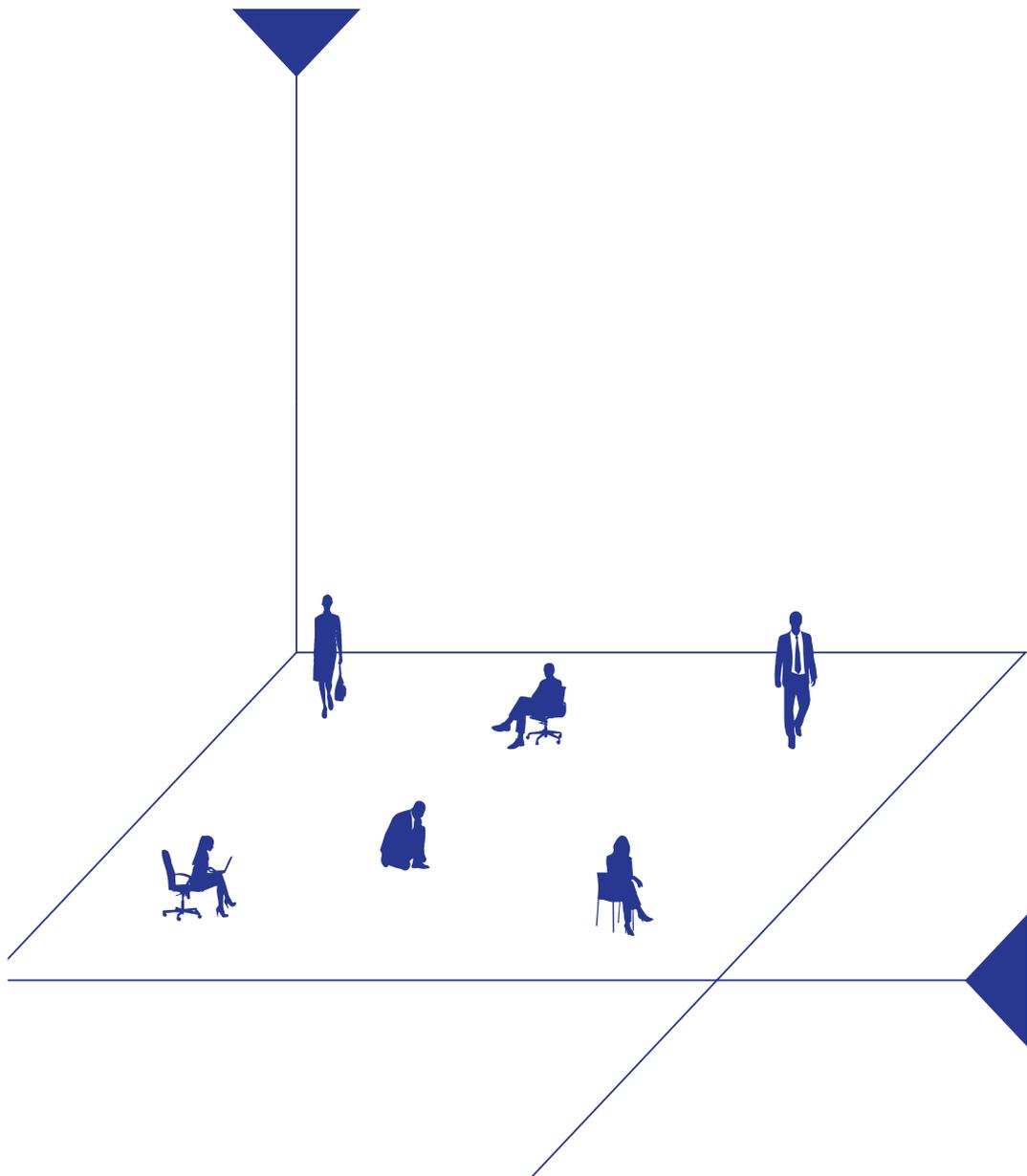


A Guide To Recovery Time at Work

A Concrete Interpretation of Wellbeing at Work



**International Stress
Management Association**
All About Stress

A Guide to Recovery Time at Work

This guideline for recovery time at work is an initiative of the International Stress Management Association - Netherlands (ISMA-NL) Foundation and has been prepared by professionals in the field of work and health. This is a first step towards giving more concrete form to the concept of well-being at work, as referred to in the Working Conditions Act. The Working Conditions Act gives concrete form to physical work, but to a lesser extent gives shape to the concept of well-being at work. This is intended for managers, HR and management of companies that want to promote health, well-being and thus also sustainable employability. Furthermore, it can also be of interest to employees who are looking for guidance in relation to recovery time.

© ISMA-NL, 2021

All rights reserved. The information in this document may not be reproduced without the written permission of ISMA-NL.

ISMA

ISMA Netherlands Foundation
Doctor Rupertlaan 82,3761 XV Soest.
www.stress-management-nl.org

Contact

Drs. Caroline Hamming
E: hamming@csrcentrum.nl
T: 0183 354294

Dr. Heilwine Bakker
E: hbakker@balans-en-impuls.nl
T: 070-3922261

Authors

Dr. A.H.M. (Heilwine) Bakker, GZ psychologist NIP, director Balance & Impuls, chairman ISMA-NL

Drs. C. (Carolien) Hamming, director CSR Center for Stress and Burn-out Coaching, stress expert (editing)

Mrs. J.B. (Jennifer) Elsewhere, registry counselor ABvC®, psychosocial therapist RBCZ®, CSR®-Coach

mr. F. (Frans) Hoebink, director of the Gezel Foundation, occupational health expert

Drs. M. F. A. (Marieke) van Hoffen, company doctor Human Capital Care B.V.

Dr. K.W. (Kasper) Janssen, sports doctor, occupational health doctor, recovery specialist, www.desportarts.nl Utrecht

Dr. R.D. (Rendel) de Jong, occupational and organizational psychologist, psychotherapist (NP), former lecturer and researcher at Utrecht University

Gratitude to:

Ms. E. (Elianne) Chatzaki, MSc psychologist Balans & Impuls, research assistant Leiden University

Ms. N. (Nina) Heilbron, student MSc Clinical Psychology Leiden University, intern Balance & Impuls

Translation Dutch to English by Ms. K (Kulani) Peiris Millaniya, student MSc Clinical Psychology Erasmus University Rotterdam, intern Balance & Impuls

Table of contents

1. Introduction & Purpose	4
1.1 <i>Situational Overview and Justification</i>	5
1.2 <i>Glossary</i>	6
1.2 <i>Structure of the Instruction Booklet</i>	7
2. Effort and Recovery – A Theoretical Framework	8
2.1 <i>Negative Influences of Recovery</i>	8
2.2 <i>Theoretical Foundation</i>	9
2.3 <i>Determining Factors of Individual Effort-Recovery Balance</i>	10
3. What Can Employees Do?	11
3.1 <i>Recognising Yourself</i>	11
3.2 <i>Practical Tools for Employees</i>	12
4. What Can Employers Do?.....	15
4.1 <i>Recovery Needs and Life Phases</i>	15
4.2 <i>Irregular Work Hours – Shift Work</i>	16
4.3 <i>Recovery Time and High-Risk Occupations</i>	16
4.4 <i>Practical Tips for Employers</i>	17
4.5 <i>Cost and Benefits</i>	19
5. Case Studies – Practical Examples	20
6. Epilogue.....	24
7. References	25

1. Introduction & Purpose

The wellbeing of employees is of increasing concern for an organisation. Although employee welfare is included in the Working Conditions Act (1983), the current agreements are mainly based on the safety of physical work, as there are no agreements that give concrete form to the mental health aspect of a person's work. In addition to this, there are increasing incidences of mental illness. According to research by Statistics Netherlands (2019), psychological absenteeism, including overwork and burnout complaints, amounts to an average of 17% of working people between the ages of 15 to 75-years (CBS, 2020). ArboNed (2021) has investigated that in 2020, 29% of the number total absenteeism due to illness in the Netherlands falls in the category of psychological absenteeism. Furthermore, when looking at specific long-term absenteeism, longer than six weeks, the share of psychological absenteeism increased from 30% in 2016 to 37% in 2020, alone. Today, work-related stress can be seen as the number one occupational disease in the Netherlands (ArboNed, 2021). This makes it necessary to provide a practical outlook on the concept of well-being at work, in order to create better regulations regarding the recovery time and improvements on mental health available for every profession. This guideline aims to provide a starting point. It also provides an interpretation of recovery time, and the factors that influence it.

This guideline offers you information on recovery time at work. Several professionals in the field of work and health have taken the initiative to write this document. In their professional practices, they indicate the consequences which stem from a lack of concrete interpretation of well-being at work. Employees tend to meet high standards and thereby sacrifice quality of life, ultimately resulting in psychological absenteeism. The authors provide advice for employers who are looking to give concrete form to employee well-being at work. The authors also point out that the Working Conditions Act does not contain any agreements about the implementation of care for well-being at work. The agreements in the Working Conditions Act are still mostly based on safety. However, now in 2021 people often work in mental professions, it is important to give substance to the concept of well-being.

In addition to health and safety, welfare has been explicitly included in the Working Conditions Act since 1983. Unfortunately, the theme has since faded more into the background. At present, work stress is more likely to be classified under the themes of work pressure, aggression/violence/intimidation, bullying, discrimination and sexual intimidation. It can be concluded from this that the emphasis is more on combating the above-mentioned themes than on promoting the well-being of employees (Ministry of Social Affairs and Employment, 2020). The Working Conditions Act can be improved with a number of suggestions for preventive tools to make wellbeing at work concrete, and not just to combat the consequences of the lack of wellbeing afterwards.

In order to start drawing up preventive measures that promote well-being at work, it was decided to give a clear direction to the concept of recovery time. Recovery time is an important basis for health, which also provides guidance for mutual discussion and practical implementation. The information in this guideline can be used, among other things, for performance and job counseling interviews. What is your recovery need? How do you want to distinguish recovery time? What can we do together in order to achieve this? Thus, the focus lies in the prevention of mental illness rather than a cure.

1.1 Situational Overview and Justification

The UN's, 'World Happiness' report states that, only in cases of poverty do higher income lead to more happiness. Interestingly, social support and autonomy generally contribute to life satisfaction and positive feelings. A striking finding of *well-being* studies is that people are least happy in the presence of their direct supervisor, as many managers are unable to inspire their employees and rely too much on material incentives. (Helliwell et al., 2012). Not all leaders have a sociable, supportive leadership style and the ability to communicate what is expected and, if necessary, how to achieve it. The well-being of employees is not only important for the employees themselves, their well-being also contributes to the result of the organization in a broader sense (Bersin, 2020).

While an interesting job is seen as important for the well-being of an employee, an even more important factor is the complete physical and cultural environment of a workplace. Well-being at work does not merely arise from the job content, but also from an overall sense of well-being, respect, openness and self-fulfillment. An appropriate company culture and good leaders are therefore essential for happiness in the workplace. While this may seem rather simple, should you look at the context of a workplace, many factors influence the concept of well-being. For example, factors such as health, social cohesion, involvement, salary, other rewards, job satisfaction and satisfaction, remain important even in times of crisis – even when priorities shift.

Thijs Launspach, a Psychologist at the University of Amsterdam, states that many millennials often find themselves feeling exhausted, due to the expectations they have of themselves and their lives. An expectation is therefore a conjecture, or something one counts on for oneself or the other, or from the other. As long as expectations are within range, the response will be rapid that the outcome of work meets or at best exceeds expectations (Launspach, 2017). But if the expectation is not met or fulfilled, then there can be acceptance, but also disappointment, confusion, uncertainty and/or fear. There may also be a lack of clarity between expectation and agreement. When the employer says, "I expect you at work at 8:00 AM," he almost always means, "You'll be there at 8:00 AM!" And if the employment contract includes working hours, that's an agreement. This is different with the statement: 'I expect a thorough report from you.' Without an agreement about what is meant by 'thorough', this expectation can lead to continuous doubt about the content and quality of the report to be delivered. The result of this is confusion, uncertainty or fear of not being able to meet the expectation. As an example, the title 'high potential' can turn from a symbol of high status to a burden, and even become sickening. Wanting to meet one's own or others' expectations at work can lead to deviant behavior (longer working hours, arriving at work tired, constantly shifting work, avoiding supervisor or colleagues), ultimately resulting in the dropout from work.

In a publication by The Committee on Mental Incapacity for Work (2001), states that, 'work is a condition for recovery'. This argues in favor of giving recovery at work a prominent place in the Working Conditions Act. It is therefore also evident that dealing with expectations or expectation management will become a permanent part of the Working Conditions Act (Dutch Association for Occupational and Industrial Medicine, 2020). The Working Conditions Act, currently, does not mention well-being, nor happiness at work. Only in the mandatory RI&E for companies, which was only drawn up by 52% of employers in 2019 (TNO, 2020), does well-being appear in relation to risks due to psychosocial

workload: sexual intimidation, bullying, aggression and work pressure. Schaufeli writes in his contribution 'Staying at work' in the book by Heerkens et al. (2019), that increasing attention is being paid in labor organizations to promoting vitality, health and happiness at work. This makes it clear that happiness at work requires attention outside the Working Conditions Act and is not currently part of the law (Balm et al., 2019).

In the case of absenteeism, happiness at work or well-being at work are rare topics of conversation in relation to recovery. The Gatekeeper Improvement Act seldom mentions these areas. This is also apparent from the advice of the National Ombudsman, which we refer to as an example of the lack of attention for well-being at work. In a letter to parliament with a response from the National Ombudsman from November 2018, about the reintegration, the following is stated in relation to sick employees: "However, no customized solutions can be realized with the UWV for the reintegration of (seriously) injured veterans. The ombudsman therefore recommends that the Ministry of Defense and the UWV jointly investigate what scope the Veterans Act and the Gatekeeper Improvement Act offer to apply customization. The Ministry of Defense takes this recommendation to heart and, together with the UWV, will investigate what scope there is to apply customization (no. 206)".

The authors have many years of experience in providing assistance with recovery and reintegration as a result of psychological absenteeism. A recurring pattern which is often seen is the lack of recovery time at work and the delay in responding to the need for recovery. It is therefore of utmost importance to provide guidance in recovery time at work, in order to contribute to the prevention of psychological absenteeism.

It is about good agreements in relation to recovery time. Agreements are contracts made between employer and employee that are within the reach of the employee. Agreements must therefore provide space for the employee: where they are spacious enough to be able to move and contained enough to feel safe within.

1.2 Glossary

We use different terms in this guide. That is why we provide an overview beforehand of what we mean by these terms.

Recovery: The process of returning the exercise-activated psycho-physiological systems to their original level (Meijman & Mulder, 1992; 1998).

Recovery Time: The amount of time it takes to recover from an effort, in this case work. This expressly refers to recovery time during and outside working hours.

Recovery Need: The need to recover from work fatigue. Part of the Job Experience and Assessment Questionnaire (VBBA, Veldhoven et al., 2014).

Fatigue: Occurs as a result of exertion. Fatigue is noticeable (and measurable) through physiological and psychological processes, such as increased heart rate, increased secretion of adrenaline, mood or motivation change (Meijman, 1991; Meijman & Mulder, 1992).

Effort-Recovery Balance: Balance between effort (work) and relaxation (recovery), both during and outside working hours.

Recovery Paradox: That recovery becomes more difficult the greater the need for recovery (Sonnentag, 2018).

Recovery Experiences: Sonnentag and Fritz (2007) distinguish four types of recovery experiences, namely;

- 1) psychological release ("detachment"),
- 2) relaxation ('relaxation'),
- 3) mastery, and
- 4) leisure time control ('control')

Recovery Activities: All activities that lead to recovery. These activities can be of a very personal nature. Both activities that lead to recovery during and outside working hours fall under this definition.

1.2 Structure of the Instruction Booklet

Chapter 2 outlines the work-psychological framework of recovery time. With the Infographic 'Work and Recovery Time', we provide visual examples of what is meant by recovery time and how this theme can be discussed in the workplace. Chapter 3 includes the core of this booklet. It contains tangible tips and recommendations, first for employees, and then for employers. Chapter 4 contains examples from our practical experiences. Finally, Chapter 5 provides suggestions for including agreements about work and recovery time in the Working Conditions Act.

2. Effort and Recovery – A Theoretical Framework

In this chapter, we describe a key factor which promotes well-being at work: adequate recovery. In recent decades, organisational psychological research into well-being, stress and health has made it increasingly clear why recovery is so important and the steps employers and employees could take in order to promote individual recovery.

2.1 Negative Influences of Recovery

Research has shown how sufficient recovery during and after work is an important factor in preventing health issues. Exposure to stressors at work are often associated with low levels of well-being and health. On the other hand, recovery, together with (psychological) distance from the negative aspects of work, exercise, good sleep, well-being and health, provide the greatest benefits (Sonnetag, 2018). Logically, those who are most under pressure would benefit most from actions aimed at recovery. But unfortunately, one of the interesting findings of recent research is that the greater the need for recovery, the more difficult it is to attain. This finding is known as the 'recovery paradox' (Sonnetag, 2018).

The more stressful an experience or situation is, the more difficult it becomes to distract one's self, relax, or do something else. At times it may seem like the more we try not to worry about something, the more we actually worry about it. Leiden University professor Brosschot (2007) and his research group showed that worrying keeps the stress physiology activated in our body, and this was later confirmed by other research groups (Ottaviani et al., 2016). Worrying keeps us physiologically in a heightened state of alert, without the need for an acute stressor to be present. This prevents the body and mind from recovering efficiently. These findings are in line with research by Van Laethum (2016), in which employees with chronically high job demands experienced more sleep disturbances and more work-related worrying than employees with moderate or low job demands.

Stressful conditions have a negative effect on well-being and health (Bennett et al., 2017; Wendsche & Lohmann-Haislah; 2017). In addition, they have a negative effect on recovery experiences and activities (Sonnetag, 2018; Wendsche & Lohmann-Haislah, 2017). The load is related to both the amount and complexity of the work. If we want to make the work less taxing, both the quantity and complexity can be reduced. It should be borne in mind that by (too much) reduction in complexity, the work may become less strenuous, but also more boring and less motivating (Harju, Kaltianen & Hakanen, 2021).

Recovery activities have a beneficial effect on well-being and health (Wendsche & Lohmann-Haislah, 2017). Again, prevention is better than cure. When the circumstances are not overly stressful, recovery is easy. Employers and employees themselves can contribute to early recovery in various ways, including by implementing the practice of taking mini-breaks (Fritz et al., 2013, Bennett, Gabriel and Calderwood, 2019). Taking mini-breaks as short recovery moments outside formal breaks is often hampered by excessive work pressure, mutual competition and tense relationships. Leadership style and collaboration within teams can also be important factors contributing to this. Excessive work pressure has a direct negative effect on health and well-being, but also an indirect negative effect by hindering recovery.

Uncertainty about what is expected of the person and the way in which the task can be approached, lack of freedom at work and conflicts in the collaboration are burdensome. Coaching managers and other executives in a supportive and clear way of leadership contributes to structural improvements at the level of the department and organization (De Jong, 2003, 2013); in addition, formal agreements and terms of employment with regard to breaks at the level of the layout of the workplace, lunch options and agreements about working hours and commitment to the work process. It is important at an individual level to take into account the specific wishes and needs of the person and their home situation.

2.2 Theoretical Foundation

Working requires effort and although work can be satisfying, (it gives a person 'energy' in a psychological sense), from a physiological point of view work effort is inevitably accompanied by a certain loss of energy. Therefore, after exerting themselves at work for some time, employees feel mentally or physically fatigued. This fatigue decreases when you take a break, slow down the pace, or do something completely different.

The theoretical framework underlying these considerations, the Effort-Recovery Model, was developed by emeritus professor Theo Meijman (Meijman, 1989; Meijman & Mulder, 1992, 1998). This model describes recovery from work as the natural counterpart of daily work effort and stress. Furthermore, it shows how damage to health can roughly be prevented in two ways: firstly by sufficient recovery during working hours and secondly by sufficient recovery outside working hours (Geurts & Sonnentag, 2006; Geurts, 2011; Sluiter et al., 2003; Van Veldhoven & Sluiter, 2010; De Jonge et al., 2012).

Sufficient recovery time during work therefore prevents fatigue and stress from building up to an unbearable degree. A short rest contributes to a healthy effort-recovery balance of the employee and improves mental and physical well-being, which also benefits work performance and motivation. It is therefore important for the health of employees and the quality of work that they are given sufficient opportunity during the working day to regularly take a break and recover from their work. The more intensive and demanding the work, the greater the need for adequate recovery. The work environment can support the recovery of employees by giving them the opportunity to take care of their own (psycho-physiological) recovery at set times.

The consequence of mental fatigue during work is that we function less optimally. The attention span wanes and the mind wanders more easily. If the work permits, employees will adjust their activities accordingly, where they take a short break or engage in a different activity. An important characteristic of this type of fatigue is its short-term reversibility: fatigue of this sort, can be decreased by taking rest or by doing an activity that calls on another a different type of personal functioning. If it is not possible to take a rest, the work can only be continued if the employee ignores the psychological resistance and makes extra effort. In a cognitive-energetic sense, the employee has to go the extra mile. This is known as 'compensatory effort'. In a physiological sense, this extra effort is accompanied by an increase in stress reactions, which leads to an increase in attention in the brain. Subsequently this causes a decrease in motivation and fosters negative emotional changes such as irritation. If there have been too few moments of relaxation

during the working day, employees tend to notice this in the evening and at night, such as through increased worry, inability to distance themselves from work and decreased hours of sleep. As a result of this, they would then start the next working day feeling more tired (Gaillard, 2003; Meijman, 1989; Sluiter et al., 2003).

2.3 Determining Factors of Individual Effort-Recovery Balance

Not all work tasks are equally strenuous. How strenuous a task is and thus how much energy it requires from someone, depends on several factors. For example, new tasks require more effort than tasks that we have done before. It also makes a difference whether a work task requires a lot or little concentration, whether the pace is high or whether there is pressure to get something done. Work can be emotionally demanding, such as dealing with aggressive customers. However, factors such as the lack of task clarity, autonomy or social support also plays a role. Work energy resources are supportive to meet job demands and help achieve work goals, promote development and personal growth, and lead to job satisfaction through the motivational process. Finally, our own psychophysiological state is an important factor. A well-rested employee lasts longer than someone who is tired or ill. Personal characteristics and coping also influences this. Adverse psychosocial working conditions are more likely to lead to emotional exhaustion, stress and burnout if the effort required to perform the work is too high or if there is too little time to recover from the work stressors (Schaufeli & Taris, 2013; Van Hoffen et al. , 2020).

Those who recover too little will have a growing need for recovery. This means that the need for rest increases, during and after work, with the primary aim of replenishing energy reserves (Meijman, 1989). A high recovery need of employees is a strong predictor of reduced well-being, absenteeism due to illness and high staff turnover (Sluiter et al., 2003). Sufficient recovery is not a luxury, but crucial to remain healthy and resilient in sustainable labour.

3. What Can Employees Do?

3.1 Recognising Yourself

When do you recover sufficiently?

You recover sufficiently if you can fully rest from all your (work) efforts every day. Normally this is after a good night's sleep. You feel 'fresh' when you wake up and start the day with new meaning and energy.

How do you notice that you need to rest (for a while)?

The most important signal is that you are feeling tired. In this context, fatigue is referred to as a '*stop signal*': you have less desire to continue, you want to stop for a while. The emotion forces itself on you and asks for different behaviour, in this case, rest. You also notice it in physical signals. Think of irritations, cramped and painful shoulder muscles and headaches. There is also often a higher respiratory rate, this will only be noticed when you focus on breathing. Take stop signals seriously.

Why is on-the-job recovery time necessary?

In order to be able to relax and rest easily after work, it is important that you build in sufficient recovery moments during work. The heavier the workload (think of time pressure, concentration, emotions), the more short recovery breaks are needed.

What's wrong with insufficient recovery?

Insufficient recovery over several weeks or months is inevitably accompanied by increasing stress and tension complaints. This is the equivalent of robbing your own body. You may last a long time, but eventually predatory behavior leads to overstrain/burnout and other stress-related health complaints.

What can you do to get back into balance in the event of a recovery deficiency?

To regain balance, you need the opposite of what you were doing: those who do intensive computer work need breaks free from screens, for example a short walk.

On the next pages we offer a number of practical measures and tips for recovery during work.

3.2 Practical Tools for Employees

Take Regular Mini-Breaks

Take a 30-second mini-break every 30 minutes to check which gear you are in (Engelmann et al., 2011; Coleman Wood et al., 2018). For example, look away from your PC and take a few deep breaths, or loosen your shoulders, or stand up if you are sitting. After every hour to an hour and a half of effort, take a real break for 10 minutes: that is, completely disconnect your thoughts from your work task, preferably also without stimuli from screens and telephones. This is how you ensure mental recovery (De Bloom et al., 2016; Chakrabarty et al., 2016; Largo-Wight et al., 2017). A good break is the mirror image of your work. So in other words, try to do the reverse of what you do when you work. If you have a lot of staring into computer or phone screens during work, then avoid these stimuli during your break. When you talk a lot with people at work, then cut out or minimize conversations during your break. When a lot of physical exertion is required during work, make sure that little physical exertion is taken during your breaks (De Jonge, 2012; Fritz et al., 2013). For example, go for a walk outside, have a drink, exercise, do a relaxation or breathing exercise (De Bloom et al., 2016; Chakrabarty et al., 2016; Largo-Wight et al., 2017).

Take a Lunch Break

Take a lunch break of at least 30 minutes. Get away from your workplace, preferably outside and have your lunch during a short stroll. A staff canteen can be busy and provide a lot of incentives. Make sure you have a moment to be alone if you need to, especially if you are already in a busy environment during work (De Bloom et al., 2014; Fritz et al., 2013).

Distance Yourself from Work

By not thinking about your work, or being busy with it, you protect private time and that ensures better quality recovery and better sleep quality (De Jonge et al., 2012; Sonnentag & Krueger, 2006). A ritual which helps you disconnect from work and work related stimuli, can help with this. End your working day consciously. Turn off your phone, work email, and laptop. Tidy up your desk. Consciously say goodbye to your work: tomorrow is another day.

Working from Home

The suggestions in this chapter also apply to working at home. However, it can be extra difficult to have sufficient recovery time when working from home. You then have to take care of this entirely on your own, you are required to create your own structure and atmosphere. Many see the advantages of working from home as being less travel time and more opportunities to alternate private activities with work. However, working from home makes it more difficult to distance yourself from work. The roles of private life and work are intertwined, and this costs extra energy (Chang et al., 2017; Voydanoff, 2002). When the boundaries between work and private life becomes too blurred, your need for recovery and the duration of recovery time can increase (Innstrand et al., 2010). Plan the important

moments of these different roles in your agenda. Try to leave your private situation behind during work, and leave work behind when you are at home. Otherwise you are likely to mentally work 'double shifts' (Bakker et al., 2020).

Listen to "Stress Signals"

Listen to stress signals during work and give yourself a break or re-evaluate your expectations. Examples of stress signals are: concentration problems, irritations, physical pain, shortness of breath, worrying (Evenblij, 2004; Happell et al., 2013; Makames et al., 2012). A pitfall in recognizing and managing stress signals is, postponing listening to these signals until you are in your private time, such as after a working day or on weekends and holidays (Gaillard, 2006). With increasing fatigue, you often fall back on autopilot, act more passively, react less accurately and slower. For example, you are more likely to wait for someone to call you than to call this person yourself – that takes less energy. The trick is to plan recovery time on the job to avoid sacrificing private time for recovery.

Take a Power Nap

More and more employers, such as hospitals, are giving employees the opportunity to take a power nap during working hours, for example during the night shift. According to the report of the Health Council (2017), this is a constructive action, especially when employees are often sleep deprived. Power naps of 10-20 minutes can reduce fatigue, make you more alert and prevent mistakes (Demerouti et al., 2011; Faber, 2019; Galinsky et al., 2000; Gaillard, 2003; Hayashi et al., 2005; Lovato & Lack, 2010). A power nap neutralizes the effects of sleep deprivation.

Get Moving

There are many professions who work predominately in sedentary position. i.e sitting down. This is less optimal for the mental and physical condition of employees (Scherder, 2021), as sitting for long periods of time is seen as harmful. Therefore, try to prevent long hours of sitting as much as possible. It is also recommended to exercise at least 30 minutes a day in a row. In addition to this, it is also known that rhythmic movement, for example walking, cycling or swimming, clears the mentally taxing impressions of the day and contributes to a positive feeling. For further health benefits and prevention of disease, it is recommended to engage in intensive physical activities two to three times a week, during which you feel your heart rate increase and shortness of breath. Even Ten minutes a day is shown to have positive benefits on a person's wellbeing. For example, the *Snaxercise*, made popular by cardiologist Tamara Aipassa. Therefore, make sure to engage in physical exercise during and after work (Bull et al., 2020).

Discuss Your Recovery Needs with Your Manager

Discuss your recovery needs with your manager and indicate how they can support you (De Croon et al., 2003). Recovery needs refer to your daily need for rest and recovery. Use the

infographic 'work and recovery time' as a guideline when discussing this with your manager. The need for recovery varies and differs between people, and partially depends on someone's predisposition, the circumstances, the type of work and the stage of life you are in (Eriksen et al., 2006; Hakola et al., 2010; McDowall et al., 2017, Sonnentag & Zijlstra, 2006; Winwood et al., 2006).

Avoid Alcohol Before Sleeping

Alcohol consumption has a direct effect on the quality of your sleep. One glass just before going to bed can make all the difference between a bad or a good night's sleep. Alcohol consumption reduces both mental and physical recovery by increasing the need for recovery. It is well known that people fall asleep faster after drinking a glass of alcohol, the so-called 'nightcap'. However, sleep is often shallow and restless (Koob et al., 2020), as alcohol delays the onset of REM sleep and reduces its quality. REM sleep is very important for mental and physical recovery. Additionally, some people also tend to wake up earlier than necessary, following the consumption of alcohol (Koob et al., 2020).

Cut Down on Caffeine After 2-p.m.

Caffeine in the form of coffee is the most well-known stimulant during our workday. Caffeine can block adenosine receptors in the brain, reducing your fatigue. However while caffeine consumption makes you feel less sleepy, your sleep needs continue to build up without you realizing it. It also makes it more difficult to fall asleep at night. Did you know that the caffeine in your cup of coffee from 2 p.m. 10 hours later is still 25% active? For a good night's sleep, therefore, do not drink coffee after 14:00 (Drake et al., 2013).

4. What Can Employers Do?

This section contains a number of practical suggestions for employers and managers. But before we venture into this, we briefly outline the context in which a manager operates. When it comes to recovery time, it is important that persons in leadership positions are mindful of the need for space, time and personal connection.

For a manager it is a constant balancing between production, turnover, available personnel, quality of service or product. In terms of the duration of use and maintenance of machines, this is usually prescribed by the manufacturer. With regard to safety equipment, maintenance is prescribed by the law itself, such as fire prevention equipment and hoisting equipment. Unfortunately, managing the health of staff tends to often be less clear. Of course there are safety regulations in the Working Conditions Act that contain guidelines for personnel. However, in relation to mental overload, this is not a topic described in the Working Conditions Act.

The understanding in relation to work is that when a project is completed, another can be looked into. However in reality, often tasks overlap. It is expected that if there is time, there is also room for yet another project which could be worked concurrently. Coordination about space and time in relation to these concurrent projects are rarely spoken about, as the expectation is to add new work with space and time available. Mental health leadership is about making space for “maintenance”; in other words, after a period of mental strain, there must be room for recovery. So with this line of thinking, time must actually be spent to transition from mental fatigue to new energy. Leadership also refers to the need to be in constant contact with the employee in order to know their mental load at work, as well as being aware of how employees appear in terms of their mental load. These factors aid in identifying mental overload at its preliminary stages. Thus, leadership in this instance calls for creating space for recovery.

4.1 Recovery Needs and Life Phases

As workplace leaders, it is important to consider the life stages of their employees, as this plays a critical role in determining the time needed for recovery. Furthermore, leaders must, inquire about this in the job counseling and performance interviews, as employees are not likely to initiate this conversation, by themselves. Previous case studies indicate that a manager who shows an interest in stressful private circumstances and is willing to think along about their solutions (organizing more recovery time), gives positive affect to an employee. Research show that brain capacity declines from the age 45-years onward in a normal person (Bender et al., 2016; Hedman et al., 2012), while our recovery capacity already decreases measurably between the ages of 25 and 40-years. Thus, as age increases, more time may be needed to perform a task and subsequently to recover sufficiently.

It is also important to pay attention to the recovery needs during pregnancy of co-workers and the life stage of parents with young children. Sleepless and short nights can cause more fatigue than in regular circumstances. Intensive care tasks in their private lives can also cause employees to develop an increased need for recovery (Mostert, 2009). As a result, employees cannot recover optimally at home. After work they continue to care for a loved

one. Precisely because such a situation can last for years, it is important to pay attention to the need for repair in order to prevent failure.

Periods of mourning and processing major events cost a lot of energy. People may need more breaks at work or shorter work days during this period (Barclay & Karig, 2019).

4.2 Irregular Work Hours – Shift Work

Shift work can result in a disturbed biorhythm and sleep problems. The disruptions caused by this could last even after an employee retires. Much research has been done on the long-term consequences of shift work (Gordijn, 2012; Winwood et al., 2006). To limit the negative impact, a forward rotating schedule is recommended (Van Amelsvoort, 2004). An additional problem is that, due to staff shortages, people often get a variable schedule, which does not consider a particular rhythm. Subsequently this gives an employee the feeling of being in constant jetlag.

It is important that employees during shifts are given extra recovery time to restore the biorhythm (Kim et al., 2015; Advice Health Council 2017). Examples of sectors that are increasingly paying attention to this are the fire service (a week on, a week off), aviation for intercontinental flights (a number of days/a week off) (Kaikkonen et al., 2017) and healthcare, where employees are given the opportunity to take a power nap during the night shift. The NVAB recently published new guidelines for night work (NVAB 2020).

4.3 Recovery Time and High-Risk Occupations

In high-risk professions such as the police, fire brigade, ambulance, army and (emergency) emergency services, there is a good chance that employees will be exposed to stressful events, also referred to as, 'critical incidents' (Bakker et al., 2019). The impact of these incidents can be large, as they often 'pile up'. In these professions it not customary to speak openly about the impact of critical events. Therefore in order to protect the professionals, it is advisable to provide sufficient recovery time, preferably in a particular rhythm, during the working day and taking into account the employee stage of life. Furthermore, it is advisable to regularly make an inventory of the psychological state of the employees (Van Hoffen et al., 2016).

The practice of making timetables can also contribute to a healthy sleep rhythm and provide space for private life. This gives the professional more opportunity to process the intensity of the work and to relax in a natural way (Bakker et al., 2020; Halpern et al., 2012). In addition, it is advisable to set limits on the career duration of front line high-risk occupations. For example, a guideline could be: a maximum of 3-5 years, depending on the occupation (Ode-Dusseau et al., 2013).

4.4 Practical Tips for Employers

Make an inventory of the recovery needs of employees

Make the recovery needs and recovery options during work negotiable in the organization (including breaks, variation in work, working hours) and link these to the recovery options for after work (such as free time, vacation, other obligations).

- Add the topic of 'recovery', to the organizational agenda (discuss it in departments, in teams);
- Map the 'individual effort-recovery balance' of the employees (interview, questionnaire, physiological measurement). Be mindful of the fact that this balance changes over time;
- Think along with the employee about when he builds up a recovery deficit: propose solutions;
- In counseling sessions, ask about recovery needs in terms of realistic and concrete actions;
- Discuss the need for recovery in counseling sessions

Support recovery options

The work environment can support the recovery of employees by giving them the opportunity to take care of their own (psychophysiological) recovery at set times. Set up a rest area and, for example, place power nap furniture for employees who require extra recovery, temporarily or for an extended time (Bakker, 2013).

Provide information and lead by example

Educate employees about the importance of adequate recovery, so that everyone in the organization becomes aware of the importance of building sufficient rest into the agenda, as a counterbalance for effort and stress. These actions could spark a cultural change in the organization, where it fosters safe work practices. Furthermore, lead by example by practicing an open attitude through discussing your own recovery needs during (and after work), as well as scheduling in recovery time for yourself.

Manage expectations

It often happens that the mutual expectations of employees and employers are not sufficiently clear. Often expectations that are too high or unrealistic can hinder employee recovery. That is why it helps as an employer and employee to make clear agreements about mutual expectations. It concerns questions such as:

- How are working hours and breaks arranged?
- What does the availability look like?
- Is the employee expected to work (many hours of) overtime?
- Is there a possibility for extra recovery time after a busy, stressful period?

- Is the employee expected to be available (always) in the evenings, at weekends and during holidays?
- When are people satisfied with my efforts and results? When am I satisfied?
- What are the expectations and requirements for my professional development?
- Do the expectations match the knowledge, skills and qualities of the employee?

An example of expectations that are too high is when 'high potentials' who are given managerial tasks that they are not up to in terms of experience and stage of life (Launspach, 2017). An example of unrealistic expectations is when the 'production' planning in a hospital or home care organization (wrongly) assumes that a patient is simply a number. A realistic expectation is that a patient is a person who talks back and cooperates with care, or counteracts it.

Preserve and promote autonomy

There is increasing sense of control asserted by employers, which subsequently make employees feel like have to give up their autonomy. Think of the application of control in call centers, camera and/or GPS surveillance for truck drivers, bus, metro and tram drivers (Karasek, 2008), or the hours and minutes accounting in the healthcare sector and business services. (TNO, 2020). Research indicates that people need influence and control over their work in order to stay healthy (Choi et al., 2011; Collins et al., 2005; De Jonge et al., 2010; Karasek et al., 2010; Lindeberg et al. al., 2011; Sonnentag & Zijlstra, 2006). The focus then turns on the way the work is executed, whether breaks can be taken or whether it is acceptable to socialize with colleagues during work hours.

A production worker must do the work within a designated time and their tasks cannot be delegated. Employees who experience a high workload, but who can (co-) decide for themselves the execution, sequence and the pace in which they have to do their task, are reportedly less fatigued. Additionally, being able to participate in decisions about leave and working hours also promotes a decrease in the number of fatigue complaints. This is due to the better distribution of workload by employees (CBS, 2019).

In tasks which require writing, research shows a tendency to be decreases in people's recovery time and creativity. This is caused by the reduction of space for relaxation following the completion of a task, which subsequently makes an employee feel like a 'work robot' (Marqueze et al., 2017).

Plan 'air pockets', also during online consultations

A workday is considered effective if there are 6-7 hours of productive time (Loannides & Mavroudeas, 2020). People spend the other 1 to 2 hours on work organization and self-care. For example, taking (mini) breaks, going to the toilet, and switching from one activity to another. It is important to take these kinds of 'air pockets' into account in the daily planning. In addition, a schedule which allows time to cope with unexpected events, tends to also reduce work stress (Bhui et al., 2016; Chen & Xie, 2014; Chiron et al., 2008).

Due to the Covid crisis, we see employees who have fully planned their days with online meetings. Conversations that used to take place at the workplace or in the corridors and at

the coffee machine, now take place via the computer. As a result, people sit in front of their screens from early in the morning until late in the afternoon. Those who recognize this are advised to consciously plan 'meeting-free' time; for example, no online meetings before 09:00, between 12:00 and 13:00 and after 16:30. In relation to one-on-one conversations, you can also occasionally plan in "walking calls" (with the phone and earplugs on in and walking outside while engaging in the conversation).

4.5 Cost and Benefits

Everyday examples from practice show that preventive interventions are only used when absenteeism is high. Factors such as absenteeism costs, searching for replacement employees, pressure on the remaining employees, make a preventive intervention necessary. However, preventive actions, including recovery time at work, can save a lot of costs up front.

We briefly summarize an indication of the costs. The average duration of psychological absence is 180 days. An employee's absenteeism costs are on average €45,000 (Ministry of Health, Welfare and Sport, 2017). TNO has developed an absenteeism calculator in which you can calculate your absenteeism costs on a tailor-made basis (www.verzuimkosten.nl).

The following is an anonymous example of an indication of the costs and benefits of a preventive intervention. In a primary school community, absenteeism was shown to be at 19%. Preventive interventions were used. These consisted of:

- Inventory of stress and energy sources at all levels. Then implementing an action-oriented approach to stress sources and reinforcement of energy sources. A work rhythm was created for all employees with more energy resources and recovery time. On the basis of the *traffic-light* model, employees and managers at both individual and group level were taught to recognize stress signals and to use actions in order to help get 'to green' again.
- Leadership coaching: aimed at strengthening energy sources and recovery time at work, both in leadership and for the manager as a person. An important part of this was goal-oriented collaboration and more effective meetings.
- Team training: training the entire team in cooperation, effective communication, mutual support, strengthening professional pride, self-esteem, self-management in work and private life.
- Individual counseling in situations of psychological absenteeism, working on recovery and reintegration.

After one year, the absenteeism dropped to 4%. The costs of these interventions amounted to €25,000. The benefits can be further perused at (Ministry of Health, Welfare and Sport, 2017). Furthermore, other benefits of this approach include: a relaxed and energetic working atmosphere, job satisfaction and professional self-confidence. These have shown to generate a positive effect on complaints, clients, and patients.

5. Case Studies – Practical Examples

In this chapter we provide examples of tailoring recovery time to the needs and stage-of-life of the Employee. This is not limited to recovery time at work, but also includes recovery at home.

Recovery Time and Mid Life Phase

Since the birth of her second child, Marlies experiences countless sleepless nights, which leave her feeling exhausted. Prior to her pregnancy, she was promoted to the position a management position. However currently, she wants to be less visible within her workplace as this would add to her workload. She only consults the head of her department in dire circumstances, such as when things don't go according to plan or to prevent drop-out due to illness. She explains her circumstances and proposes to work from home two days a week, so that she can sleep longer in the morning, and engage in less travel time. The head of department agrees and thanks her for the initiative. This makes her realise that she could have asked for help much earlier. She also notices that she can now relax more, even though the situation itself remains difficult.

Recovery Time After Peak Load

In a project team, after a very hectic period, with a lot of overtime, the team leader realizes there is a lot of complaining and annoyance within his team. He realizes that in the past year, his team has been burdened with major projects and tight deadlines. He reflects that the issues faced are a signal that the team feels stretched thin. In a team meeting, he raises this issue and asks about their experiences over the past year. The team indicates that on the one hand they are proud of what they have achieved, but also point to a concern: they hope that these extraordinary efforts do not turn into a normal way of working. They also indicate that in the past year, they have sacrificed a lot of their personal time for the sake of work. Following the team meeting, the team leader decides to talk to the management. During this meeting, he indicates that even though they are known as a reliable team, they should not be utilized constantly for extensive projects. It was then agreed on that other teams will be approached for the intense projects in the six months which follows. The team leader sees the team visibly relaxed as their job satisfaction increases.

Recovery Time in a Difficult and Demanding Work Situation

In a hospital it is noticeable that many nurses suffer from bladder infections. Research conducted by the Occupational Health and Safety Service shows that this is due to the staff simply not taking the time to go to the toilet. The bladder infection appears to be a signal of a broader problem: chronic understaffing. In addition, there is a lot of deployment of temporary workers, so that permanent workers are overloaded. The nurses also rarely take breaks during work. Absenteeism due to illness has been rising over the past two years. In a brainstorming session during a team meeting, agreements are made about taking at least

three breaks per day. A coffee break in the morning, lunch break and tea break in the afternoon. These breaks are included in the schedule planning, possibly with the assistance of another department. After six months, there are no more bladder infections and absenteeism has decreased.

Recovery Time and Senior Life Stage

Gerard, a 60-year-old employee, who suffered a mild stroke. Following this incident, he notices that he can no longer cope with the hustle and bustle of meetings and gets flustered about his deadlines. First, he continues to force himself to perform at his prior level. A colleague sees this and recommends that he seek a meeting with the manager in order to adjust the work setting. The manager is shocked by this information, as he had not noticed these issues in Gerard himself. In addition, the manager considers that it is unrealistic to impose the same requirements on a 60+ colleague as on people aged 30+. He seeks advice from the company doctor. They agree with Gerard that he must take into account his shorter stress arc and as well as to take more moments of recovery time during work hours. He is advised to take a 10-minute break after every 30 to 45-minutes of effort. Furthermore, he no longer has to participate in entire meetings. It is agreed that he will only be present on agenda items that concern his role. Gerard is delighted that with these small adjustments he can continue to work and that he does not have to call in sick.

Recovery Time for High Potential Workers

Saïd has been hired as a high potential employee at a financial services company. He feels privileged by this position and works long days, where 12-hours per day is considered the norm. He claims that no employee is home before 8 p.m. He is responsible for a major project and in his spare time he also attends training courses in leadership, related to his job. When he receives a lot of criticism from a client, something inside him snaps. He feels like nothing is ever enough. Privately, he has had his first child and gets little sleep regularly. A manager in his organization criticizes him and tells him that he seems unfocused and tired lately. He also asks Saïd if the work still interest him. He initially decides not to say anything, yet continues to feel frustrated as he doesn't want to lose his job. Furthermore he also has the responsibility for a new born child at home. In the end Saïd takes the initiative to discuss with an organisational partner and they jointly decide that the company will hire a buddy who will support him during his daily activities. This can be used for task-oriented contact, but also to improve motivation. In addition, in consultation with the company doctor, it is decided to reduce the number of working hours so that Saïd learns to distance himself from his work and focus on recovery at home.

Recovery Time and Junior Employee

Following the completion of her MBO study, Carla starts in a secretarial and communication position at a large office. She commences her new career full of enthusiasm and is eager to

complete her training. However, she soon finds herself disappointed that she is used for many time consuming and menial jobs. When her colleagues take a break, she is often asked to stay back in order to complete tasks. It is unclear to her what is expected of her. She decides to work the same hours as her colleagues in order to fit in. She is moved within her company, where she now works for a new manager, whom she finds to be very critical. He complains that her language skills insufficient when she writes letters and her meeting minutes are of poor quality. However, she receives little explanation about how she could improve herself. After being sick with the flu, she finds herself not recovering quickly and remains tired for longer. This makes her call in sick again. Since she has a temporary contract, she is afraid that she will be fired. She decides to continue working and to keep her fatigue and increasing insecurity to herself. Ultimately, the temporary employment contract comes to an end with no extension. At the end of this employment, she is exhausted and disappointed with the outcome of her first job. Carla decides to sign up for coaching. The main goal is to regain her self-direction. She does this by creating more insight into her weekly structure, training the recognition and acknowledgment of stress signals and learning to look up personal energy and resources. In addition, it is important that when she finds a new job, she learns to set boundaries effectively and to express her needs towards her work environment.

Suggestions for the Improvement of the Work Conditions Act

Even though “Welfare”, in addition to “Health and Safety”, has been explicitly included in the Working Conditions Act since 1983, this theme has since faded more into the background. The Working Conditions Act also does not mention “Well-being”, let alone topics such as “Happiness at Work”. In the RI&E, which is obligatory for companies, will be drawn up by a mere 52% of employers in 2019 (TNO, 2021), where well-being is mainly classified under psychosocial workload, with the themes work pressure, aggression, violence, bullying, discrimination and (sexual) harassment. The emphasis is more on combating the abuses mentioned above than on promoting the well-being of employees (Ministry of Social Affairs and Employment, 2020). While tackling these issues are indeed worthwhile, they are not the primary idea for which Welfare was included in the Working Conditions Act. In addition, the current agreements in the Working Conditions Act are still based on the safety of physical labour. In the year 2021, people often work in professions which use their mental capacities. Therefore it is important to give a more concrete form to their (psychological) well-being.

Below are two concrete suggestions for inclusion in the Working Conditions Act, with which the well-being of Employees can be promoted:

1) In general, it is advisable to pay attention to the interpretation of recovery time, as a step to concretely implement well-being at work. The concrete interpretation of well-being is currently scarcely explained in the Working Conditions Act, while this makes an important contribution to the well-being of employees. Employers are strongly advised to offer sufficient recovery options to their employees, which are tailored to the type of work, recovery needs and stage of life of the employee.

2) In addition, it is recommended to take recovery time during work, such as mini-breaks after mental exertion and lunch breaks as mandatory and a right. Taking a 10-minute break

after every 1.5 hours promotes the performance and well-being of Employees (De Bloom et al., 2016; Chakrabarty et al., 2016; Largo-Wight et al., 2017).

We expect these additions to the law to significantly improve the well-being, job satisfaction and quality of life of employees. It is also expected that this will reduce absenteeism due to illness.

6. Epilogue

It is the wish of the authors that this document provides a first impetus to the concrete interpretation to well-being at work. In this instance, the application of recovery time provides guidance. It is not the intention of the authors to strive for a thorough and complete scientific analytical document on recovery time. It is also not the intention to provide a thorough legal text for inclusions into the Working Conditions Act. The document should be understood from the perspective of health professionals, who see in practice that the implementation of recovery time at work can make a substantial contribution to health and the prevention of absenteeism.

7. References

- Arboned (2021). *Psychisch Verzuim*. Verkregen op 5 mei 2021 van <https://www.arboned.nl/wat-u-moet-weten/verzuim-verlagen/psychisch-verzuim>
- Bakker, A. H. M. (2013). *Reset Focus Energie. REF-Zone* [PowerPoint Slides]. Verkregen van: <https://docs.google.com/presentation/d/1e3HJx9eznjElGyXak-z-wQSI-V1jS7xm/edit#slide=id.p1>
- Bakker, A. H. M., van Veldhoven, M. J. P. M., Gaillard, A. W. K., & Feenstra, M. (2019). The Impact of Critical Incidents and Workload on Functioning in the Private Life of Police Officers: Does Weakened Mental Health Acts as a Mediator? *Policing, 0*(0), 1-15. <https://doi.org/10.1093/police/paz051>
- Bakker, A.H.M., van Veldhoven, M.J.P.M., Gaillard, A.W.K., Hertogs, R., Feenstra M., (2019).The functioning of rescueworkers in life tasks: the development of a test. *International Journal of Emergency Services*. www.emeraldinsight.com/2047-0894.htm
- Bakker, A. H. M., Van Veldhoven, M., & Palte, V. (2020). The Life Tasks Test: Psychometric Evaluation in Clinical Samples of Office Workers and Rescue Workers. *Journal of Stress management*, [Voorbereid ter Publicatie].
- Balm, M., Bieleman, A., Bergsma, A., Van Genuchten, A., Peereboom, K., & Schaufeli, W. (2019). Aan het Werk Blijven. In Heerkens, Y., Bieleman, A., Miedema, H., Engels, J., & Balm, M. (2019). *Handboek Arbeid & Gezondheid* (Red.) Van Loghum. https://doi.org/10.1007/978-90-368-2241-1_6
- Barclay, L. A., & Karig, J. H. (2019). Employee-Based HRM: Bereavement Policy in a Chancing Work Environment. *Employee Responsibilities and Rights Journal, 31*(3), 131-148. <http://dx.doi.org/10.1007/s10672-019-09337-8>
- Bender, A. R., Völkle, M. C., & Raz, N. (2016). Differential Aging of Cerebral White Matter in Middle-Aged and Older Adults: A Seven-Year Follow-Up. *NeuroImage, 125*, 74–83. <http://dx.doi.org/10.1016/j.neuroimage.2015.10.030>
- Bennett, A. A., Bakker, A. B., & Field, J. G. (2018). Recovery from Work-Related Effort: A Meta-Analysis. *Journal of Organizational Behavior, 39*, 262-275. <http://dx.doi.org/10.1002/job.2217>.
- Bennett, A. A., Gabriel, A. S., Calderwood, C., Dahling, J. J., & Trougakos, J. P. (2016). Better Together? Examining the Profiles of Employee Recovery Experiences. *Journal of Applied Psychology, 101*, 1635-1654. <http://dx.doi.org/10.1037/ap10000157>
- Bennett, A. A., Gabriel, A. S., Calderwood, C. (2019). Examining the Interplay of Micro-Break Duration and Activities for Employee Recovery: A Mixed Method Investigation. *Journal of Occupational Health Psychology, 25*, 126-142. <http://dx.doi.org/10.1037/ocp000168>
- Bersin, J. (2020). Employee Experience Redefined: It's Now About Safely Coming to Work. *Josh Bersin*. Verkegen op 19 februari 2020 van: <https://joshbersin.com/2020/05/employee-experience-redefined-its-now-about-safely-coming-to-work/>
- Bhui, K., Dinos, S., Galant-Miecznikowska, M., de Jongh, B., & Stansfeld, S. (2016). Perceptions of Work Stress Causes and Effective Interventions in Employees Working in Public, Private, and Non-Governmental Organisations: A Qualitative Study. *BJPSYCH Bulletin, 40*(6), 318-325. <http://dx.doi.org/10.1192/pb.bp.115.050823>

- Brosschot, J.F., van Dijk, E. & Thayer, J.F. (2007). Daily worry is related to low heart rate variability during waking and the subsequent nocturnal sleep period. *International Journal of Psychophysiology*, 63, 39-47.
- Bull, F., Al-Ansari, S., Biddle, S., Bordulin, K., Buman, M., Cardon, G., Carty, C., Chaput, J., Chastin, S., Chou, R., Dempsey, P., Dipietro, L., Ekelund, U., Firth, J., Friedenreich, C., Garcia, L., Gichu, M., Jago, R., Katzmarzyk, P., & Willumsen, J. (2020). World Health Organization 2020 Guidelines on Physical Activity and Sedentary Behaviour. *British Journal of Sports Medicine*, 54, 1451-1462. <https://doi.org/10.1136/bjsports-2020-102955>
- CBS (2020). *Werkgerelateerde Psychische Vermoeidheid Medewerkers, 2019*. Verkregen op 5 mei 2021 van <https://www.cbs.nl/nl-nl/maatwerk/2020/16/werkgerelateerde-psychische-vermoeidheid-medewerkers-2019>
- Chakrabarty, S., Sarkar, K., Dev, S., Das, T., Mitra, K., Sahu, S., & Gangopadhyay, S. (2016). Impact of Rest Breaks on Musculoskeletal Discomfort of Chikan Embroiderers of West Bengal, India: A Follow Up Field Study. *Journal of Occupational Health*, 58(4), 365-372. <https://doi.org/10.1539/joh.14-0209-OA>
- Chang, X. X., Zhou, Y., Wang, C. X., & Heredero, C. D. (2017). How Do Work-Family Balance Practices Affect Work-Family Conflict? The Differential Roles of Work Stress. *Frontiers of Business Research in China*, 11(2). <https://doi.org/10.1186/s11782-017-0008-4>
- Chen, C., & Xie, Y. C. (2014). The Impact of Multiple Rest-Break Periods on Commercial Truck Driver's Crash Risk. *Journal of Safety Research*, 48, 87-93. <https://doi.org/10.1016/j.jsr.2013.12.003>
- Chiron, M., Bernard, M., Lafont, S., & Lagarde, E. (2008). Tiring Job- and Work-Related Injury Road Crashes in the Gazel Cohort. *Accident Analysis and Prevention*, 40(3), 1096-1104. <https://doi.org/10.1016/j.aap.2007.12.001>
- Choi, B., Ostergren, P. O., Canivet, C., Moghadassi, M., Lindeberg, S., Karasek, R., & Isacson, S. O. (2011). Synergistic Interaction Effect Between Job Control and Social Support at Work on General Psychological Distress. *International Archives of Occupational and Environmental Health*, 84(1), 77-89. <https://doi.org/10.1007/s00420-010-0554-y>
- Coleman Wood, K. A., Lowndes, B. R., Buus, R. J., & Hallbeck, M. S. (2018). Evidence-Based Intraoperative Microbreak Activities for Reducing Musculoskeletal Injuries in the Operating Room. *Work*, 60(4), 649-659. <https://doi.org/10.3233/WOR-182772>
- Collins, S. M., Karasek, R. A., & Costas, K. (2005). Job Strain and Autonomic Indices of Cardiovascular Disease Risk. *American Journal of Industrial Medicine*, 48(3), 182-193. <https://doi.org/10.1002/ajim.20204>
- Corré, A. (22 februari 2017). *Nachtbraker? Prima, maar rust wel voldoende uit*. Verkregen op 05-03-2021 van: <https://www.nrc.nl/nieuws/2017/02/22/nachtbraker-prima-maar-rust-wel-voldoende-uit-6873477-a1547089>
- De Bloom, J., Kinnunen, U., & Korpela, K. (2014). Exposure to Nature Versus Relaxation During Lunch Breaks and Recovery from Work: Development and Design of an Intervention Study to Improve Workers' Health, Well-Being, Work Performance, and Creativity. *BMC Public Health*, 14. <https://doi.org/10.1186/1471-2458-14-488>
- De Bloom, J. D., Sianoja, M., Korpela, K., Tuomisto, M., Geurts, S., & Kinnunen, U. (2016). Effects of Park Walks and Relaxation Exercises During Lunch Breaks on Recovery from Work Stress: A Randomized Controlled Trial. *International Journal of Psychology*, 51, 739-739.
- De Croon, E. M., Sluiter, J. K., & Frings-Dresen, M. H. W. (2003). Need for Recovery After

- Work Predicts Sickness Absence – A 2-year Prospective Cohort Study in Truck Drivers. *Journal of Psychosomatic Research*, 55(4), 331-339.
[https://doi.org/10.1016/S0022-3999\(02\)00630-X](https://doi.org/10.1016/S0022-3999(02)00630-X)
- De Jonge, J., Van Vegchel, N., Shimazu, A., Schaufeli, W., & Dormann, C. (2010). A Longitudinal Test of the Demand-Control Model Using Specific Job Demands and Specific Job Control. *International Journal of Behavioural Medicine*, 17, 125-133.
<https://doi.org/10.1007/s12529-010-9081-1>
- De Jonge, J., Spoor, E., Sonnentag, S., Dormann, C., & Van den Tooren, M. (2012). "Take a Break?!" Off-Job Recovery, Job Demands, and Job Resources as Predictors of Health, Active Learning, and Creativity. *European Journal of Work and Organizational Psychology*, 21(3), 321-384. <https://doi.org/10.1080/1359432X.2011.576009>.
- De Jong, R. D. (2002). *Well-Being, Stress Management and Performance: From Analysis to Intervention*. In: S. Sonnentag (Ed.) *Psychological Management of Individual Performance* (pp. 136-150). Chichester, John Wiley & Sons, Ltd.
- De Jong, R. D. (2013). *Counseling en Coaching*. In: w. Schaufeli & A. Bakker (Red.) *De Psychologie van Arbeid en Gezondheid* (pp. 425-440). Bohn Stafleu van Loghum.
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, 86, 499-512.
- Demerouti, E., Bakker, A. B., Sonnentag, S., & Fullagar, C. J. (2011). Work-Related Flow and Energy at Work and at Home: A Study on the Role of Daily Recovery. *Journal of Organizational Behavior*, 33, 276-295. <https://doi.org/10.1002/job.760>
- Drake, C., Roehrs, T., Shambroom, J., & Roth, T. (2013). Caffeine Effects on Sleep Taken 0, 3, or 6 Hours Before Going to Bed. *Journal of Clinical Sleep Medicine*, 9(11).
<https://doi.org/10.5664/jcsm.3170>
- Engelmann, C., Schneider, M., Kirschbaum, C., Grote, G., Dingemann, J., Schoof, S., & Ure, B. M. (2011). Effects of Intraoperative Breaks on Mental and Somatic Operator Fatigue: A Randomized Clinical Trial. *Surg Endosc*, 25(4), 1245-1250.
<https://doi.org/10.1007/s00464-010-1350-1>
- Eriksen, H. R., Ihlebaek, C., Jansen, J. P., & Burdorf, A. (2006). The Relations Between Psychosocial Factors at Work and Health Status Among Workers in Home Care Organisations. *International Journal of Behavioral Medicine*, 13(3), 183-192.
https://doi.org/10.1207/s15327558ijbm1303_1
- Evenblij, M, Borsboom D., Bos, C. Meijman, T. Schaufeli W. (2004) Een balans uit Evenwicht. Resultaten van het onderzoeksprogramma Psychische vermoeidheid in de arbeidssituatie. Bon Stafleu Van Loghum. (pag 9)
- Faber, J. (2019). Master Thesis; A Powernap to Recover. *Tilburg University*. Verkregen van: <http://arno.uvt.nl/show.cgi?fid=150681>
- Fritz, C., Ellis, A. M., Demsky, C. A., Lin, B. C., & Guros, F. (2013). Embracing Work Breaks: Recovering from Work Stress. *Organizational Dynamics*, 42(4), 274-280.
<https://doi.org/10.1016/j.orgdyn.2013.07.005>
- Galinsky, T. L., Swanson, N. G., Sauter, S. L., Hurrell, J. J., & Schleifer, L. M. (2000). A Field Study of Supplementary Rest Breaks for Data-Entry Operators. *Ergonomics*, 43(5), 622-38. <https://doi.org/10.1080/001401300184297>
- Gaillard, A. (2003). *Stress, Productiviteit en gezondheid (2^e ed.)*. Academic Service.
- Geurts, S. A., & Sonnentag, S. (2006). Recovery as an Explanatory Mechanism in the Relation Between Acute Stress Reactions and Chronic Health Impairment. *Scandinavian Journal of Work Environmental Health*, 32(6), 482-92.
<https://doi.org/10.5271/sjweh.1053>
- Gordijn, M. C. M. (2012). *De Nachtdienst 'Verplicht'*. Reed Business.
- Hakola, T., Paukkonen, M., & Pohjonen, T. (2010). Less Quick Returns – Greater Well-Being.

- Industrial Health*, 48(4), 390-394. <https://doi.org/10.2486/indhealth.MSSW-02>
- Halpern, J., Maunder, R. G., Schwartz, B., & Gurevich, M. (2012). Attachment Insecurity, Responses to Critical Incident Distress, and Current Emotional Symptoms in Ambulance Workers. *Stress and Health*, 28(1), 51-60. <https://doi.org/10.1002/smi.1401>
- Happell, B., Dwyer, T., Reid-Searl, K., Burke, K. J., Caperchione, C. M., & Gaskin, C. J. (2013). Nurses and Stress: Recognizing Causes and Seeking Solutions. *Journal of Nursing Management*, 21(4), 638-647. <https://doi.org/10.1111/jonm.12037>
- Harju, L. K., Kaltianen, J., & Hakanen, J. J. (2021). The Double-Edged Sword of Job Crafting: The Effects of Job Crafting on Changes in Job Demands and Employee Well-Being. *Human Resource Management [Online Versie]*. <https://doi.org/10.1002/hrm,22054>.
- Hayashi, M., Motoyoshi, N., & Hori, T. (2005). Recuperative Power of a Short Daytime Nap With or Without Stage 2 Sleep. *Sleep*, 28(7), 829-836. <https://doi.org/10.1093/sleep/28.7.829>
- Hedman, A. M., Van Haren, N. E. M., Schnack, H. H., Kahn, R. S., & Pol, H. E. H. (2012). Human Brain Changes Across the Life Span: A Review of 56 Longitudinal Magnetic Resonance Imaging Studies. *Human Brain Mapping*, 33(8), 1987-2002. <https://doi.org/10.1002/hbm.21334>
- Helliwell, J., Layard, R., & Sachs, J. (2012). *World Happiness Report* [PDF-File]. Verkregen van: <https://www.earth.columbia.edu/sitefiles/file/Sachs%20Writing/2012/World%20Happiness%20Report.pdf>
- Iata News (7 oktober 2020). NASA Launches App To Research Fatigue In Flight. *Iata News*. Verkregen op 15 maart 2021 van <https://www.iatanews.com/2020/10/07/nasa-launches-app-to-research-fatigue-in-flight/#:~:text=NASA%20Launches%20App%20to%20Research%20Fatigue%20In%20Flight,when%20fatigue%20prevents%20a%20person%20from%20working%20safely.>
- Instrand, S. T., Langballe, E. M., Espnes, G. A., Falkum, E., & Aasland, O. G. (2008). Positive and Negative Work-Family Interaction and Burnout: A Longitudinal Study of Reciprocal Relations. *Work & Stress*, 22(1), 1-15. <https://doi.org/10.1080/02678370801975842>
- Kaikkonen, P., Lindholm, H., & Lusa, S. (2017). Physiological Load and Psychological Stress During a 24-Hour Work Shift Among Finnish Firefighters. *Journal of Occupational and Environmental Medicine*, 59(1), 41-46. <https://doi.org/10.1097/JOM.0000000000000912>
- Karasek, R. (2008). Low Social Control and Physiological Deregulation – The Stress-Disequilibrium Theory, Towards a New Demand-Control Model. *Scandinavian Journal of Work Environment & Health*, 117-135.
- Karasek, R., Collins, S., Clays, E., Bortkiewicz, A., & Ferrario, M. (2010). Description of A Large-Scale Study Design to Assess Work-Stress-Disease Associations for Cardiovascular Disease. *International Journal of Occupational Medicine and Environmental Health*, 23(3), 293-312. <https://doi.org/10.2478/v10001-010-0035-2>
- Kim, J. Y., Chae, C. H., Kim, Y. O., Son, J. S., Kim, J. H., Kim, C. W., Park, H. O., Lee, J. H., & Kwon, S. I. (2015). The Relationship Between Quality of Sleep and Night Shift Rotation Interval. *Annals of Occupational and Environmental Medicine*, 27. <https://doi.org/10.1186/s40557-015-0084-x>
- Koob, G. F., & Colrain, I. M. (2020). Alcohol Use Disorder and Sleep Disturbances: A Feed-Forward Allostatic Framework. *Neuropsychopharmacology*, 45, 141-165.
- Laethem M van, Beckers DG, van Hooff ML, Dijksterhuis A, Geurts SA. Day-to-day relations between stress and sleep and the mediating role of perseverative

- cognition. *Sleep Med.* 2016 Aug; 24:71-79. doi: 10.1016/j.sleep.2016.06.020. Epub 2016 Aug 22. PMID: 27810189.
- Launspach, T. [Universiteit van Nederland]. (2 oktober 2017). *Waarom Zitten Zoveel Millennials Thuis met een Burn-Out?* [Video]. Youtube. <https://www.youtube.com/watch?v=ZHTknnpZuoM>
- Largo-Wight, E., Wlyudka, P. S., Merten, J. W., & Cuvelier, E. A. (2017). Effectiveness and Feasibility of a 10-Minute Employee Stress Intervention: Outdoor Booster Break. *Journal of Workplace Behavioral Health, 32*(3), 159-171. <https://doi.org/10.1080/15555240.2017.1335211>
- Lindeberg, S. I., Rosvall, M., Choi, B., Canivet, C., Isacsson, S. O., Karasek, R., & Ostergren, P. O. (2011). Psychosocial Working Conditions and Exhaustion in a Working Population Sample of Swedish Middle-Aged Men and Women. *European Journal of Public Health, 21*(2), 190-196. <https://doi.org/10.1093/eurpub/ckq039>
- Loannides, A., & Mavroudeas, S. (2020). The Relationship Between Working Time and Productivity – Intensity of Labour. *International Journal on Working Conditions, 19*, 27-45. <https://doi.org/10.25762/bgrf-p413>
- Lovato, N., & Lack, L. (2010). The Effects of Napping on Cognitive Functioning. *Prog Brain Res, 185*, 155-66. <https://doi.org/10.1016/B978-0-444-53702-7.00009-9>
- Makames, R. A., Alkoot, E. M., Al-Mazidi, B. M., El-Shazly, M. K., & Kamel, M. I. (2012). Sources and Expressions of Stress Among Physicians in a General Hospital. *Alexandria Journal of Medicine, 48*(4), 361-366. <https://doi.org/10.1016/j.ajme.2012.02.002>
- Marqueze, E. C., Nicola, A. C. B., Diniz, D. H. M. D., & Fischer, F. M. (2017). Working Hours Associated with Unintentional Sleep at Work Among Airline Pilots. *Revista De Saude Publica, 51*. <https://doi.org/10.1590/S1518-8787.2017051006329>
- McDowall, K., Murphy, E., & Anderson, K. (2017). The Impact of Shift Work on Sleep Quality Among Nurses. *Occupational Medicine-Oxford, 67*(8), 621-625. <https://doi.org/10.1093/occmed/kqx152>
- Meijman, T. F. (Ed.). (1989). *Mentale belasting en werkstress, een arbeidspsychologische invalshoek [Mental load and workstress: A work psychological approach]*. Assen, The Netherlands: Van Gorcum.
- Meijman, T. F., & Mulder, G. (1992). *Arbeidspsychologische Aspecten van Werkbelasting*. In P. J. D. Drenth, H. Thierry, & Ch. J. De Wolf (Red.), *Nieuw Handboek A&O Psychologie*, Hoofstuk 2.11. Deventer: Van Loghum Slaterus.
- Meijman, T. F., & Mulder, G. (1998). Psychological aspects of workload. In P.J.D. Drenth, Hk. Thierry, C. J. & De Wolff (Eds.), *Handbook of Work and Organizational Psychology* (2nd ed., pp. 5-33). Hove (UK): Psychology Press/Erlbaum.
- Merkus, S. L., Holte, K. A., Huysmans, M. A., Hanse, A. M., van de Ven, P. M., van Mechelen, W., & van der Beek, A. J. (2014). Neuroendocrine Recovery After 2-week 12-h Day and Night Shifts: An 11-day Follow-Up. *In Arch Occupational Environmental Health*. <https://doi.org/10.1007/s00420-014-0954-5>
- Merkus, S. L., Holte, K. A., Huysmans, M. A., van Mechelen, W., & van der Beek, A. J. (2015). Nonstandard Working Schedules and Health: The Systematic Search for a Comprehensive Model. *BMC Public Health, 15*. <https://doi.org/10.1186/s12889-015-2407-9>
- Ministerie van Sociale Veiligheid en Werkgelegenheid (2020). *Verantwoordelijkheden werkgevers en Medewerkers*. Verkregen op 19 februari 2021 van: <https://www.arboportaal.nl/onderwerpen/arbowedgeving/verplichtingen-werkgevers-en-Medewerkers>
- Ministerie van VWS (2017). *Zicht op depressie: de aandoening, preventie en zorg*. Verkregen op 28-05-2021 van <https://www.staatvenz.nl/sites/default/>

files/rap_zorg_depressie_beveiligd_def.pdf

- Mostert, K. (2009). The Balance Between Work and Home: The Relationship Between Work and Home Demands and Ill Health of Employed Females. *SA Journal of Industrial Psychology*, 35(1), 145-152. <https://doi.org/10.4102/SAJIP.V3511.743>
- NAVb-Online (2020). Richtlijn Nachtwerk en Gezondheid. Verkregen op 28-05-2021 van: https://nvab-online.nl/sites/default/files/bestanden-webpaginas/RL_nachtwerk_def_200814.pdf
- Nederlandse Vereniging voor Arbeids- en Bedrijfsgeneeskunde (2020). *Richtlijn Psychische Problemen; Voor het Handelen van de Bedrijfsarts en de Verzekeringsarts bij Werkenden met Psychische Problemen* [PDF-Files]. Verkregen van: <https://mail.google.com/mail/u/0/#label/Balans+%26+Impuls/FMfcgxwLscxQjDxmDFVZlxXKI DmlxMT?projector=1&messagePartId=0.4>
- Odle-Dusseau, H. N., Herleman, H. L. A., Britt, T. W., Moore, D. D., DeWayne, D., Castro, C. A., & McGurk, D. (2013). Family-Supportive Work Environments and Psychological Strain: A Longitudinal Test of Two Theories. *Journal of Occupational Health Psychology*, 18(1), 27-36. <https://doi.org/10.1037/a0030803>
- Ottaviani, C., Medea, B., Lonigro, A., Tarvainen, M. & Couyoumdjian, A. (2015). Cognitive rigidity is mirrored by autonomic inflexibility in daily life perseverative cognition. *Biological Psychology*, 107, 24-30. <https://doi.org/10.1016/j.biopsycho.2015.02.011>
- Schaufeli, W., & Taris, T. (2013). Het Job Demands-Resources Model: Overzicht en Kritische Beschouwing. *Gedrag & Organisatie*, 26(2).
- Sluiter, J. K., De Croon, E. M., Meijman, T. F., & Frings-Dresen, M. H. W. (2003). Need for Recovery from Work-Related Fatigue and Its Role in the Development and Prediction of Subjective Health Complaints. *Occupational and Environmental Medicine*, 60, i62-i70.
- Sonnentag, S. (2018). The Recovery Paradox: Portraying the Complex Interplay Between Job Stressors, Lack of Recovery, and Poor Well-Being. *Research in Organisational Behavior*, 38, 169-185. <https://doi.org/10.1016/j.riob.2018.11.002>
- Sonnentag, S. (2001). Work, Recovery Activities, and Individual Well-Being: A Diary Study. *Journal of Occupational Health Psychology*, 6, 196-210.
- Sonnentag, S., & Krueger, U. (2006). Psychological Detachment from Work During Off-Job Time: The Role of Job Stressors, Job Involvement, and Recovery-Related Self-Efficacy. *European Journal of Work and Organizational Psychology*, 15(2), 197-217. <https://doi.org/10.1080/13594320500513939>
- Sonnentag, S., & Zijlstra, F. R. H. (2006). Job Characteristics and Off-Job Activities Predictors of Need for Recovery, Well-Being, and Fatigue. *Journal of Applied Psychology*, 91(2), 330-350.
- TNO (5 februari 2021). ArboBalans 2020: Kosten Verzuim door Beroepsziekten in Vier Jaar Tijd Verdubbeld naar 2.5 Miljard Euro. TNO. <https://www.tno.nl/nl/over-tno/nieuws/2021/2/arbobalans-2020/>
- TNO (2020). Oorzaken, gevolgen en risicogroepen van burn-out.
- Van Hoffen, M. F. A., Rijnhart, J. J. M., Norder, G., Labuschagne, L. J. E., & Twisk, J. W. R. (2020). Distress, Work, Satisfaction, and Work Ability are Mediators of the Relation Between Psychosocial Working Conditions and Mental Health-Related Long-Term Sickness Absence. *Journal of Occupational Rehabilitation*. <https://doi.org/10.1007/s10926-020-09931-w>
- Van Hoffen, M. F. A., Twisk, J. W. R., Heymans, M. W., De Bruin, J., Joling, C. I., & Roelen, C. A. M. (2016). Psychological Distress Screener or Risk of Future Mental Sickness Absence in Non-Sicklisted Employees. *European Journal of Public Health Advance*

access, 1-3. <https://doi.org/10.1093/eurpub/ckw034>

Van Veldhoven, M. J. P. M., & Sluiter, J. K. (2010). Herstelmogelijkheden en Gezondheid in het Werk. *Gedrag & Organisatie*. 2010-23, nr. 4

Wendsche, J., & Lohmann-Haislah, A. (2017). A Meta-Analysis on Antecedents and Outcomes of Detachment from Work. *Frontiers in Psychology*, 7. <https://doi.org/10.3389/fpsyg.2016.02072>