ISRCTN15232070 https://doi.org/10.1186/ISRCTN15232070

Improving medical doctors' sustainable employability: An intervention study

Submission date	**Recruitment status**	[_] Prospectively registered
10/08/2023	No longer recruiting	[X] Protocol
Registration date	**Overall study status**	[_] Statistical analysis plan
16/08/2023	Completed	[_] Results
Last Edited	**Condition category**	[_] Individual participant data
08/01/2025	Other	[_] Record updated in last year

Plain English summary of protocol

Background and study aims
In recent years, sustainable employability among medical doctors is a rising concern. Burn-out, work engagement and job satisfaction are considered key factors in sustainable employability. The prevalence of burnout among medical doctors is high, which has detrimental effects on their health and well-being and seems to negatively affect the quality of care they provide. Work engagement is crucial as it is associated with positive job outcomes, including good quality of care and job satisfaction. A decrease in job satisfaction is associated with increased turnover, which is problematic in times of staff shortage. Medical doctors face high job demands, such as high workloads and emotional load. Job resources and a psychosocial safety climate seem to be essential for coping with these high job demands. However, when job demands are too high, and job resources and the psychosocial safety climate are low, sustainable employability is threatened. Nowadays, research suggests that organizational-level stress management interventions are promising in improving job characteristics and enhancing sustainable employability. These interventions are focused on changing the way work is organized. Participatory action research is a specific approach that involves the active participation of employees in determining the focus, approach, and implementation process of changes in their work setting. The aim of this study is to determine the effect of a participatory action research-based organizational-level stress management intervention and to identify success and failure factors related to the implementation process of this intervention. The aim is to get insight into the mediating role of changes in job demands, job resources, psychosocial safety climate and global measure of the impact of changes implemented on the work situation in the effect of the intervention on sustainable employability.

Who can participate?
Medical doctors in the Netherlands who work in different organizations and specializations

What does the study involve?
There are no specific inclusion/exclusion criteria used regarding for instance age, sex or health condition. Central in this study is that the doctor group (including all individual doctors) will participate in the intervention as a whole. The medical doctor groups receive an organizational-level stress management intervention with a participatory action research approach, as implemented by the Dutch Association of Salaried Doctors (LAD) and groups of medical doctors.

All groups will receive the 2-year intervention trajectory in the same vein. However, the groups select their own relevant themes and actively participate in the development and implementation of the intervention (i.e., goals and implementation strategies). The intervention consists of three phases (8, 6 and 10 months). The groups of medical doctors are guided by process facilitators (coaches). The guidance will be gradually reduced during the intervention. The medical doctor groups work on chosen themes in working groups, based on the baseline questionnaire results. The working groups discuss plans and goals in plenary meetings. The chairpersons meet during chairperson meetings, in which a streamlined process and efficiency and collaboration between working groups are enhanced. Some of the working groups, plenary meetings and chairperson meetings are guided by the process facilitator, while others are not. Four measurements are included in this study. The groups of medical doctors start with a baseline measurement (T0). This questionnaire measures different constructs related to psychosocial safety climate, job demands, job resources, sustainable employability indicators, turnover intention and occupational self-efficacy. Three evaluation measurements will follow, including an effect and process evaluation, after 8 months (T1), 14 months (T2), and 23 months (T3). Interviews will be additionally conducted with the medical doctors and process facilitators (coaches) to obtain additional information about the process of the intervention. LAD (project leader and process facilitators) is responsible for the guidance and progress of the delivered intervention. Leiden University is responsible for the research part of the project.

What are the possible benefits and risks of participating?
The possible benefits from enrolling are that the intervention has the potential to improve sustainable employability (reducing the risk of burnout and increasing work engagement and job satisfaction), occupational self-efficacy, turnover intention, and global measure of the impact of changes implemented on health/well-being via changes in psychosocial safety climate, job demands, job resources and global measure of the impact of changes implemented on the work situation. The possible risk of participating is that the intervention process might put strain on medical doctors, and potentially enhance tension within some groups. The process facilitator (coach) is aware of this risk and guides the process aiming to prevent or resolve these negative effects.

Where is the study run from?
LAD is accountable for guiding and monitoring the implementation of the intervention. Leiden University is responsible for the research part of the project, including the measurements and the progress updates regarding the effect and process of the intervention for each group. Progress updates are jointly pre-discussed with Leiden University and the LAD.

When is the study starting and how long is it expected to run for?
February 2020 to December 2024

Who is funding the study?
1. Dutch Association of Salaried Doctors (LAD)
2. Foundation for Employment of Medical Professionals (SWG)

Who is the main contact?
Margot van der Doef, (Principal Investigator) DOEF@FSW.leidenuniv.nl

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Study information

Scientific Title
Effect and process evaluation of an organizational intervention to improve doctors' sustainable employability: A participative action research-based study

Acronym
EPEOIISEPAR

Study objectives
Current study hypothesis as of 03/04/2024:

Main questions addressed by the study:

1. What are the endpoint and intermediate effects of an organizational-level stress management intervention based on the participative action research approach on sustainable employability indicators (burn-out, work engagement and job satisfaction), turnover intention, occupational self-efficacy, global measure of the impact of changes implemented on health/well-being, job characteristics (job demands, job resources), psychosocial safety climate, and global measure of the impact of changes implemented on the work situation of medical doctors?

2. Do changes in psychosocial safety climate, job demands, job resources, and global measure of the impact of changes implemented on the work situation mediate the effect of the intervention on sustainable employability, turnover intention, occupational self-efficacy, and global measure of the impact of changes implemented on health/well-being?

3. Which process variables (e.g., management support, communication/information, employee involvement in designing and implementing actions, and appraisals regarding the focus of the project and the actions taken) play an important role in the effectiveness of an organizational-level stress management intervention?

The principal hypotheses are:
1. The organizational-level stress management intervention will improve sustainable employability indicators (burnout, work engagement, and job satisfaction) of medical doctors

2. The organizational-level stress management intervention will improve occupational self-efficacy and global measure of the impact of changes implemented on health/well-being, and decrease turnover intention

3. The organizational-level stress management intervention will improve job characteristics (i.e., reduce job demands, enhance job resources), psychosocial safety climate, and global measure of the impact of changes implemented on the work situation

4. The effect of the organizational-level stress management intervention on sustainable employability indicators, occupational self-efficacy, turnover intention and global measure of the impact of changes implemented on health/well-being is mediated by the changes in job characteristics (reduction of job demands and improvement of job resources), psychosocial safety climate and global measure of the impact of changes implemented on the work situation

5. The effect of the intervention will be stronger in those groups of medical doctors with more favorable process variables (e.g., supportive management, good communication/information, high employee involvement in designing and implementing actions, and positive appraisals regarding the focus of the project and the actions taken)

Previous study hypothesis:

Main questions addressed by the study:

1. What are the endpoint and intermediate effects of an organizational-level stress management intervention based on the participative action approach on sustainable employability indicators (burn-out, work engagement and job satisfaction), turnover intention, occupational self-efficacy, and job characteristics (job demands, job resources, and psychosocial safety climate) of medical doctors?

2. Do changes in psychosocial safety climate, job demands, and job resources mediate the effect of the intervention on sustainable employability, turnover intention and occupational self-efficacy?

3. Which process variables (e.g., management support, communication/information, employee involvement in designing and implementing actions, and appraisals regarding the focus of the project and the actions taken) play an important role in the effectiveness of an organizational-level stress management intervention?

The principal hypotheses are:
1. The organizational-level stress management intervention will improve sustainable employability indicators (burnout, work engagement, and job satisfaction) of medical doctors

2. The organizational-level stress management intervention will improve occupational self-efficacy and decrease turnover intention

3. The organizational-level stress management intervention will improve job characteristics, i.e. reduce job demands, enhance job resources, and improve psychosocial safety climate

4. The effect of the organizational-level stress management intervention on sustainable employability indicators, occupational self-efficacy and turnover intention is mediated by the changes in job characteristics (reduction of job demands, and improvement of job resources and psychosocial safety climate)

5. The effect of the intervention will be stronger in those groups of medical doctors with more favorable process variables (e.g., supportive management, good communication/information, high employee involvement in designing and implementing actions, and positive appraisals regarding the focus of the project and the actions taken)

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 13/10/2020, Psychology Research Ethics Committee (Postbus 9555, Leiden, 2300 RB Leiden, Netherlands; +31(0) 71 5276661; ethiekpsychologie@fsw.leidenuniv.nl), ref: 2020-09-29-Doef, dr. M.P. van der-V2-2611

Some changes in the number of participants and instruments:
Approved 17/04/2023, Social and Behavioural Sciences, Psychology, Health Medical and Neuropsychology, Leiden Univerisity (Wassenaarseweg 52, 2333 AK, Leiden, +31(0)715276661, ethiekpsychologie@fsw.leidenuniv.nl), ref: 2023-04-04-Doef, dr. M.P. van der-V3-4509

Primary study design
Interventional

Study design
Longitudinal uncontrolled intervention study

Study type(s)
Other

Health condition(s) or problem(s) studied
Improvement of sustainable employability of medical doctors

Interventions
Current interventions as of 03/04/2024:
This is a longitudinal intervention study without a control group. The study is an organizational-level stress management intervention with a participative action research approach, spanning over a period of 2 years. Groups of medical doctors from various healthcare organizations will participate in the intervention, without the inclusion of control groups. The project follows the context-mechanism-outcome (CMO) approach, which evaluates what works for whom, how (mechanisms), and under which circumstances (context). The goals are to determine the overall effect of the intervention and to get insight into the mechanisms through which the intervention has its impact on outcomes, and which process variables facilitate and/or hinder its effectiveness. No control group will be included, given the improbability of finding comparable control groups which are willing to join in multiple assessments without an intervention trajectory.

The intervention is a participative action research approach-based organizational-level stress management intervention, as implemented by the Dutch Association of Salaried Doctors (LAD),

and the selected actions and changes established by the groups. All groups will go through the 2-year intervention trajectory in a similar manner, however focusing on those themes that are relevant for their group. The intervention consists of three different phases: phase one (8 months), phase two (6 months), and phase three (10 months). During the intervention, the groups of medical doctors will work on selected themes and set goals under the guidance of process facilitators (coaches). The level of guidance provided by the process facilitators gradually decreases over the phases, with phase one involving intensive guidance and support, phase two offering support and guidance according to needs, and phase three providing guidance as needed and support as necessary. The intention of the intervention is to stimulate the groups to continue working independently on desired themes once their 2-year intervention trajectory is completed.

The study incorporates four different measurement points (T0, T1, T2, and T3). The project starts with the baseline questionnaire (T0) to measure various job characteristics (job demands, job resources), psychosocial safety climate, sustainable employability indicators (burn-out complaints, job satisfaction, work engagement), turnover intention and occupational self-efficacy. Based on the baseline results, the groups of medical doctors will work in the intervention trajectory on themes they selected themselves. Working groups are formed for each chosen theme. In line with the participative action research approach, the medical doctor groups actively participate in the development and implementation of the changes, which involves defining and choosing goals and implementation strategies, as well as communication. Plenary meetings are held with all medical doctors/working groups to coordinate the process, share their goals and plans, and prevent overlap (duplication of effort) between working groups. Each working group also has a chairperson who serves as the main contact person and facilitates the process. The chairpersons also convene in chairperson meetings to promote a streamlined process, and communication between the different working groups, and enhance efficiency and collaboration. The process facilitator guides some of the meetings while others take place without direct facilitation. As mentioned, the intensity of the guided meetings depends on the phase of the intervention. The intervention is partly online, and partly onsite sessions.

During the intervention trajectory, evaluation measurements take place at T1 (8 months after baseline), T2 (14 months after baseline) and T3 (23 months after baseline). These evaluations include both an effect and process evaluation. The questionnaires used in these evaluations consist of the baseline items, complemented with two items assessing global measure of the impact of changes implemented on health/well-being and the work situation, and process-related items assessing potential facilitators and barriers to the effectiveness of the intervention. In addition to the evaluation questionnaires, interviews are conducted (2 to 5 per group) with the medical doctors and process facilitators (coaches) to gather additional information about the process of the intervention. Based on the results of the intermediate evaluations, the doctor groups determine the desired focus and approach for the next intervention phase. In this way, the intermediate evaluations provide direction to the intervention. Progress updates regarding the effect and process of the intervention are presented to each group of medical doctors at each evaluation point. Progress updates are jointly pre-discussed with Leiden University and the Dutch Association of Salaried Doctors (LAD).

The LAD (project leader and process facilitators) is accountable for guiding and monitoring the implementation of the intervention. Leiden University is responsible for the research part of the project, including the measurements and the progress updates regarding the effect and process of the intervention for each group.

Previous interventions:
This is a longitudinal intervention study without a control group. The study is an organizational-

level stress management intervention with a participative action approach, spanning over a period of 2 years. Groups of medical doctors from various healthcare organizations will participate in the intervention, without the inclusion of control groups. The project follows the context-mechanism-outcome (CMO) approach, which evaluates what works for whom, how (mechanisms), and under which circumstances (context). The goals are to determine the overall effect of the intervention and to get insight into the mechanisms through which the intervention has its impact on outcomes, and which process variables facilitate and/or hinder its effectiveness. No control group will be included, given the improbability of finding comparable control groups which are willing to join in multiple assessments without an intervention trajectory.

The intervention is a participative action approach-based organizational-level stress management intervention, as implemented by the Dutch National Association of Employed Doctors (LAD), and the selected actions and changes established by the groups. All groups will go through the 2-year intervention trajectory in a similar manner, however focusing on those themes that are relevant for their group. The intervention consists of three different phases: phase one (8 months), phase two (6 months), and phase three (10 months). During the intervention, the groups of medical doctors will work on selected themes and set goals under the guidance of process facilitators (coaches). The level of guidance provided by the process facilitators gradually decreases over the phases, with phase one involving intensive guidance and support, phase two offering support and guidance according to needs, and phase three providing guidance as needed and support as necessary. The intention of the intervention is to stimulate the groups to continue working independently on desired themes once their 2-year intervention trajectory is completed.

The study incorporates four different measurement points (T0, T1, T2, and T3). The project starts with the baseline questionnaire (T0) to measure various job characteristics (job demands, job resources, and psychosocial safety climate), sustainable employability indicators (burn-out complaints, job satisfaction, work engagement), turnover intention and occupational self-efficacy. Based on the baseline results, the groups of medical doctors will work in the intervention trajectory on themes they selected themselves. Working groups are formed for each chosen theme. In line with the participative action approach, the medical doctor groups actively participate in the development and implementation of the changes, which involves defining and choosing goals and implementation strategies, as well as communication. Plenary meetings are held with all medical doctors/working groups to coordinate the process, share their goals and plans, and prevent overlap (duplication of effort) between working groups. Each working group also has a chairperson who serves as the main contact person and facilitates the process. The chairpersons also convene in chairperson meetings to promote a streamlined process, and communication between the different working groups, and enhance efficiency and collaboration. The process facilitator guides some of the meetings while others take place without direct facilitation. As mentioned, the intensity of the guided meetings depends on the phase of the intervention. The intervention is partly online, and partly onsite sessions.

During the intervention trajectory, evaluation measurements take place at T1 (8 months after baseline), T2 (14 months after baseline) and T3 (23 months after baseline). These evaluations include both an effect and process evaluation. The questionnaires used in these evaluations consist of the baseline items, complemented with process-related items assessing potential facilitators and barriers to the effectiveness of the intervention. In addition to the evaluation questionnaires, interviews are conducted (2 to 5 per group) with the medical doctors and process facilitators (coaches) to gather additional information about the process of the intervention. The interviews conducted at T3 will be recorded, transcribed and coded. Based on the results of the intermediate evaluations, the doctor groups determine the desired focus and

approach for the next intervention phase. In this way, the intermediate evaluations provide direction to the intervention. Progress updates regarding the effect and process of the intervention are presented to each group of medical doctors at each evaluation point. Progress updates are jointly pre-discussed with Leiden University and the Dutch National Association of Employed Doctors (LAD).

The LAD (project leader and process facilitators) is accountable for guiding and monitoring the implementation of the intervention. Leiden University is responsible for the research part of the project, including the measurements and the progress updates regarding the effect and process of the intervention for each group.

Intervention Type
Mixed

Primary outcome(s)
Sustainable employability (burn-out complaints, work engagement and job satisfaction) is measured using the following questionnaires at baseline, 8 months, 14 months and 23 months:
1. Burnout measured using the Burnout Assessment Tool (BAT)
2. Work engagement measured using the Utrecht Work Engagement Scale (UWES-9)
3. Job satisfaction measured using the Leiden Quality of Work Questionnaire - medical doctor version (LQWQ)

Key secondary outcome(s)
Current secondary outcome measures as of 03/04/2024:
1. Turnover intention measured using the Leiden Quality of Work Questionnaire - medical doctor version (LQWQ) at baseline, 8 months, 14 months and 23 months
2. Occupational self-efficacy measured using the short version of the Occupational Self-efficacy Scale (OSS-SF) at baseline, 8 months, 14 months and 23 months
3. Global measure of the impact of changes implemented on health/well-being measured at 8 months, 14 months and 23 months using the item: Are the initiated changes affecting your health/well-being? The answer options for this item are: “yes”, “no”, or “no changes have been initiated yet”. If participants select the answer option “yes”, the following item will be presented: "To what extent is the impact of the initiated changes on your health/well-being positive or negative?". This item is answered on a 7-point Likert scale, ranging from very negative to very positive.

Mediators:
Assessed through questionnaires at baseline, 8 months, 14 months and 23 months:
1. Job resources (autonomy, within-worktime recovery, social support from supervisor, social support from colleagues, work procedures, role clarity, development opportunities, staffing levels, equipment and materials, internal communication, (financial) rewards and team reflexivity) measured using the Leiden Quality of Work Questionnaire – medical doctor version (LQWQ) and team reflexivity
2. Job demands (time pressure, emotional, cognitive and physical workload, and social harassment) measured using the Leiden Quality of Work Questionnaire - medical doctor version (LQWQ), extended with items based on the Questionnaire on the Experience and Evaluation of Work (QEEW) and the Demand-Induced Strain Compensation Recovery Questionnaire (DISQ)
3. Psychosocial safety climate (top management, direct supervisor, own (doctor) group, communication, and participation) measured using the Psychosocial Safety Climate Survey (PSC)
4. Global measure of the impact of changes implemented on the work situation measured at 8 months, 14 months and 23 months using the item: Are the initiated changes affecting your work

situation? The answer options for this item are: “yes”, “no”, or “no changes have been initiated yet”. If participants select the answer option “yes”, the following item will be presented: “To what extent is the impact of the initiated changes on your work situation positive or negative?” This item is answered on a 7-point Likert scale, ranging from very negative to very positive.

Moderators:
1. Process variables (degree of implementation, information provision, employee involvement, management support, and employee mental models (appraisals of the focus and approach of the intervention and readiness for change) measured using process items based on the Intervention Process Measure (IPM) and process evaluation checklist at 8 months, 14 months and 23 months

Previous secondary outcome measures:
The secondary outcome measures are assessed through questionnaires at baseline, 8 months, 14 months and 23 months:
1. Turnover intention measured using the Leiden Quality of Work Questionnaire - medical doctor version (LQWQ)
2. Occupational self-efficacy measured using the short version of the Occupational Self-efficacy Scale (OSS-SF)
3. Global measure of the impact of changes implemented on health/well-being and the work situation measured using two items:
3.1. Are the initiated changes affecting your work situation?
3.2. Are the initiated changes affecting your health/well-being?
The answer options for these two items are: “yes”, “no”, or “no changes have been initiated yet”. If participants select the answer option “yes”, the following item(s) will be presented: “to what extent is the impact of the initiated changes on your work situation positive or negative?” and/or "to what extent is the impact of the initiated changes on your health/well-being positive or negative?". These items are answered on a 7 points Likert scale, ranging from very negative to very positive.

Mediators:
1. Job resources (autonomy, within-worktime recovery, social support from supervisor, social support from colleagues, work procedures, role clarity, development opportunities, staffing levels, equipment and materials, internal communication, (financial) rewards and team reflexivity) measured using the Leiden Quality of Work Questionnaire – medical doctor version (LQWQ) and team reflexivity
2. Job demands (time pressure, emotional, cognitive and physical work load, and social harassment) measured using the Leiden Quality of Work Questionnaire - medical doctor version (LQWQ), extended with items based on the Questionnaire on the Experience and Evaluation of Work (QEEW) and the Demand-Induced Strain Compensation Recovery Questionnaire (DISQ)
3. Psychosocial safety climate (top management, direct supervisor, own (doctor) group, communication, and participation) measured using the Psychosocial Safety Climate Survey (PSC)

Moderators:
1. Process variables (degree of implementation, information provision, employee involvement, management support, and employee mental models (appraisals of the focus and approach of the intervention and readiness for change) measured using process items based on the Intervention Process Measure (IPM) and process evaluation checklist

Completion date
31/12/2024

Eligibility

Key inclusion criteria
Medical doctors who work in various settings and specializations (e.g., medical specialists in hospitals, municipal health services, general practitioners and residential care doctors)

Participant type(s)
Health professional, Employee

Healthy volunteers allowed
No

Age group
Adult

Sex
All

Total final enrolment
643

Key exclusion criteria
Not meeting the participant inclusion criteria

Date of first enrolment
01/07/2020

Date of final enrolment
31/12/2022

Locations

Countries of recruitment
Netherlands

Study participating centre
Leiden University
Wassenaarse weg 52
Leiden
Netherlands
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Study participating centre
Dutch Association of Salaried Doctors (LAD)
Mercatorlaan 1200
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Netherlands
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Sponsor information

Organisation
Dutch Association of Salaried Doctors (LAD)

Organisation
Leiden University

ROR
https://ror.org/027bh9e22

Funder(s)

Funder type
Other

Funder Name
Dutch Association of Salaried Doctors (LAD)

Funder Name
Foundation for Employment of Medical Professionals (SWG)

Results and Publications

Individual participant data (IPD) sharing plan
The datasets generated during and/or analysed during the current study will be stored in a non-publicly available repository (j-drive, of Leiden University computers)

The datasets generated during and/or analysed during the current study are/will be available upon request from Dataverse, contacted Margot van der Doef, DOEF@FSW.leidenuniv.nl, for access to the datasets.

The datasets generated and/or analysed during the current study will be published as a supplement to the results publication.

According to the guidelines for the archiving of academic research for faculties of behavioral and social sciences in the Netherlands, the data and publication packages will be stored in Dataverse for a minimum of 10 years. There it will be available upon request. Publication packages will be provided to ensure that peers are able to understand and reuse the data. The participant's data will be stored with a unique personal code for the anonymity of the participants.

In the informed consent, participants are asked for permission to use the data for reports and publications. We ensure that the individual will not be personally identifiable (anonym). Besides, in the questionnaire, we ask for permission to approach participants for an interview. We only approach participants who gave permission.

All data is collected under the medical doctor's group number and participant numbers. The key of which number belongs to which doctors group, and which participant number belongs to which participant, is kept separate from the rest of the data and is saved on a secured research data drive for this project on the university network of Leiden University. At the end of this project (after the last publications), this link file (key to doctor groups and participants) will be deleted.

IPD sharing plan summary

Stored in publicly available repository, Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Protocol article		26/11/2024	08/01/2025	Yes	No