								2
Interpersonal															
Work-related behavior	1			1			6	3							11
Work conditions															
<b>Total</b>	<b>3</b>		<b>3</b>	<b>1</b>	<b>4</b>	<b>2</b>	<b>15</b>	<b>8</b>	<b>4</b>				<b>1</b>		<b>41</b>

Note: Effect sizes were categorized following the conventions for Cohen's d (0.2= small, 0.5= medium, 0.8= large) and for correlational coefficients (0.1= small, 0.3= medium, 0.5= large). For each effect size both post intervention values (first column) and follow up values (second grey column) are reported.

Table 12 Results for Skills at Work-Interventions in Large-Sized Organizations

Skills at work-interventions	Hypothesized direction						none	Inverse direction						Total
	large		medium		small			small		medium		large		
General Health		1	1											2
Perceived stress	1				2									3
Physical					1			1						2
Mental/ cognitive					1		3	1				1		6
Emotional/ motivational		1	4		1		6	1		1				14
Burnout					3		4							7
Interpersonal	4						5							9
Work-related behavior					2		4							6
Work conditions	1				1		1							3
Total	6	2	5		11		23	1	2		1		1	52

Note: Effect sizes were categorized following the conventions for Cohen's d (0.2= small, 0.5= medium, 0.8= large) and for correlational coefficients (0.1= small, 0.3= medium, 0.5= large). For each effect size both post intervention values (first column) and follow up values (second grey column) are reported.

Table 13 Results for Informational Interventions in Large-Sized Organizations

Informational interventions	Hypothesized direction							Inverse direction			Total	
	large	medium	small	none	small	medium	large					
General Health												
Perceived stress												
Physical			1	2							3	
Mental/ cognitive	1	1	2	3	4	1					12	
Emotional/ motivational		1		1	1	2				2	7	
Burnout												
Interpersonal									2		2	
Work-related behavior			1	3	1			2			7	
Work conditions												
Total	1	2	2	6	1	9	4		2	2	2	31

Note: Effect sizes were categorized following the conventions for Cohen's d (0.2= small, 0.5= medium, 0.8= large) and for correlational coefficients (0.1= small, 0.3= medium, 0.5= large). For each effect size both post intervention values (first column) and follow up values (second grey column) are reported.

Table 14 Results for Other Interventions in Large-Sized Organizations

Others (mixed designs)	Hypothesized direction						Inverse direction						Total	
	large		medium		small		none		small		medium			large
General Health			1											1
Perceived stress														
Physical							5	5						10
Mental/ cognitive					5		9	9	1	2				26
Emotional/ motivational	3	1	1				11	1	1					18
Burnout		1		1	2	2	1	1						8
Interpersonal			2		1		3		1					7
Work-related behavior	4		3		4	1	16	18	3	3	1	1		54
Work conditions														
Total	7	2	7	1	12	3	45	34	6	5	1	1		124

Note: Effect sizes were categorized following the conventions for Cohen's d (0.2= small, 0.5= medium, 0.8= large) and for correlational coefficients (0.1= small, 0.3= medium, 0.5= large). For each effect size both post intervention values (first column) and follow up values (second grey column) are reported.

Table 15 Results for Health-Related Behavior-Interventions in Large-Sized Organizations

Health-related behavior-interventions	Hypothesized direction				none	Inverse direction			Total
	large	medium	small	none		small	medium	large	
General Health					1				1
Perceived stress									
Physical					1				1
Mental/ cognitive									
Emotional/ motivational			1		3				4
Burnout									
Interpersonal									
Work-related behavior					1				1
Work conditions									
Total			1		6				7

Note: Effect sizes were categorized following the conventions for Cohen's d (0.2= small, 0.5= medium, 0.8= large) and for correlational coefficients (0.1= small, 0.3= medium, 0.5= large). For each effect size both post intervention values (first column) and follow up values (second grey column) are reported.

Table 16 Results for Work-Oriented Interventions in Large-Sized Organizations

Work-oriented interventions	Hypothesized direction							Inverse direction			Total
	large		medium		small		none	small	medium	large	
General Health											
Perceived stress											
Physical	3				3		7	1			14
Mental/ cognitive	1		2		3	1	1				8
Emotional/ motivational			1				5				6
Burnout							1				1
Interpersonal	1				2		15	1			19
Work-related behavior					1	2	8	2	1		14
Work conditions			1	1	4	1	13	1	1		22
Total	5		4	1	13	4	50	5	2		84

Note: Effect sizes were categorized following the conventions for Cohen's d (0.2= small, 0.5= medium, 0.8= large) and for correlational coefficients (0.1= small, 0.3= medium, 0.5= large). For each effect size both post intervention values (first column) and follow up values (second grey column) are reported.

## Results for Organizations with Indistinct Size

Table 17 Results for Skills at Work-Interventions in Unknown -Sized Organizations

Skills at work-interventions	Hypothesized direction				Inverse direction				Total
Outcome	large	medium	small	none	small	medium	large		
General Health									
Perceived stress									
Physical									
Mental/ cognitive	1	1						2	
Emotional/ motivational		1	2	2				5	
Burnout				2				2	
Interpersonal			1					1	
Work-related behavior									
Work conditions					1	1		2	
Total	1	2	3	4	1	1		12	

Note: Effect sizes were categorized following the conventions for Cohen's d (0.2= small, 0.5= medium, 0.8= large) and for correlational coefficients (0.1= small, 0.3= medium, 0.5= large). For each effect size both post intervention values (first column) and follow up values (second grey column) are reported.

Table 18 Results for Other Interventions in Unknown -Sized Organizations

Others (mixed designs)	Hypothesized direction						Inverse direction						Total	
	large		medium		small		none		small		medium			large
General Health			1		1					1			1	4
Perceived stress														
Physical					2		3							5
Mental/ cognitive														
Emotional/ motivational							2							2
Burnout	3	3		1	1		1			1	1		1	12
Interpersonal												2	2	4
Work-related behavior							2							2
Work conditions							1							1
Total	3	3	1	1	4		9			2	1		2	30

Note: Effect sizes were categorized following the conventions for Cohen's d (0.2= small, 0.5= medium, 0.8= large) and for correlational coefficients (0.1= small, 0.3= medium, 0.5= large). For each effect size both post intervention values (first column) and follow up values (second grey column) are reported.

Table 19 Results for Health-Related Behavior-Interventions in Unknown -Sized Organizations

Health-related behavior-interventions	Hypothesized direction								Inverse direction			Total	
	large		medium		small		none		small	medium	large		
General Health													
Perceived stress							1	1					2
Physical							1	1					2
Mental/ cognitive					1	1							2
Emotional/ motivational							1						1
Burnout													
Interpersonal							1						1
Work-related behavior													
Work conditions							2						2
Total					1	1	6	2					10

Note: Effect sizes were categorized following the conventions for Cohen's d (0.2= small, 0.5= medium, 0.8= large) and for correlational coefficients (0.1= small, 0.3= medium, 0.5= large). For each effect size both post intervention values (first column) and follow up values (second grey column) are reported.

Table 20 Results for Cognitive Behavioral Therapy in Unknown -Sized Organizations

Cognitive Behavioral Therapy (CBT)	Hypothesized direction				none	Inverse direction			Total
	large	medium	small	small		medium	large		
General Health						1			1
Perceived stress		1							1
Physical									
Mental/ cognitive									
Emotional/ motivational									
Burnout									
Interpersonal			1						1
Work-related behavior									
Work conditions									
Total		1	1			1			3

Note: Effect sizes were categorized following the conventions for Cohen's d (0.2= small, 0.5= medium, 0.8= large) and for correlational coefficients (0.1= small, 0.3= medium, 0.5= large). For each effect size both post intervention values (first column) and follow up values (second grey column) are reported.

Table 21 Results for Mindfulness and Relaxation Interventions in Unknown -Sized Organizations

Mindfulness and relaxation interventions	Hypothesized direction						none	Inverse direction						Total
	large		medium		small			small		medium		large		
Outcome														
General Health				1	2									3
Perceived stress	1	1	1											3
Physical	4	1	1		4	3	6		1	1	1			22
Mental/ cognitive	4	4	1		2	1	1	1						14
Emotional/ motivational	3	3	2	1	1	1								11
Burnout	1	2	2		3	1								9
Interpersonal		1	1											2
Work-related behavior														
Work conditions					1	1								2
Total	13	12	8	2	13	7	7	1	1	1	1			66

Note: Effect sizes were categorized following the conventions for Cohen's d (0.2= small, 0.5= medium, 0.8= large) and for correlational coefficients (0.1= small, 0.3= medium, 0.5= large). For each effect size both post intervention values (first column) and follow up values (second grey column) are reported.

## Results for All Organizations

Table 22 Results for Mindfulness and Relaxation Interventions in Small-, Medium, and Large-Sized Organizations

Mindfulness and relaxation interventions	Hypothesized direction								Inverse direction						Total
	large		medium		small		none		small		medium		large		
General Health	1		1	1	2				1						6
Perceived stress	6	3	8		1		1								19
Physical	6	1	6		12	3	18	1	1	1	1				50
Mental/ cognitive	6	4	8		4	1	5	3	1						32
Emotional/ motivational	13	5	6	1	9	2	5	1							42
Burnout	2	2	6		8	1									19
Interpersonal	1	1	2		1										5
Work-related behavior			1												1
Work conditions	1		1		2	1			1						6
<b>Total</b>	<b>36</b>	<b>16</b>	<b>39</b>	<b>2</b>	<b>39</b>	<b>8</b>	<b>29</b>	<b>5</b>	<b>4</b>	<b>1</b>	<b>1</b>				<b>180</b>

Note: Effect sizes were categorized following the conventions for Cohen's d (0.2= small, 0.5= medium, 0.8= large) and for correlational coefficients (0.1= small, 0.3= medium, 0.5= large). For each effect size both post intervention values (first column) and follow up values (second grey column) are reported.

Table 23 Results for Cognitive Behavioral Therapy in Small-, Medium, and Large-Sized Organizations

Cognitive Behavioral Therapy (CBT)	Hypothesized direction						Inverse direction						Total		
	large		medium		small		none		small		medium			large	
General Health							1	1	1						3
Perceived stress			1		2		1								4
Physical	1	2	2	1	4	1	3	3					1		18
Mental/ cognitive	2	2	4	1		1			1						11
Emotional/ motivational			1		1	1	3	2	3						11
Burnout							2								2
Interpersonal					1										1
Work-related behavior	1			1			6	4		1					13
Work conditions															
<b>Total</b>	<b>4</b>	<b>4</b>	<b>8</b>	<b>3</b>	<b>8</b>	<b>3</b>	<b>16</b>	<b>10</b>	<b>5</b>	<b>1</b>			<b>1</b>		<b>63</b>

Note: Effect sizes were categorized following the conventions for Cohen's d (0.2= small, 0.5= medium, 0.8= large) and for correlational coefficients (0.1= small, 0.3= medium, 0.5= large). For each effect size both post intervention values (first column) and follow up values (second grey column) are reported.

Table 24 Results for Skills at Work-Interventions in Small-, Medium, and Large-Sized Organizations

Skills at work-interventions	Hypothesized direction						none	Inverse direction						Total
	large		medium		small			small		medium		large		
General Health		1	1											2
Perceived stress	1				3	2								6
Physical				1	2	1	2	3	2					11
Mental/ cognitive	1		4	2	2	6	3		1				1	20
Emotional/ motivational		1	7		3	4	12	5	1		1			34
Burnout				1	6	4	6	1						18
Interpersonal	4				1		5							10
Work-related behavior					3	1	4	1						9
Work conditions	1				1		1		1		1			5
Total	7	2	12	4	21	18	33	10	5		2		1	115

Note: Effect sizes were categorized following the conventions for Cohen's d (0.2= small, 0.5= medium, 0.8= large) and for correlational coefficients (0.1= small, 0.3= medium, 0.5= large). For each effect size both post intervention values (first column) and follow up values (second grey column) are reported.

Table 25 Results for Work-Oriented Interventions in Small-, Medium, and Large-Sized Organizations

Work-oriented interventions	Hypothesized direction							Inverse direction			Total	
	large		medium		small		none	small	medium	large		
General Health												
Perceived stress												
Physical	3				3		7	1				14
Mental/ cognitive	1		2		3	1	1					8
Emotional/ motivational	2		1				5				1	9
Burnout							1					1
Interpersonal	8		2		2		15	1	2		1	31
Work-related behavior					1	2	8	2	1			14
Work conditions	7		2	1	4	1	13	1	1		4	34
Total	21		7	1	13	4	50	5	4		6	111

Note: Effect sizes were categorized following the conventions for Cohen's d (0.2= small, 0.5= medium, 0.8= large) and for correlational coefficients (0.1= small, 0.3= medium, 0.5= large). For each effect size both post intervention values (first column) and follow up values (second grey column) are reported.

Table 26 Results for Informational Interventions in Small-, Medium, and Large-Sized Organizations

Informational interventions	Hypothesized direction							Inverse direction			Total	
	large	medium	small	none	small	medium	large					
General Health												
Perceived stress												
Physical			1	2							3	
Mental/ cognitive	1	1	2	3	4	1					12	
Emotional/ motivational		1	1	1	2					2	7	
Burnout												
Interpersonal									2		2	
Work-related behavior			1	3	1			2			7	
Work conditions												
Total	1	2	2	6	1	9	4		2	2	2	31

Note: Effect sizes were categorized following the conventions for Cohen's d (0.2= small, 0.5= medium, 0.8= large) and for correlational coefficients (0.1= small, 0.3= medium, 0.5= large). For each effect size both post intervention values (first column) and follow up values (second grey column) are reported.

Table 27 Results for Other Interventions in Small-, Medium, and Large-Sized Organizations

Others (mixed designs)	Hypothesized direction						Inverse direction						Total		
	large		medium		small		none		small		medium			large	
General Health			2		1					1				1	5
Perceived stress															
Physical					2		8	5							15
Mental/ cognitive					5		9	9	1	2					26
Emotional/ motivational	3	1	1				13	1	1						20
Burnout	3	4		2	3	2	2	1		1	1			1	20
Interpersonal			2		1		3		1				2	2	11
Work-related behavior	4		3		4	1	18	18	3	3	1	1			56
Work conditions							1								1
<b>Total</b>	<b>10</b>	<b>5</b>	<b>8</b>	<b>2</b>	<b>16</b>	<b>3</b>	<b>54</b>	<b>34</b>	<b>6</b>	<b>7</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>154</b>

Note: Effect sizes were categorized following the conventions for Cohen's d (0.2= small, 0.5= medium, 0.8= large) and for correlational coefficients (0.1= small, 0.3= medium, 0.5= large). For each effect size both post intervention values (first column) and follow up values (second grey column) are reported.

Table 28 Results for Health-Related Interventions in Small-, Medium, and Large-Sized Organizations

Health-related interventions	Hypothesized direction							Inverse direction			Total	
	large		medium		small		none	small	medium	large		
General Health							1					1
Perceived stress							1	1				2
Physical							2	1				3
Mental/ cognitive					1	1						2
Emotional/ motivational					1		4					5
Burnout												
Interpersonal							1					1
Work-related behavior							1					1
Work conditions							2					2
Total					2	1	12	2				17

Note: Effect sizes were categorized following the conventions for Cohen's d (0.2= small, 0.5= medium, 0.8= large) and for correlational coefficients (0.1= small, 0.3= medium, 0.5= large). For each effect size both post intervention values (first column) and follow up values (second grey column) are reported.