Cognition training during or after burnout

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| Ethical review | Approved WMO |
|-----------------------|-----------------|
| Status | Pending |
| Health condition type | Other condition |
| Study type | Interventional |

Summary

ID

NL-OMON53769

Source ToetsingOnline

Brief title Burnout and cognition

Condition

• Other condition

Synonym emotional exhaustion, Overstrung

Health condition

burnout

Research involving Human

Sponsors and support

Primary sponsor: Erasmus Universiteit Rotterdam Source(s) of monetary or material Support: Ministerie van OC&W

Intervention

Keyword: Burnout, Cognition, Training

Outcome measures

Primary outcome

Improvement in working memory, inhibition, and task switching from pre- to

post-assessment and the difference in this improvement between the intervention

and the waiting control group.

Secondary outcome

To quantify participants* cognitive complaints, we will measure this specific

burnout symptom using the Burnout Assessment Tool (BAT) at the pre- and

post-assessment.

Study description

Background summary

Research interest in burnout has persisted over the past 50 years but is currently more relevant than ever. Using the 2015 data of the European Working Conditions Survey, Schaufeli (2018) found that the prevalence of burnout was 10% for the European workforce, and 17% for workers in non-European countries. Another large study conducted around the same time in the United States showed that 28% of the millennials felt frequently or constantly burned-out, compared to 21% of all workers that belonged to older generations (Pendell, 2018). The Covid-19 pandemic has led to an even larger rise of individuals suffering from burnout (da Silvera-Pereira & Silva Ribeiro, 2022). Although burnout is broadly researched, it has only recently been recognized as an occupational phenomenon by the World Health Organization in the International Categorization of Diseases (ICD-11; WHO, 2019). It is not classified as a medical condition. Research has by now consistently linked burnout to various types of cognitive impairment (Deligkaris et al., 2014). Some researchers even regard cognitive weariness (having slow thinking processes and reduced mental agility) as a main dimension of burnout (Shirom et al., 2006). On top of that, several studies have shown that burnout patients continue to suffer from some form of cognitive decline for a long time (e.g., Oosterholt et al., 2016; Van Dam et al., 2012). The most consistent cognitive deficits detected in burnout patients have been found in three main cognitive functions: executive functions, attention, and memory (Deligkaris et al., 2014). Because these cognitive functions are key to performance, not treating these symptoms may be a hindering factor in returning to work (for burnout patients) or in returning to pre-burnout performance levels (for employees who have been officially recovered from their burnout).

A central problem in the burnout literature is that interventions to effectively prevent and reduce burnout are often advocated, but rarely designed and studied. Most interventions published today focus on stress reduction among individuals who suffer from burnout, through relaxation, mindfulness, and cognitive behavioural therapy (Maslach et al., 1996). The core aim of these interventions is symptom control and stress relief. None of those focus on the cognitive challenges that burnout patients face and continue to face for a long time. Therefore, even those who officially recovered from their burnout, have difficulties going back to their former jobs.

Study objective

Research shows that the executive functions, attention, and memory - the areas that are affected in burnout patients - are trainable cognitive functions. This has been demonstrated so far mostly in older adults (Karbach & Kray, 2009; Mozolic et al., 2011) but also in specific age groups (Bürki et al., 2014; Zinke et al., 2012) and with video games (Strobach & Schubert, 2020). We therefore designed a cognition enhancement training specifically aimed at improving these cognitive functions in burnout patients and employees who have officially recovered from burnout.

At this point, we have some preliminary evidence for the effectiveness of our training. In a group of healthy employees, we measured the extent to which they experienced burnout symptoms. We found that those with higher burnout complaints improved their performance on the memory and executive functioning tasks, significantly more so than those with higher burnout complaints in the control group.

Primary objective: To study the effectiveness of a cognition enhancement training for improving the performance on working memory, inhibition and task switching among employees who are either burned-out or have been burned-out in the past.

Research question: What is the effect of a cognitive enhancement training on

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performance on working memory, inhibition (i.e., executive function) and task switching (i.e., attention) among workers who are burnout or have recovered from burnout?

Study design

Intervention study with a waiting list control group. Mixed design:

Within factors

• Pre-versus post-assessment of measures on inhibition, working memory, task switching.

Between factor

• Training versus a waiting control group.

Both groups will have two online meetings with one of the researchers, at the start of the study (pre-assessment) and after 6 weeks (post-assessment), in which they perform several cognitive tasks to test their working memory, inhibition and task switching. Both groups will also go through six 30-minute online training sessions (one each week) in their own time. The intervention group will do this in between the pre- and post-assessment, the waiting control group after the post-assessment. Participants will be randomly assigned to either one of these two groups (making sure that age and education level is equally distributed across groups). This way, both groups have the possibility to benefit from the training. Moreover, we can determine the effectiveness of the training by comparing the improvement in cognition from pre- to post-assessment between the two groups.

Intervention

Participants will follow a six-week online cognitive enhancement training. They will receive one 30-minute training each week, every training session having a different theme but similar challenging tasks. They go through the training on their own, in their own time, using their own laptop or computer and the internet.

The training, as well as the pre-and post-assessment, was designed and administered using open-access platform Qualtrics.

Each training session consists of tasks alternated by relevant background information in the form of text and videos. Each training session has a theme through which background information is being provided. The themes are vitality, memory processes, cognitive flexibility, mindfulness, prospective memory, and embodied cognition. This background information and related videos (from youtube) function as a link to the tasks and as a moment of rest between the strenuous tasks. All tasks were designed to improve relevant cognitive skills and each training includes tasks to train working memory, task switching ability and inhibition ability.

To improve working memory, participants learn a different memory strategy during each training session, and over the six sessions, learn to combine them. For example, training 1 starts with the memory strategy of using imagination to learn and organize new information. In training 2, this strategy is expanded was continued by adding the loci memory strategy, and so on. To improve task-switching abilities, participants are asked to perform a series of assignments, during which they are interrupted several times. For instance, participants are instructed to compose an email then get interrupted by another task, to look something up on the internet. After completion of this task, they have to continue composing the email, during which they are interrupted again, to check their personal agenda for available dates for a board meeting. To improve inhibition ability, participants learn to ignore annoying visual and auditory distractors when performing an assignment.

Each training session concludes with ratings of how enjoyable and informative the training session had been, and a rating of the workload of the training session.

Study burden and risks

Participants are either burnout or recovered from a burnout. The reason these groups are the focus of our research is that these groups often experience cognitive impairments that are not treated with regular therapy by for example a GP or psychologist. The risk is that the training is too cognitively challenging for them (but see above how we will deal with that risk). Yet, in order to improve their cognitive functions, it is important that the training is at least somewhat challenging. The benefit of the training is that it may improve their cognitive functions in the domains of working memory, inhibition, and task switching, and with that, help them to deal with cognitive tasks both at work and in their daily life. To reduce the risk of overburdening participants, we decided to extend the training from 2 to 6 weeks (after evaluating a pilot with a healthy population), in order for participants to complete 1 training session each week. In addition, we inform participants that they may guit the training at any time without having to give a reason and without consequences and encourage them to consult their GP and/or therapist before and during the training

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age

Adults (18-64 years)

Inclusion criteria

- Have an official burnout diagnosis (now or in the past) by a GP, occupational physician, or psychologist.
- Be a member of the labor force
- Have access to a laptop or computer

Exclusion criteria

- No official burnout diagnosis
- Not a member of the labor force
- No access to a laptop or computer

Study design

Design

| Study phase: | 2 |
|---------------------|-------------------------------|
| Study type: | Interventional |
| Intervention model: | Parallel |
| Allocation: | Randomized controlled trial |
| Masking: | Single blinded (masking used) |
| Control: | Active |
| Primary purpose: | Treatment |

Recruitment

| NL | |
|---------------------------|-------------|
| Recruitment status: | Pending |
| Start date (anticipated): | 01-02-2023 |
| Enrollment: | 256 |
| Туре: | Anticipated |

Ethics review

| Approved WMO | |
|--------------------|--|
| Date: | 28-03-2023 |
| Application type: | First submission |
| Review commission: | METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam) |
| Approved WMO | |
| Date: | 03-05-2023 |
| Application type: | Amendment |
| Review commission: | METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam) |

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register

ССМО

ID NL82479.078.22